
8 Promoting self-reliance and preparedness

Key points

- Farmers are in the best position to assess the climate and other risks they face and adopt risk management strategies that reflect their individual circumstances. There are strong private incentives for farmers to manage their risks well.
- Governments have a role to play in encouraging farmers' self-reliance and preparedness by:
 - avoiding interventions that encourage dependence on government assistance
 - addressing impediments that lead to the underprovision of research, development, extension and training.
- The Farm Management Deposits scheme should be retained as it is a reasonably efficient means of encouraging financial self-reliance.
- Rationales for government assistance are weaker in relation to subsidising on-farm improvements, providing concessional finance and underwriting insurance markets for agricultural production risk.
- Government funding for self-reliance and preparedness measures should be sufficient to achieve appropriate, effective and efficient outcomes from justified policies. This amount bears no relationship to previous levels of exceptional circumstances payments.

8.1 Introduction

This inquiry originates from the recognition by all governments that current drought policies are no longer the most appropriate in the context of a changing climate. The Commission's evaluation establishes that the main drought assistance measures do not focus on helping farmers improve self-reliance, preparedness and risk management. In fact, they are more likely to hinder these aims.

The Commission has proposed that the National Drought Policy (NDP) should be replaced by an expanded set of objectives integrated within the Australia's Farming Future initiative, with equivalent changes to the agricultural policies of state and

territory governments (chapter 7). The first two of these new objectives focus on adaptation and adjustment to climate variability and climate change, and adoption of self-reliant approaches to managing the full range of risks faced by farmers. This chapter considers what policies should be adopted to fulfil these objectives.

Managing the risks of farming

Farmers and policy makers need to consider preparedness for drought within the broader context of farm risk management. Topp and Shafron (2006) present five categories of risks faced by farmers, with drought encompassed within the first category:

- Production risk: relates to uncertainty over the natural growth processes of crops and livestock.
- Price or market risk: uncertainty about the prices that producers will receive for commodities and prices they pay for inputs.
- Institutional risk: result from uncertainties about government actions.
- Human or personal risk: relate to possible problems with human health or personal relationships that can affect farm businesses.
- Financial risk: uncertainty relating to interest rates on debt and the actions of lenders (for example, the possibility that credit availability will be restricted).

Farm dependent businesses can face similar categories of risk.

Not all of the above categories of risk are independent. For example, production risks are sometimes negatively correlated with price risk. When there is a widespread drought, prices of some commodities tend to rise due to shortages.

The objective of risk management is to maximise expected returns in a way consistent with each individual's attitude to risk. Optimal risk management does not usually mean risk minimisation. Regardless of attitudes to risk, all businesses must take on some risks to earn profits (Hardaker et al. 2004).

Risk management for farmers and farm dependent businesses is about identifying and evaluating risks, assessing what can be done to prevent them eventuating and deciding how to deal with them if they arise. It involves deciding which risks to accept (so as to gain the rewards that may follow) and which to avoid (Hardaker et al. 2004). There is a wide range of actions that farmers can take to manage climate and other risks, as outlined in box 8.1. Some of these are also relevant for farm dependent businesses.

Box 8.1 Actions that farmers can take in managing risks

Some actions farmers can take in managing risks are listed below. The actions that are appropriate (and possible) vary greatly between farm businesses.

- Develop, use and periodically update a business plan.
- Seek professional advice on the financial condition of their business and options for the future.
- Talk through financial issues with financiers, including how risks can be managed.
- Diversify income through off-farm employment.
- Diversify assets through off-farm investments.
- Lease out land so as to obtain a low risk source of income.
- Lease land or enter into sharefarming arrangements as an alternative to purchasing land (for example, as part of a staged entry to farming).
- Off-load drought and other risk by entering into a sharefarming arrangement (for example, Australian Agricultural Contracts Limited's Grain Co-production) whereby investors provide unsecured capital to plant crops in return for a share of the proceeds.
- Spread land holdings geographically to reduce the chance of the entire farm business being in drought at once.
- Build up financial reserves in Farm Management Deposits and other financial products for use in low income years.
- Use financial instruments such as price hedging.
- Use climate forecasts, decision support tools and information on individual paddocks in making decisions, such as the area to crop and what inputs to use.
- Draw down financial reserves or access carry-on finance to maintain business operations and household consumption during periods of low income.
- Store fodder for use during dry years.
- Reduce stocking during drought according to a predetermined plan.
- Invest in increasing water use efficiency so as to be able to better cope with low allocations of irrigation water.
- Move to single or no-till cultivation systems to make better use of available soil moisture.

Banks and other financiers also play a role in managing the risks of farming. Risk management can involve a measure of self insurance, by saving for future contingencies. Banks provide financial products that allow this to occur. By providing loans to farm businesses they also take-on some of their risk.

Accordingly, they have an incentive to assist businesses to manage risks and remain viable. The Australian Bankers Association reported:

During the drought individual banks have offered:

- to provide carry-on finance to meet short term needs;
- to restructure existing loans, to reduce annual payments or defer payments without cost; ...
- direct communication with customers about the bank's view about drought issues;
- support of specialised advice to industry groups such as dairy farmers;
- similar support for drought affected small businesses that provide services to Agribusiness;
- targeted courses to assist farmers plan to recover from drought. (sub. 76, pp. 2-3)

Banks also have an incentive to avoid exposure to bad risks. One way they do this is by setting credit limits in line with their assessment of businesses' capacity to service their loans.

The role for government

Many inquiry participants saw an important role for governments to support improvements in risk management in agriculture. A wide range of areas were put forward as being worthy of public funding.

Several key submissions from governments and farmer groups proposed integrated assistance packages. For instance, the National Farmers' Federation (NFF) — with support from most of its state affiliates — contended:

Within the national agriculture policy framework, climate change adjustment tools such as research, development and extension, risk management tools, water management and education and training, must be maintained in non-drought years if they are to obtain results ...

The NFF proposes a new approach to drought policy based on a partnership between primary producers and government.

- The key platforms of this policy model are that farmers can select the policy option best suited to their circumstances, industry/government co-investment is achieved and the bulk of government investment will result in tangible on-farm preparedness improvements. (sub. 51, p. 3)

The NFF's proposal is summarised briefly in box 8.2.

Box 8.2 National Farmers' Federation Strategy

The National Farmers' Federation proposed a new approach whereby government policy for drought is delivered in conjunction with other aspects of national agricultural policy. This approach would provide producers with a choice of the following drought policy streams:

- Stream one: Innovate — utilises Professional Advice and Innovation Grants and Risk Management Deposits to assist farmers to improve preparedness.
- Stream two: Advance — provides Income Contingent Loans for those who need short term government support to invest in preparedness strategies.
- Stream three: Secure — includes Professional Advice Grants, income support payments and Farm Exit Grants for those who require a longer consolidation before moving to preparedness or who wish to weigh up their future options in the industry.

Source: NFF, sub. 51.

In the Commission's view, the government's role in improving risk management and drought preparedness is to implement measures that will make the community better off overall. Applying this principle entails the following:

- Setting the level of funding for preparedness measures according to the potential level of communitywide benefits. In contrast, some inquiry participants suggested that the level of funding for preparedness should offset any decline in funding for reactive drought relief (Queensland Farmers' Federation, sub. DR123; NFF, sub. DR176). In this context, the Commission notes that expenditure on the exceptional circumstances interest rate subsidy was \$604.1 million in 2007-08, but only \$12.8 million in 2001-02. There is no reason to suppose that the appropriate level of funding for preparedness measures bears any relationship to the widely fluctuating levels of funding for drought relief.
- Having realistic expectations about the likely outcomes of government policy. Persistently low incomes for some farms, for example, are most often due to structural problems at the farm or industry level, such as insufficient size or inappropriate land use (chapters 2 and 3). Better risk management will do little to improve farm income while the underlying problem remains. Governments can not make all farm businesses viable by assisting them with drought preparedness and nor should they try.
- Avoiding interventions that promote dependence on government assistance and reduce incentives for self-reliance.

Drawing on these perspectives and the lessons from the evaluation of current programs (chapter 6 and appendixes B–E), this chapter explores the case to expend taxpayer resources on:

- research and development (section 8.2)
- information and advice (section 8.3)
- education and training (section 8.4)
- farm management deposits (section 8.5)
- accelerated depreciation and grants for investing in preparedness (section 8.6)
- income contingent loans (section 8.7)
- assistance to develop insurance markets (section 8.8).

8.2 Research and development

Institutionalised agricultural research and development, as well as farmers' own experimentation, have been important factors in achieving productivity improvements in Australia and elsewhere (PC 2005b). This section focuses on areas that are of particular importance for promoting self-reliance and preparedness — seasonal and longer term forecasting and general agricultural research and development to manage climate variability. The research agenda relating to climate change impacts and adaptation is also relevant, but is broader than the scope of this inquiry.

Seasonal and interannual climate forecasts

Improved forecasts for the weeks and months ahead would be of enormous value to farmers in managing climate variability — for example, to allow cropping decisions to be tailored to rainfall probabilities. The Bureau of Meteorology reported that a new approach for seasonal forecasts is needed :

The future of seasonal prediction lies in a move away from statistically-based systems towards dynamic climate prediction models – similar to those used for weather forecasting. (sub. 33, p. 3)

Several inquiry participants argued for a greater research effort on seasonal forecasting and better understanding of climate variability. The NFF, for example, contended:

Australia, having a variable climate, needs to make a significant investment in better understanding and predicting that variability. Our Bureau of Meteorology (BoM) needs a massive investment in its basic computer and modelling infrastructure. It requires an

investment in a range of measurement and weather tracking tools. It requires an investment in its international collaborative data sharing and climate modelling. Additionally, the BoM needs to get down to a local level with an expanding emphasis on drought preparedness. (sub. DR176, p. 31-2)

The Department of Agriculture and Food Western Australia identified a lack of research as an impediment to self-reliance and preparedness:

Western Australia does not receive as accurate climate forecasting as the Eastern States given the lack of meteorological investment in researching and analysing Indian Ocean weather patterns. (sub. 65, p. 3)

B. White, a consultant and former National Coordinator of the Managing Climate Variability Research and Development Program, argued:

In ... recent years climate change science has dominated and attracted resources away from climate variability research. (sub. 94, p. 10)

Due to the public good nature of the information generated, there is a strong case for governments to fund basic and applied research into climate variability and climate change. Representatives of the agriculture sector should play a role in guiding research priorities. Attention should also continue to be given to finding the most effective means for clearly conveying forecasts in formats that meet the needs of farmers in the various agricultural industries.

Governments should continue to fund research into climate variability and climate change. While there are synergies and overlaps between the two, governments should ensure that a high priority is given to research into climate variability in its own right.

General agricultural research and development

Research and development funded by governments

The Commonwealth and state and territory governments and the private sector fund agricultural research. Governments fund agricultural research through:

- Rural Research and Development Corporations (RRDCs) and relevant industry bodies
- Cooperative Research Centres (CRCs)
- public research institutions, such as CSIRO, universities and research divisions within state government departments of agriculture
- tax concessions for private research.

The majority of publicly funded agricultural research is managed through RRDCs which were first established in 1989. RRDCs are funded through government and industry contributions, or through relevant industry bodies such as Horticulture Australia Ltd, that have deeds of agreement with the Commonwealth Government for research and development funding. RRDCs are responsible for commissioning and monitoring research and facilitating the dissemination, adoption and commercialisation of research results (PC 2007b).

In principle, RRDCs have a sound governance model. By requiring industry to contribute levies that are then matched by the government, RRDCs aim to reduce the ‘free riding’ that can be associated with research. The levy model also gives industry a direct incentive to shape research priorities. This, in turn, makes it more likely that innovations are relevant to the needs of producers and that new technologies are disseminated quickly. However, the extent of industry capture of research priorities needs to be monitored to ensure that there remains a strong public benefit component that warrants government funding.

There are emerging concerns that research activities are being focused disproportionately on industry-specific, applied research. Research that delivers benefits appropriable by industry groups is likely to be promoted by these groups at the expense of research that is cross-sectoral, regionally focused and/or with strong public good features (Frontier Economics 2006; Agriculture and Food Policy Reference Group 2006; Mullen 2007). The Commission has similarly queried whether the public benefits from many RRDCs or relevant industry bodies are sufficient to justify the levels of funding (PC 2007b).

Two RRDCs, which are exceptions to the industry model, are Land and Water Australia and Rural Industries Research and Development Corporation (RIRDC). Land and Water Australia aims to improve the way natural resources are managed and improve the profitability of farming systems. It is responsible for several programs, including the Managing Climate Variability Program established in 1992 under the NDP (box 8.3). RIRDC focuses on new and emerging industries and also addresses strategic cross-sectoral issues facing the rural sector. This includes research into risk management, climate change and climate variability.

Another tranche of public support for relevant research and development is through CRCs, which were introduced in 1990 to encourage public sector agencies and private interests to work cooperatively together. In 2005-06, the Commonwealth Government directly contributed about 30 per cent of total CRC funds and contributed indirectly through its funding of CSIRO and universities. Businesses and state and territory governments also help fund CRCs (PC 2007b). There is currently one CRC which directly addresses issues of climate variability in agriculture — the Future Farm Industries Cooperative Research Centre (box 8.3).

Box 8.3 Government funded research into agricultural adaptation and climate variability

Climate Change Research Program — part of the *Australia's Farming Future* initiative — has funding of \$46.2 million over four years. It will fund research projects and on-farm demonstration pilots that address: reducing greenhouse pollution, better soil management and adapting to a changing climate.

Managing Climate Variability Research and Development Program — managed through Land and Water Australia — has funding to 2010 from various industry-specific RRDCs and has in the past received funding from the Commonwealth Government's Department of Agriculture, Fisheries and Forestry. The program aims to improve climate forecasting, provide tools and services for managing climate risk and increase adoption of climate risk management.

Future Farm Industries Cooperative Research Centre — established in July 2007 — has \$114 million in funding over 7 years. Contributors include RRDCs, universities, government departments and private companies. This centre invests in research and development, education and training and commercialisation and adoption. It also aims to create new land-use systems which will make agriculture more productive, sustainable, diverse and able to adapt to climate variability.

Most inquiry participants supported continued or increased government funding for research and development to assist farmers better manage and adapt to climate variability and change. The South Australian Government (sub. 91) argued that such research will need to focus on the development of new production systems, as well as the improvement of existing varieties and management practices.

The New South Wales Government promoted the contribution that research and development has made in assisting farmers to manage their risks through 'offering improvements in areas such as seasonal forecasting, grain breeding, mechanisation, reduced tillage and weed control practices' (sub. 90, p. 2).

It is appropriate that a significant proportion of Australia's agricultural research and development is funded by governments because private sector agents, unable to capture all of the benefits that can spillover to others, tend to underinvest, resulting in less than socially desirable levels of research effort. Moreover, research can deliver wider third party benefits — for example, the community as a whole can benefit when farmers use research results to manage their natural resources more sustainably.

The Commission, therefore, endorses a role for government to provide funding for agricultural research and development. The strongest case relates to basic research, or where businesses undertake novel research and development activities that have spillover benefits to the community, or trigger cycles of innovation by rivals

(PC 2007b). Beyond this, the case for government support for commercialisation and deployment activities becomes weaker as the opportunities for the innovator to capture the benefits increase.

As the boundaries between public and private research are not always clear, there can be uncertainties about the extent to which support should be provided. The challenge for public policy is to elicit investments that:

- would not otherwise have been made — programs need to be designed to ensure that public funds stimulate *additional* research and development rather than simply displace privately funded research and development
- generate total private and spillover returns that exceed the costs associated with the policy measures (including administration and compliance costs and efficiency distortions of taxation required to finance the measures).

It is important to provide balance in the allocation of funding for agricultural research and development activities between projects designed to: improve risk management for climate variability; develop climate change adaptation technologies and strategies; and improve production more generally.

Improving the effectiveness of government funding

Inquiry participants offered various suggestions as to how the effectiveness of public support for research and development could be improved.

The NSW Farmers' Association suggested that improved collaboration between researchers and producers was required:

... to enhance the effectiveness of observation networks, monitoring, prediction, information delivery, and applied research and to foster public understanding of and preparedness for drought and climate change. (sub. 98, p. 32).

In the Commission's view, collaboration and two-way communication between researchers and producers should be promoted by integrating research and development with extension services. This makes researchers more aware of farmers priorities and increases the likelihood that farmers will adopt new practices that improve profitability and self-reliance (extension is discussed further in the next section).

The Tasmanian Farmers and Graziers Association (trans., p. 7) argued that there was duplication of research effort that needed to be addressed. To this end, the Primary Industries Ministerial Council is developing a National Primary Industries Research Development and Extension Framework that, among other things, is designed to improve collaboration and reduce fragmentation of research.

The NFF also raised the issue of effective coordination of research and avoidance of duplication:

The NFF urges caution to ensure that targeted investment in areas such as climate variability and climate change are done through existing RRDC Government agencies. These agencies have been established, co-funded, and engage with the farm sector. NFF opposes special pools of funding being managed by a Government Department rather than one of these RRDC agencies. (sub. DR176, pp. 69–70)

There would appear to be some merit in this argument, as special pools of funding for research can be problematic where they lead to short term funding of research providers. Such arrangements can work against the recruitment and retention of high quality researchers and the establishment of effective relationships between researchers and primary producers.

One drought-related research and development issue raised during this inquiry is that producer levies usually decline during drought and this can disrupt research and development activities. The Western Australia Rural Business Development Corporation reported:

During drought years, there are less levy collections, therefore fewer funds available for good applied research, development and extension, and many good research programs may not recover from these funding cuts or fluctuations in funds provided. (sub. 83, p. 5)

Of those inquiry participants that raised this issue, there was general agreement on the desirability of maintaining research and development programs during droughts, but differing views on how best to achieve this. The South Australia Advisory Board of Agriculture (sub. 71) suggested that exceptional circumstances funding be used to compensate for reduced levy revenue. The Birchip Cropping Group, argued that the best approach was for governments to encourage research institutions to keep money in reserve for use in difficult times (trans., p. 473). The Commission concurs with this view. RRDCs should maintain sufficient financial reserves to prevent the disruption of their core activities during droughts and other periods when their revenue temporarily declines.

The importance of monitoring and evaluation of research was raised during the inquiry and was also addressed in the Corish report. Corish highlighted the need for evaluation of research against meaningful criteria and illustrated this by citing examples where research had continued well past there being any likelihood of success (Agriculture and Food Policy Reference Group 2006). The Commission has previously stressed the importance of monitoring and evaluation of agricultural and other types of research (PC 2007b). There is a need not only for project evaluations, but also for reviews of the objectives for assisting businesses in the forms and levels provided.

As discussed in chapter 5, the National Agricultural Monitoring System (NAMS) is an information system that is used in the exceptional circumstances application and assessment process. If the recommendations of this report are followed NAMS will, in time, not be needed for this purpose. Some inquiry participants argued that NAMS could be further developed to serve other uses, including assisting farmers in managing climate risks (South Australian Government, sub. 91). It was also suggested that the desired end point was a tool similar to the US National Integrated Drought Information System (NFF, sub. DR176). A detailed assessment is needed to determine whether NAMS should be phased out or reoriented to serve other purposes.

Given the broad range of organisations involved in climate change and agricultural research and development, it is essential that consistent principles are applied. This was recommended by the Cutler review of science and innovation (Cutler et al. 2008). The Commission supports that recommendation.

The Commission considers that the following principles for public investment in agricultural research and development to manage climate variability and climate change should be pursued:

- *funds should be expended in areas where there are net public benefits*
- *there should be safeguards against funds being directed into areas that deliver benefits appropriable by narrow industry groups — where research provides clear private benefits, contributions from relevant organisations should be required*
- *excessive use of short-term funding arrangements should be avoided because they can work against the recruitment and retention of high quality researchers and the establishment of effective relationships between researchers and primary producers*
- *there should be integration with extension services to ensure researchers are aware of farmers' priorities and farmers are able to appropriately adopt new practices*
- *funding should be channelled through a small number of well functioning institutions (such as several of the RRDCs and CRCs) rather than multiple additional funding pools being set up*
- *research should be subject to regular monitoring and evaluation.*

8.3 Information and advice

Successfully managing the increasing complexity of farming requires access to information and advice on such diverse issues as agronomy, marketing and financial and risk management. A common theme brought up by inquiry participants was that there is a vast amount of information available and the challenge for farmers is to identify the most relevant information and use it effectively in making decisions.

This section examines the various ways that governments can assist farmers with information and advice. Provision of extension services has traditionally been the main area of government involvement, but grants for professional services and facilitating access to financial information are other possibilities. In all cases it is necessary to determine the appropriate roles for government and private services.

Extension

The term ‘extension’ is used here to mean public and private sector services that enable farmers to change their management practices, including through the adoption of new technologies. It includes raising awareness, providing information and advice, and addressing misconceptions about particular technologies. Extension will commonly involve farmers learning new things and may identify training needs. Education and training programs are considered separately in the next section.

There was strong support among inquiry participants for government funding of extension services. The NFF (sub. 51) identified extension as one of a suite of key areas that affects agriculture’s ability to deal with drought. It emphasised that extension efforts, alongside other key areas, must be maintained at all times and not just during droughts.

There was general agreement on the importance of extension as part of an integrated policy approach for dealing with climate variability and improving risk management (Cotton Australia, sub. 9; Australian Dairy Industry Council, sub. 58; Queensland Farmers’ Federation, sub. 82). S. Pearson stated:

Improved education, research, information provision and, most importantly, adequate public and private extension services needs to underpin Australian drought (and other extreme event) responses. The human capital on farms and in the advisory sector needs urgent investment as it copes with a torrent of new information and complex issues. Self-reliance should not be an excuse for isolation from trusted advisory networks. Opportunities should be sought to build and maintain such professional networks for farmers and advisors. (sub. 28, p. 1)

Changes to extension

Given its importance, some participants were concerned that governments were reducing their investment in extension. The Tasmanian Farmers and Graziers stated:

We have always been of the view that there needs to be an increased emphasis on research, development and extension in agriculture. What we have seen historically right around the nation is a drawback from state governments and their investment, and particularly in the extension area. (trans., p. 7)

It is certainly the case that state and territory governments have scaled back their direct delivery of extension services over the last decade or two. This, however, is only one of a number of important changes to extension in recent years. Some of the most significant changes are considered below.

Adoption of a partnership approach

Historically, governments delivered extension services directly through state departments of agriculture. As governments have wound back these services they have developed a partnership approach whereby they partly fund extension services that are delivered by the private sector. A prominent example is government funding of RRDCs to provide extension services. Partnerships have also been pursued through CRCs, regional grower groups and others.

There are a number of positives associated with these changes. A major one is that they give farmers and agricultural industries much greater control over the services delivered. Growcom argued:

Then there is ... the extension component. That, in my view, is best done by industry, because industry people helping other industry people to learn and there's a better mechanism of adoption there. (trans., p. 316)

Inquiry participants put forward many examples of what they regarded as successful extension programs that take a partnership approach. A selection of these is outlined in box 8.4.

These extension arrangements involve sharing costs between governments and those using the services. For example, RRDCs and relevant industry bodies are now major providers of extension services and, as discussed previously, are financed by industry levies and government funding. Production-oriented extension provides mainly private benefits and so it is appropriate that there is a significant private contribution towards their cost.

Box 8.4 Examples of extension services

Birchip Cropping Group (BCG): a farmer-driven not-for-profit organisation operating in the Wimmera and Mallee regions of Victoria. BCG conducts applied research and extension on all major crops grown in the region. It aims to investigate the critical success factors that ensure sustainable and profitable crop production systems and to bring together farmers, industry and government representatives so that they may cooperate to solve common agricultural problems (BCG 2008).

Western Australian No-Tillage Farmers Association: a farmer group that aims to find sustainable ways of growing high yield crops. It provides information to farmers about no-till cropping systems, facilitates the exchange of ideas, encourages no-till research, and disseminates no-till information. Funding sources include the Grains Research Development Corporation (GRDC), Australian Government Department of Agriculture, Fisheries and Forestry, National Landcare Program, corporate sponsors, and membership fees (WANTFA 2009).

Masters of the Climate: an initiative of the Managing Climate Variability Research and Development Program that aims to improve understanding and increase adoption of climate risk management tools and knowledge. One way this is done is through publishing interviews with innovative farmers about their management of climate risks, including drought (Land and Water Australia nd).

GRDC Planning Guide for Farmers with Limited Finances: aims to assist farm businesses plan a low-risk return to modest profit. A planning cycle for the year it set out, which includes steps relating to financial and production decisions (GRDC 2009).

Rural Water Use Efficiency Initiative: a partnership between the Queensland Government and industry groups (such as Cotton Australia and Growcom) that aims to assist irrigators improve water-use efficiency and irrigation management. Specific activities included: on-farm trials, demonstrations and system assessments, in addition to financial incentives for upgrading irrigation and effluent management systems (Department of Natural Resources and Water 2009).

8x5 Wool Profit Program: undertaken by the Tasmanian Institute of Agricultural Science and funded by Australian Wool Innovation Ltd as an extension program to service their levy payers in Tasmania. The first phase was a mix of research, development and extension programs, while the current second phase is entirely focused on extension. Extension approaches include grower groups, workshops, demonstrations and newsletters (Hunt 2008).

Dairy Extension Centre: established by the Victorian Government and Dairy Australia as a 'virtual' centre of extension capability and program delivery. As well as maintaining a website, the centre has set up three Regional Extension Committees that are responsible for overseeing the delivery of extension services in their region. These committees undertake activities such as developing delivery programs for extension, delivering extension news to member's networks and encouraging innovation among extension providers (Dairy Extension Centre nd).

Some arrangements also appear likely to have made more efficient use of government resources, by working with, rather than in competition with private providers. For example, the Department of Agriculture and Food Western Australia stated:

My comment to the development officers, as we call them now, is, they're better to talk to one farm management consultant and in theory they're talking to 40-odd farmers. That's a more efficient way of doing business, rather than trying to talk to 40 farmers. (trans., p. 135)

There have, however, been some negative consequences of the change to a partnership approach. The Western Australian Farmers' Federation reported that the resulting increase in the number of providers could cause difficulties:

Currently, the dissemination of information to farmers is affected by the number of research and information providers, which contributes to a perception of information overload among clients, and this can contribute to a weakening of the consistency of delivery of the [state-based extension] program's core principles. (sub. DR161, p. 2)

R. Toms-Morgan reported that the changes were leading to a loss of expertise:

Agricultural extension expertise is diminishing at a significant rate without defined opportunities for the next generation to gain from the decades of experience and expertise which is/has retired from the front line of agriculture. (sub. DR126, p. 1)

It is the Commission's view that the changes themselves, and the short term nature of some government funding, have resulted in some loss of expertise and trust between farmers and extension providers.

Increasing focus on the environment

The focus of government extension activities has shifted to a significant extent from agricultural production to environmental outcomes. Environmentally-oriented extension has been delivered in a variety of ways, including through the National Landcare Program, the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality (these programs have now been replaced by the Caring for our Country initiative).

The rationale for this change is that services which promote more efficient agricultural production mainly benefit farmers and agricultural industries and so there is only a limited role for government. Services that improve environmental outcomes, on the other hand, can produce benefits for the wider community and so there is a stronger case for government provision.

Environmentally-oriented extension can result in benefits for both farmers and the wider community, for example, through wider adoption of a cropping practice that both increases farm profit and reduces sediment loads in creeks and rivers. Pannell

et al. (2006), however, note that this is not always the case as government extension agents sometimes promote practices that conflict with the goals of individual landowners and which would require broadscale adoption to produce significant environmental benefits. Using extension in these circumstances is likely to be ineffective and can reduce the credibility of extension agents. Other policy instruments may be more appropriate, as discussed in chapter 10.

Increase in group-based activities

Government extension was in the past often delivered one-to-one on the farmer's property but this has given way to increasing use of group-based activities. Marsh and Pannell (2000, p. 610) report that this is only partly due to agency cutbacks:

There has been a change in extension ideology away from the 'linear model' of 'top-down' technology transfer, to extension methodologies that emphasise information flows, adult learning principles and participation by stakeholders.

Group-based activities have the potential to make effective use of practical knowledge held by farmers and focus attention on the issues of most importance to them. That is not to say that group-based activities are always the most appropriate. Farmers often require one-to-one information and advice when considering or implementing changes to their farm management practices. There is, however, only a limited role for governments to provide such services.

Rise in private extension

The private sector has emerged as a significant provider of extension services to the agricultural sector. Private sector extension has taken different forms and is provided by farmer organisations, cooperatives and groups, consulting firms and input suppliers. Many farmers contract agronomists and other advisors to provide them with specific and tailored information for running their farm businesses. As stated earlier, RRDCs play a significant role. Marsh and Pannell (2000, p. 623) argue:

The withdrawal of government extension services judged to be predominately private goods has revealed that the private sector was indeed being crowded out of these markets.

Inquiry participants reported that the use of private consultants was widespread among some, but not all, groups of farmers. The Department of Agriculture and Food Western Australia reported:

There is a consulting profession here that has been long and well established and [has] a very high take-up by farmers. Some farmers use three separate consultants. They will use a general farm business consultant, they will use an agronomy consultant and then they will use a grain marketing consultant. (trans., p. 132)

AgForce advised that it was the smaller, not as advanced, producers who were likely to be missing out on ‘on-the-ground’ extension services (trans., p. 392). Rural Financial Counselling Service Victoria – Murray Mallee reported that the group of farmers who access its services were unable or unwilling to pay for professional services (sub. DR151).

In the Commission’s view, that some farmers are unable or unwilling to pay for private extension services is not sufficient justification for governments to attempt to provide equivalent services. Rather, governments should be conveying the message that paying for private services that will enhance profitability, viability and sustainability is a normal part of managing a farm business.

In some cases farmers can also obtain free information and advice from sellers of agricultural inputs. Some inquiry participants said that this could be of value to farmers, while others reported instances where the advice was deficient. For example, Productive Nutrition contended:

Stock agencies tend to employ university graduates to utilise their limited knowledge to sell products; many of these products have no place during a drought and most are not property specific and offer little return on investment for farmers. (sub. DR122, p. 3)

While sellers of agricultural inputs who also provide information and advice clearly have a vested interest in promoting their own products, they also have an incentive to protect their credibility and to be seen to add value to their client’s business. Accordingly, it would seem likely that farmers would be able to benefit from such free advice, provided that do not rely too heavily on it and are able to test it against independent sources of information.

The way forward

In summary, there has been enormous change in extension over the last twenty years. Some changes have been for the better, while others have not. The public policy rationale for change has often been sound, but its implementation has sometimes been deficient.

In calling for improvements in extension, many inquiry participants recognised that the aim should not be to revert to how extension used to be. For example, AgForce stated ‘... old-style extension has sort of gone, and I'm not saying we go back to what it was’ (trans., p. 392). Rather, there is a need to learn from the successes and failures of the past. Doing so has considerable potential to promote self-reliance and preparedness.

It is essential that governments have a sound and clearly stated rationale for their role in the extension arena. In the Commission's view, governments have an important supporting role to play in extension for three main reasons.

First, as discussed in the previous section, there is a clear rationale for government funding of research and development in agriculture. To maximise the cost-effectiveness of this funding, extension needs to be considered as an integrated part of the research and development effort. There need to be strong two-way links between research and extension if the needs of farmers are to be well served.

Second, Australian governments wish to maintain a capacity to influence farm management practices in order to produce public benefits, such as improved environmental outcomes. Extension services should be used as part of this effort. To do this effectively, state agencies need to maintain sufficient agricultural expertise.

Third, with the large number of information providers available, it can be difficult for farmers to access the information they need and assess its credibility. Government should continue to address potential information failures by:

- providing some general agricultural information directly (for example, using fact sheets and the like)
- connecting farmers with extension groups and services that have a greater capacity to assess the credibility and relevance of information.

In fulfilling this supporting role governments should ensure that they:

- promote continuity of services and strengthen career paths in extension through their employment practices and funding arrangements
- do not add unnecessarily to the number of information sources by spreading funding too thinly across extension groups
- use extension primarily to promote practices that are consistent with the interests of farmers (as discussed in chapter 10, other policy instruments, such as financial incentives, may be appropriate in other circumstances)
- seek to support and complement, rather than duplicate, services provided by the private sector.

RECOMMENDATION 8.1

Significant public funding should be directed to research, development and extension to assist farmers prepare for, manage, and recover from the impacts of climate variability and change.

Grants and subsidies for professional advice and planning

Examples of current programs that provide grants to farmers to access professional advice are the EC Professional Advice and Planning Grants program (PAPG) and the Climate Change Adjustment Program (CCAP) Adjustment Advice and Training Grants. This section focuses on the provision of incentives for accessing professional advice and planning; support for training is discussed in a later section.

The PAPG program was assessed in chapter 6 and was found to be generally effective in helping some farmers undertake planning activities. However, the effectiveness of the scheme may have been limited by the requirement for farmers to be in an EC declared area, the need for a farm viability assessment and the tendency for consultant fees to converge to the level of the grant. Furthermore, the appropriateness of the PAPG program was questioned and it was concluded that the rationale for government intervention through professional advice and planning style grants is limited.

Some inquiry participants supported government funding of grants for professional advice and planning activities (Otto Agribusiness, sub. DR189; D. and T. Allen, sub. 20). The NFF recommended funding for a professional advice grant as a key element of its proposed drought policy strategy (box 8.2).

Risk management and business planning advice is generally tailored to a particular farm business. Given the significant level of private benefits involved, the Commission sees little public benefit in providing grants or subsidies for farmers to access professional advice and planning. However, there may be a role for government to provide grants for advice and planning in the context of addressing informational impediments to rural adjustment, particularly where farmers are accessing income support (chapter 9).

Rural Financial Counselling Service

The Rural Financial Counselling Service (RFCS) program provides grants to organisations who provide counselling services to primary producers, fishers and small rural businesses. The program is popular among individuals, producer organisations, governments and shire councils. Tasmanian Women in Agriculture (sub. DR115), AgForce (sub. 80) and the Coonamble Shire Council (sub. 63) were among many inquiry participants who recommended that the RFCS program should continue.

The RFCS was assessed in chapter 6 and was found to meet a need for objective guidance in some communities. However, several possible limitations were identified including: gaps in coverage, a relatively high retention rate of existing clients (although this may reflect instances where a previous client seeks assistance for a new issue some years later) and duplication between the RFCS and other services.

The largely private benefits from financial counselling suggest that the rationale for government provision is weak. However, the RFCS appears to have played a useful role by facilitating a flow of information, acting as a referral point for other services and servicing clients without the ability to pay for their services (Sunraysia RFCS, sub. DR151; South Australian RFCS, trans. p. 222). Depending on the magnitude of these benefits, government funding of the RFCS program could provide net social benefits.

In the draft report it was recommended that the RFCS program be reviewed. However, as the service is currently moving to a new case management approach, participants suggested that any review should wait until existing funding arrangements run out in 2011 (Department of Primary Industries and Water Tasmania, sub. DR179; RFCS Tasmania, sub. DR164; South Australian Rural Financial Counselling Service trans. p. 224). Tasmanian Women in Agriculture supported such an approach on the grounds that:

This means that the Government will have at least a two year time frame where it can assess the success (or otherwise) of the case management approach and at least one year of any new operational requirements under an enhanced Australia's Farming Future package. (sub. DR115, p. 3)

RECOMMENDATION 8.2

The Rural Financial Counselling Service program should be reviewed prior to the end of its current funding. The review should assess whether the program delivers net benefits to the community and, in doing so, examine:

- ***the extent to which alternative sources of information are lacking in certain areas***
- ***whether counsellors refer their clients to relevant services in a timely and effective manner***
- ***the future role of the service in view of the wide ranging case management options under the Farming Family Income Support scheme.***

8.4 Education and training

A range of institutions and organisations make up the education and training system that services agriculture. This system comprises a formal sector, which includes universities and Technical and Further Education (TAFE), and an informal sector such as some extension services provided by government or private providers and continuous learning programs, such as FarmBis. The education and training system is complex and multifaceted (Synapse Consulting 1998).

There is some evidence that the formal and informal education and training sectors for agriculture have developed largely in isolation and with limited linkages (Kilpatrick and Millar 2006). Marsh and Pannell posit that:

...the current emphasis on farmer 'education' appears to be occurring with minimal liaison with education institutions and little attention given to the contribution that should be made through TAFE and higher education sectors. (2000, p. 619)

The NFF and the Corish report both identify the need for improvement in the quality and responsiveness of the training market to the needs of the agriculture sector (NFF 2008; Agriculture and Food Policy Reference Group 2006). The Corish report noted the need for 'both formal and informal learning opportunities, for short courses as well as longer training, and for skills development that goes beyond the technical or operational to embrace innovation and adaptability to change' (Agriculture and Food Policy Reference Group 2006, p. 107). It advocated effective consultation between agriculture and training sectors so that a partnership approach is adopted in developing learning activities.

Continuous learning program

Continuous learning programs for agricultural producers are part of the broader training system that services agriculture and should not be developed in isolation of this system. These programs either subsidise, or provide a grant for, farmers to attend professional training.

FarmReady, Farm Help, the Climate Change Adjustment Program (CCAP) Adjustment Advice and Training grants and formerly FarmBis provide financial assistance to primary producers and rural land managers to undertake a range of management training and education activities depending on program focus.

Farm Help and the CCAP Adjustment Advice and Training grants provide training and advice grants in the context of income support (see appendixes B and D). Grants can be accessed through both programs without having to access income support, although income and asset eligibility requirements and mutual responsibilities are applied.

Commencing in 1998, FarmBis provided subsidies for a wide range of training activities. This scheme was abolished prior to the introduction of FarmReady (see appendix D). The mid-term review of FarmBis found that, for the most part, it had improved access to training in rural and regional areas and that it had catalysed significant levels of repeat participation (Price Waterhouse Coopers 2006). FarmBis may also have provided benefits where farmers had inadequate information regarding the training opportunities available to them or the benefits that may result.

The FarmReady program has just commenced. FarmReady has parallels with FarmBis, although with a narrower scope of training courses (box 8.5). While the available reimbursement under FarmReady is greater than the average grant that was provided under FarmBis, the FarmReady allocation of \$26.5 million over four years equates to significantly lower average annual funding than that expended on FarmBis programs. This suggests that in its current form, FarmReady will provide training opportunities to a smaller number of farmers than FarmBis.

Box 8.5 FarmReady

FarmReady aims to boost training opportunities for primary producers and to enable industry, farming groups and natural resource management groups to develop strategies to adapt and respond to the impacts of climate change.

While similar to FarmBis, FarmReady has a narrower climate change and adaptation focus. The program has two components:

1. Grants for agricultural producers to undertake accredited training. Reimbursement of up to \$1500 per year will be available to primary producers. This grant can cover course costs, travel, accommodation and childcare costs incurred in attending the training. Learning areas for FarmReady training have a climate change and/or farm planning focus and funding does not cover courses covering production, technical or operational topics unless there is a link to a whole of farm climate change adaptation strategy
2. Grants of up to \$80 000 per financial year for farming or natural resource management groups to undertake projects that will assist in the development of strategies to manage the impacts of climate change.

Source: DAFF (2008i).

Many participants supported government funding for a continuous learning program building on the FarmReady platform and incorporating the successful elements of FarmBis (NFF, sub. DR176; South Australian Farmers' Federation, sub. DR144; Rural Business Development Corporation, trans. p. 166; Northern Territory Department of Regional Development, Primary Industry, Fisheries and Resources, sub. DR142; Australian Pork Limited, sub. DR155). The NFF argued:

While this program [FarmReady] has been altered by the Australian Government as it moves to a focus on climate adaptability, there is a significant opportunity to review the FarmBis program and expand it into a much wider, broader and more encompassing approach to agricultural education and training. (sub. DR176, p. 24)

However, the Coonamble Shire Council submitted that FarmBis had not been successful in their region and that courses were not reflective of regional diversity (sub. DR133). One participant in the public hearings, while supportive of a continuous learning program, commented on the lack of capacity of the FarmBis model for follow-ups and the importance for benchmarking and evaluation (Productive Nutrition, trans., p. 260).

The rationale for government funding of a continuous learning program for farmers is stronger where training and education lead to changes in farming management practices that provide spillover benefits to the community or where there are barriers to farmers accessing information. Moreover, assistance for accessing training activities may be appropriate in the context of addressing impediments to rural adjustment, especially where farmers are receiving income support. This is discussed further in chapter 9.

Continuous learning programs generally provide a mix of public and private benefits. This makes a case for support to be provided in the form of a partial subsidy with co-contribution rather than a full grant for costs. One hearing participant noted in regards to FarmBis' co-contribution model:

I think that it was a two-way street and it wasn't just, "Here's a course; you can come to it," that people could actually target things that were specific to them, that it was not just a subsidy or a free course, that they actually also had to contribute to that. So I guess in that case then they're taking more on, responsibility for the learning and the outcomes that they achieve out of those. (Tasmanian Women in Agriculture, trans., p. 46)

A required contribution means that recipients will have a greater stake in the outcomes of education and training activities and will actively ensure that training meets their needs.

The Commission concludes that grants for training, while providing significant private benefits, are consistent with the objective of promoting self-reliance and can also provide public benefits. It is important that continuous learning programs have sound monitoring and evaluation processes.

RECOMMENDATION 8.3

Significant public funding should be directed to a continuous learning program, incorporating the successful elements of the former FarmBis within an enhanced FarmReady platform. The revised program should encompass advice and training for managing climate variability and for farm business management. Funding should be provided in the form of a subsidy which covers a proportion of the cost of training, with the recipient contributing the balance.

8.5 Farm management deposits

Farm Management Deposits (FMDs) were assessed in chapter 6 and found to have encouraged some farmers to save during periods of higher income. While they are used for tax deferral and tax saving purposes, they also offer a means for achieving increased self-reliance.

Should FMDs be retained?

By providing a tax linked instrument that enables cash flow smoothing and liquidity management, FMDs have the potential to promote better and more timely resource allocation decisions. For example, input purchases or capital investments could be made when most appropriate rather than in the year that high income is earned:

Better farm management decisions are entirely consistent with better risk management decisions. Timely investments make the farm more financially viable and sustainable to cope with downturns due to climate variations or market fluctuations when they occur. (DAFF 2006, p. 4).

There was strong support for FMDs in submissions, with the Victorian Farmers' Federation (sub. DR160), Australian Bankers' Association (sub. 76), Growcom, (sub. 93) and Rural Directions (sub. 35) recommending retention of the scheme. The NSW Farmers' Association submitted that 'FMDs provide a valuable income equalisation scheme that has beneficial financial outcomes in business planning and operations' (sub. 98, p. 4).

The FMD scheme does not appear to address any market inefficiencies and there are no apparent impediments to farmers building up financial reserves. However, on balance, providing primary producers with a risk management tool that could

reduce calls for assistance during rural downturns is consistent with the government's aim of encouraging primary producers to improve their preparedness and become more self-reliant. In addition, the scheme is likely to be a more efficient means of encouraging financial self-reliance than many other measures. Recent changes to the taxation provisions for superannuation are likely to encourage future generations of farmers to establish dedicated superannuation funds bolstering the use of FMDs as a risk management tool rather than as a de facto superannuation fund. Moreover, FMDs may contribute to removing period inequity for primary producers with fluctuating incomes, especially those who do not practise tax averaging. Taking all these factors into account, the Commission considers that the FMD program should be retained.

Should the cap be increased?

Some submissions argued that the FMD cap of \$400 000 was too low (Western Australian Farmers' Federation, sub. DR161; Victorian Farmers' Federation, sub. DR160; AgForce, sub. DR185; Growcom, sub. 93).

The average FMD deposit is \$70 000, well below the cap (appendix D) and the FMD cap does not limit the amount of reserves a farming business can put aside in other accounts. Rather it limits the extent of the favourable tax treatment. There is a tax expenditure cost to the provision of FMDs which is likely to increase with enhanced use of FMDs and would increase further with any increase in the cap. The Commission considers that there is no argument for increasing the FMD cap.

Should FMDs be more widely available?

FMDs are available to individual primary producers, but not to companies or trusts. There was strong support in submissions for FMDs being made available to all farm business structures, in particular trusts and companies (AgForce, sub. DR185; Pastoralists and Graziers Association Western Australia, sub. DR121; Australia Pork Limited, sub. DR155; Growcom, sub. 93; NSW Farmers' Association, sub. DR182; Australian Bankers' Association, sub. 76).

The 2006 Review of FMDs (DAFF 2006) addressed widening the availability of FMDs to trusts and companies. It concluded that it may be appropriate to extend the use of FMDs to companies, but that further investigation of the feasibility and cost of such a move should occur. The review did not support extension of the scheme to trusts, arguing that this would increase the likelihood of FMDs being used as a tax deferral mechanism for purposes other than risk management (DAFF 2006).

The Commission notes that company profits and undistributed income of trusts are taxed at a fixed rate. (Generally, however, all the income of trusts is distributed to beneficiaries.) Any case that exists on period equity grounds for FMDs as a supplement to income tax averaging for individual primary producers therefore does not exist for companies or trusts. Moreover, trusts provide flexibility in sharing income and the tax burden among beneficiaries, and individual beneficiaries of trusts can deposit the income they receive from a trust in FMDs. However, income received as dividends from companies engaging in primary production cannot be placed in FMDs.

While some business structures may afford increased incentives for preparedness by the provision of FMDs, other business structures may have different advantages or features that relate to improved risk management or other priorities of the business. The business structure under which farms operate is a management choice that should take into consideration the overall comparative advantages and disadvantages of operating as a sole trader, partnership, trust or company. Companies already have some tax advantages, for example lower marginal tax rates, and trusts provide flexibility in income management. Given these existing advantages the Commission considers that there is not a strong case to extend the tax deferral advantages provided by FMDs to trusts and companies.

Given that a relatively small number of farmers indicate that they do not use FMDs due to their business structure (Boero Rodriguez, Watson and Mues 2006), the Commission considers the expansion of FMDs to trusts and companies is unlikely to result in net benefits for the community or improve the effectiveness of the scheme.

In addition to calls to make FMDs available to trusts and companies there were also representations that access to FMDs could be extended to small agriculture dependent businesses (South Australia Farmers' Federation, sub. DR141; South Australian Advisory Board of Agriculture, sub. DR157; Rural Financial Counselling Service New South Wales Central-West, sub. DR178). To the extent that these businesses are organised as companies or trusts, the arguments advanced above against extending FMDs to them apply. It would also raise concerns about inconsistencies in the treatment of businesses in different locations, as businesses that are not agriculture dependent are also subject to significant risk exposures.

RECOMMENDATION 8.4

The Farm Management Deposits scheme should be retained with its current cap of \$400 000 and no widening of its eligibility criteria.

8.6 Accelerated depreciation and grants for investing in preparedness

Accelerated depreciation or infrastructure grants can provide incentives for farmers to make certain types of ‘approved’ investments in preparedness to improve their physical capital base. There was support in submissions for depreciation incentives with the South Australian Farmers’ Federation (sub. DR141), AgForce (sub. 80) and NSW Farmers’ Association (sub. 98) recommending such an approach. The NFF supported grants for physical preparedness investments and contended that yearly grants would encourage self-sufficiency and improve farmers’ ability to manage climate variability (sub. 51).

In the Commission’s view, individual farmers (appropriately supported by government funded information and training) are best placed to make their own investment decisions. Furthermore, there is no demonstrable failure of capital markets to provide funding for these sorts of investments. Investments in preparedness would generally yield largely private benefits. Unless investments produce wider community benefits, subsidies or grants for preparedness investments are likely to generate a poor return for the community.

The record of governments picking winning technologies in agriculture is mixed. Where governments are required to arbitrate on what qualifies as appropriate preparedness investments there is a risk that preparedness could be overpromoted or inconsistently promoted (with some types of investments receiving support and others not).

For these reasons, the Commission does not accept that governments should subsidise investments in drought preparedness. Farmers should choose to invest in preparedness and improve their capital base where it is in their interest to do so rather than have the community do this on their behalf. The Commission sees little role for government in this process.

There is not a strong rationale for accelerated depreciation provisions or a case for infrastructure grants to underpin private on-farm preparedness investments.

8.7 Income contingent loans

Income contingent loans (ICLs) are subsidised loans with repayments dependent on the future economic circumstances of the recipient. That is, in periods when the recipient experiences adverse financial outcomes, required loan repayments would be reduced or nil (L. Botterill and B. Chapman, sub. 52).

ICLs were initially introduced in Australia to enable an increase in the contribution that students made to financing their education (currently under the Higher Education Loan Program (HELP)). An ICL was justified on the basis of the difficulty that some students face in securing funding for their education (Chapman 2006). Their appropriateness is more readily apparent for an improvement in human capital through higher education, than for situations where loans are taken out for more tangible investments.

Box 8.6 discusses some of the issues in providing ICLs for farmers and identifies some of the characteristics of a potential approach.

Box 8.6 Issues in providing ICLs and possible characteristics of an ICL scheme for farmers

- **Assessment of viability.** To ensure that ICLs are not disproportionately taken up by those who are less likely to repay the loan, L. Botterill and B. Chapman propose that commercial banks could be involved in determining eligibility for the scheme. Finance could be provided as a 'top up' on existing loans delivered through private financial institutions and a real rate of interest (to be determined with reference to long term government bond rates) could be applied.
- **Repayment as a proportion of gross revenue.** Given that decisions on the timing of sales of livestock and crops and on purchases of farm inputs together with decisions on FMDs and the use of various tax provisions can greatly influence farmers' taxable income levels in any given year, L. Botterill and B. Chapman propose that repayment of an ICL be made as a small percentage of gross revenue as reported on Business Activity Statements. Furthermore, given the variation in farm size and revenues, a repayment free threshold would not be included (in contrast to the HELP loan).
- **Sale of the farm.** To protect against recipients avoiding repayment through selling the farm asset (over which the government would have no claim) or changing inheritance or partnership arrangements, L. Botterill and B. Chapman propose that the ICL could be attached to the farm's ABN. Furthermore, farm businesses in receipt of an ICL would be required to report their activities on a single Business Activity Statement.

Source: L. Botterill and B. Chapman (sub. 52).

There was support for an ICL scheme in some submissions, with the New South Wales Government (sub. 90), NSW Farmers' Association (sub. 98), AgForce (sub. 80) and Murray Dairy (sub. 70) recommending such an approach. The NFF supported the use of ICLs for 'primary producers that are looking at growing their business but are not yet in a position where they are able to invest with confidence in preparedness and growth strategies' (sub. 51, p. 15).

However, the South Australian Farmer's Federation raised concerns about ICLs, on the grounds that 'those that really need the assistance would struggle to ever pay it back on top of all their other liabilities' (sub. DR141, p. 3). AgForce submitted that an ICL scheme would need a tight time frame, such that the loan is due and payable after a certain time limit irrespective of whether the farm is generating a profit (sub. DR185).

Is there a market failure rationale for providing ICLs to farmers?

The rationale for government provision of ICLs rests on limitations in credit markets that prevent farmers from obtaining finance. Some participants argued that during periods of hardship, such as drought, income streams can fall to zero or become negative and this impedes the capacity to service any new, let alone existing, loans.

However, the Australian Bankers' Association argued that 'there is no compelling case that there is a failure of rural credit financial markets that warrants government intervention in the provision of financial services to agribusiness' (sub. 76, p. 3). It submitted that customers who are viable in the long term should not have a problem accessing finance in drought conditions. It further contended that in times of drought, carry-on finance may be accessed and existing loans restructured to reduce annual debt repayments or to defer payment without cost.

L. Botterill and B. Chapman submitted that there is market failure on the demand-side of credit markets: 'farmers will borrow less than the finance sector is willing to provide because of their high level of sensitivity to the possible loss of the farm' (sub. DR139, p. 2). They point to the fact that farmers may enjoy non-financial benefits in their occupation and as such the value the farmer places on their farm is higher than the dollar value placed on the property by the finance sector. In addition, they point to the tendency for people to discount upside risk and overestimate downside risk.

The Commission does not support offering concessional finance to a group of borrowers to induce them to borrow at a higher level than their own risk preferences would allow. A greater sensitivity to a loss of the farm due to the high non-monetary value placed on farming is rational and does not provide an efficiency case for measures to encourage farmers to take on more debt. Accordingly, the Commission is of the view that an ICL scheme would run the risk of over-incentivising borrowings.

The use of ICLs for investments in preparedness

ICLs could be used to provide farmers with finance to invest in preparedness, so as to encourage self-reliant approaches to managing risks. Such an approach would require some sort of assessment to ensure that potential recipients had businesses that were viable in the long term and that the investment was an appropriate way to improve that particular business' preparedness for adverse outcomes.

However, as discussed previously, the Commission does not see a role for government in providing incentives for investment in physical preparedness, nor in assessing the appropriateness of different investment options. Inevitably, there would be costs involved in determining the viability of businesses (about which there is always some uncertainty) and approving different types of investments. The Commission considers that such a policy would essentially be an administratively complex and costly way of enhancing preparedness and would likely mean 'picking winners'.

ICLs as a drought relief measure

An ICL program specifically for farmers has most commonly been advocated as a drought relief measure. Thus, where farmers are experiencing low revenue due to drought (or other reasons) they could access finance to assist them through a difficult period without the concern that they may lose the farm if income does not improve in the short term. ICLs provided as drought relief would still require the government to determine whether a business was viable, although there would be no need to assess what the loan was to be used for.

As a drought relief measure, ICLs have been presented as an alternative to the current interest rate subsidy (L. Botterill and B. Chapman, sub. 52 and sub. DR139). Compared to the interest rate subsidy, an ICL scheme would be more likely to encourage self-reliance through the imposition of the responsibility to re-pay the loan (if and when cash flow recovers). It is also argued that an ICL would also be less likely to encourage farmers to take on more risk, and it could be less costly for taxpayers (L. Botterill and B. Chapman, sub. 52).

However, the Commission does not believe that an ICL scheme for drought relief is justified. In comparison to tertiary students, drought-affected farmers with sound prospects of longer-term viability appear to be reasonably catered for by the commercial financial system.

Furthermore, the Commission has concerns that an ICL scheme could encourage farmers to take on more risk. As discussed previously, where there is no efficiency

case for an ICL program, such an approach could encourage farmers to increase their debt levels. Where banks are responsible for undertaking viability assessments of farm businesses, there is a risk that they may consider more marginal farmers, who they would otherwise not provide finance, to be eligible for an ICL as the farm asset is protected from default.

Does support for FMDs imply support for ICLs?

An ICL scheme has been presented as an ‘opposing half’ to FMDs (NFF, sub. DR176, p. 73). In their response to the draft report, L. Botterill and B. Chapman noted that where ‘the Commission accepts the rationale for the provision of FMDs as a risk management tool even though they “do not appear to address any market inefficiencies” it should logically see the case for ICLs on the same grounds’ (sub. DR139, p. 2).

However, an ICL is more than a ‘mirror image’ to FMDs. The Commission considers that ICLs would be a less effective risk management tool than FMDs, as FMDs increase savings in high income years, do not require governments to make assessments of business viability, and do not have high administrative costs that extend into the future.

Most proponents of an ICL program for farmers recognise that the case rests on a ‘second best’ perspective. That is, notwithstanding the absence of a clear rationale, if business support is to be given anyway, an ICL scheme would have some desirable features relative to the existing interest rate subsidy. This second best perspective is only relevant to the extent that the (consistent) recommendations of past reviews of drought policy to terminate the interest rate subsidy have been ignored. The Commission does not support the provision of ICLs to farmers.

8.8 Assistance to develop insurance markets

Apart from insurance for fire and hail damage, there are limited options for agricultural producers to insure themselves against production risk in Australia. The literature describes some potential insurance arrangements (see box 8.7), but real world insurance markets for drought in Australia and elsewhere are scarce.

From a policy perspective, an inability to insure against production risk from drought means that farmers lack a major risk management tool. Several participants (NFF, sub. 51; NSW Farmers’ Association, sub. 98; AgForce, sub. 80) contended that missing insurance markets provide a powerful rationale for governments to make available a range of policies that assist farmers to become self-reliant in other ways.

Box 8.7 **Types of insurance**

Multi peril crop insurance (MPCI): insures farmers against multiple risks including drought, flood and disease. As the extent of loss is established after the crop is harvested it can be difficult to determine the cause. MPCI involves problems of systematic risk, asymmetric information and moral hazard. Studies in Australia concluded that MPCI would not be commercially viable without significant government assistance (Industries Assistance Commission 1986; MPCI Taskforce 2003; Ernst and Young 2000).

Rainfall insurance: avoids problems of asymmetric information and moral hazard through tying indemnities to a measurable and verifiable event, in this case rainfall. Consequently, it can be offered at lower premiums. However, for farmers to purchase rainfall insurance, rainfall would need to be closely correlated with incomes or yields, otherwise it would not sufficiently indemnify farmers against income losses.

Yield index insurance: attempts to more closely correlate indemnities with variations in income due to rainfall, through a non linear model of yields as a function of rainfall. However, this product does not fully insure farmers against income losses. Yield losses may also be a result of heat and cold, not just rainfall; and yield may be more sensitive to the timing of rainfall not just the total rainfall for the growing season (Hertzler 2005). The complexity of yield insurance is a deterrent to its widespread use in Australia.

Weather derivatives: involve payouts derived from an observed event, such as district rainfall, temperature or the southern oscillation index. The difference between what the derivative is derived from (for example rainfall recorded at a specific station) and a farmer's own set of conditions (yield as a result of rainfall and other environmental conditions on-farm) is indicative of how well the derivative will insure the farmer. Derivatives need to be fairly generic if they are to be readily tradable, and are generally sold at high values. As a result they may not be flexible enough or sufficiently aligned with the farmer's circumstances to be attractive.

There do not appear to be any significant examples of fully commercial MPCI, rainfall or yield index insurance schemes anywhere in the world (MPCI Taskforce 2003; Hertzler 2005).

The major reasons for why the private sector does not provide drought insurance include:

- many farmers can be simultaneously affected by a drought which provides limited opportunities for insurers to spread risk among a large group of clients (systemic risk)
- insurers and farmers do not have the same information, which can lead to a situation where those farmers who face greater risks purchase insurance, as they expect to receive more than they pay in premiums (farmers with lower risks do not purchase insurance as they expect to receive less than they pay in premiums)

— insurers will raise premiums to cover their costs and an increasingly risky pool of farmers will purchase insurance (adverse selection)

- once farmers purchase insurance they can alter their behaviour and make riskier decisions than they would otherwise, making it hard for insurers to determine the reason for loss (moral hazard).

In addition, government drought policy may impede the development of a private market for insurance. If farmers believe that the government will provide assistance during drought — and they would have every reason to do so given historical experience — the incentive to purchase private insurance is reduced. The Queensland Government suggested:

... while certainly not the only reason, the fact that the government is prepared to take on an element of the climate risk by providing drought assistance measures may crowd out this potential [insurance] market. (sub. 77, p. 8)

The Western Australian Task Force into multi peril crop insurance similarly posited that the expectation of on-going assistance may partially explain why there is no privately offered multi peril crop insurance schemes in Australia (MPCI Taskforce 2003).

There was support in several submissions (Queensland Farmers' Federation, sub. 82; NSW Farmers' Association, sub. 98) for governments to subsidise or provide reinsurance for schemes which insure production income.

The Western Australian Farmers' Federation advocated 'a nation-wide approach, implemented at a federal level covering as broad a spectrum of crops and varieties as possible to reduce rates' (sub. DR161, p. 5). They submitted that government could underwrite the scheme 'until such time as a premium bank is created which removes the need for substantial government investment' (sub. DR161, p. 5).

In the absence of insurance markets, farmers may alter their production decisions in order to diversify and limit the possible impacts of future droughts. For example, where a farmer diversifies production to decrease their risk exposure, farm income may be decreased relative to the previous situation where cropping was specialised for maximum expected yield (MPCI Taskforce 2003). This can result in resources not being used in the most efficient way. This could be addressed by governments providing insurance to farmers. However, such a move would only result in net benefits to the community if governments were able to overcome the same difficulties that prevent private insurance markets from developing.

Governments may not be able to offer drought insurance at a lower cost than private firms (Newbery and Stiglitz 1981; Ha et al. 2007). In providing subsidised insurance, governments would be exposed to the same risks as the private sector, and would be less able to offset systemic risk if they only deal with farmers within their borders.

Historically, loss ratios for government provided insurance have been very high and the Commission is not aware of any international examples of a scheme where the government has reduced their financial involvement after an initial period of support. In the United States, where crop insurance has been subsidised by government since 1983, the indemnities paid by the public insurer plus administration costs are three times the premiums paid by farmers (loss ratio of 3). This is also the case in Canada where government subsidised crop insurance has been available in all provinces for the last twenty years. Brazil and Japan have even higher loss ratios of up to 4.5 (Hertzler 2005).

Governments, like private insurance providers, would also face issues of moral hazard. The Federal Crop Insurance Corporation scheme in the United States has been plagued by such problems — many have argued that the scheme has led to farmers in the United States taking on more risk (Skees 1999; Glauber 2004; Young et al. 2001).

The Queensland Farmers' Federation identified weather derivatives and index-based yield contracts (box 8.3) as an area where public research may yield 'considerable long term benefits for primary producers and the wider community' (sub. 82, p. 12). Research into insurance and derivatives has been undertaken in the past and, where appropriate, could continue to be supported through research and development efforts on managing climate variability in agriculture. This is relevant to section 8.2.

The Commission considers that it is likely that markets will develop for risk sharing products like yield index insurance and weather derivatives in the future with technical progresses in global information gathering and processing, improved understanding of climate and weather and greater integration of global capital markets (Malcolm 2006). For example, the Grain Co-production model offered by Australian Agricultural Contracts Limited has grown strongly since its inception (see box 8.8) and similar arrangements are evolving elsewhere in Australia.

Box 8.8 Australian Agricultural Contracts Limited grain co-production

Australian Agricultural Contracts Limited (AACL) was founded in Western Australia in 1997 and has offered a Grain Co-Production product since 1999. This product shares agricultural production risk between farmers and investors.

Essentially, funds of investors (usually urban) are placed with farmers. The advanced capital is unsecured. In some cases, up to \$4 million is provided to a farmer to plant, manage, harvest and deliver a crop. The analogy with bank finance would be that AACL advances the funds, the farmer pays off the capital with grain proceeds and the 'interest cost' is the investor return. After that, the farmer retains any remaining upside. If the crop fails, however, the farmer pays back nothing as investors 'wear' the risk. As the AACL Managing Director explained:

... our model ... is ... an insurance policy. It's not supposed to be something that is going to make the farmer extra money ... It's not a profit-making instrument; it's a hedge instrument.

... it costs the farmer a little bit more in an average or above average year. In a bad year, he's got a little bit of downside but he hasn't got all the downside; the investor wears that. But we have an investor pool. The pool hopefully absorbs those individual losses, because hopefully we've been good enough to spread our pool across a big enough area ...

I've heard the NFF ... talk about: 'We need a system that the farmer puts a little bit away each year so that he's got a pool withdraw fund in drought.' This is exactly what this model is doing. He's giving up a little bit in a good season; in a poor season, he's spread that risk to a pool of people spread across potentially the whole country — we're now into barley and canola, as well, and it's with parties who aren't in a poor agricultural season. (trans. pp. 185)

In 2008 AACL extended their coverage and offered Grain Co-Production to some farmers in New South Wales, Victoria and South Australia and also offered a barley contract for the first time. From very modest beginnings, the total investment by AACL in 2008 was \$65 million — contracting approximately 170 farmer clients to grow around 380 000 tonnes of wheat and barley.

Source: AACL (sub. DR117).

The Commission does not consider that the higher cost of feasible self-insurance compared with hypothetical efficient market insurance provides a rationale for government to share producers' risks. Furthermore, it is unlikely that governments can overcome the problems with information and incentives, faced by the private sector, in providing insurance products without creating adverse outcomes such as encouraging farmers to take on more risk.

It is the Commission's view that government subsidised insurance schemes, broad ranging drought assistance measures and ad hoc drought assistance will impede the development of more efficient private sector arrangements for sharing production risk in agriculture.