Chapter 5

A national climate change strategy to assist the Australian agricultural sector adapt to climate change

Introduction

5.1 The committee received many submissions in support of a coordinated national strategy to assist the Australian agricultural industry to adapt to climate change. For example, the Primary Industries and Natural Resources Curriculum Centre said such a strategy is 'critical'.[1]

5.2 The Bureau of Meteorology emphasised the need for the development of regional strategies along side a national strategy:

> It is clear that climate change will have an Australia-wide impact, and hence this requires both national and regional strategies for long and short term adaptation. Such strategies must prioritise the basic underlying data, information and associated tools, which can most effectively be developed and/or maintained at a national level but may also be applied on a national or regional basis.[2]

5.3 Some submissions emphasised the need for national strategies in relation to particular aspects of adaptation by the agricultural sector. For example, the Primary Industries and Natural Resources Curriculum Centre, TAFE, NSW outlined a broad range of educational initiatives that should be incorporated into a national strategy. These include expansion of the Australian Sustainable Schools Initiative, development of specific education programs to assist primary producers to cope with climate change, and promotion of women's networks like the Tarcutta 'Desperate Farm Wives' to support educational initiatives.[3]

5.4 This chapter starts with an outline of the current strategies and future initiatives to help the Australian agricultural sector to adapt to climate change. The

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1 *Submission* 4, p. 1. See also: Cooperative Research Centre for National Plant Biosecurity, *Submission 16*, p. 3 and Wentworth Group of Concerned Scientists, *Submission 17*, cover letter.

2 *Submission* 7, pp 6-7. See also: Rural Business Development Corporation, *Submission 15*, p. 2.

3 *Submission 4*, pp 2-3. Information on the Australian Sustainable Schools Initiative is available from the Department of Environment, Water, Heritage and the Arts website: http://www.environment.gov.au/education/aussi/about.html, accessed 23 November 2008. The Tarcutta Desperate Farm Wives was formed in December 2006 and organises local events to encourage social interaction in the area of Tarcutta which has been severely affected by drought. See also: Land & Water Australia, *Submission 3*, p. 3, on the need for a coordinated national research strategy, and Council of Australian Weed Societies Inc., *Submission 5*, p. 2, on the need for a strategic approach to managing weeds at a national, regional and local level.

discussion then details some of the suggestions in submissions and evidence about what needs to be included in a national strategy.

Current initiatives

5.5 The joint submission of Department of Agriculture, Fisheries and Forestry (DAFF) and the Department of Climate Change (DCC) states that 'there would appear to be a strong case for developing a comprehensive long-term climate change strategy for agriculture'.[4]

5.6 The DAFF/DCC submission went on to detail the outcomes of the Primary Industry Ministerial Forum, in February 2008, where:

> …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.[5]

5.7 The DAFF/DCC submission noted that DAFF, in conjunction with DCC, will develop a national climate change strategy for agriculture. This will be done in consultation with the agriculture sector, other Commonwealth agencies and the states and territories to bringing about a coordinated and comprehensive approach to helping the sector prepare for the challenges of climate change.[6]

5.8 The DAFF/DCC submission then when to on outline what it describes as the 'guiding principles for a national strategy':

1. improved quality of information;
2. management of greenhouse gas emissions;
3. adapting to the impacts of climate change; and
4. coordination of activity and dissemination of information.[7]

5.9 The next section of the report outlines the current initiatives that DAFF/DCC identified as being part of a national strategy to assist the Australian agricultural sector to adapt to climate change.

Australian Climate Change Science Program

5.10 The Australian Climate Change Science Program is administered by DCC. It aims to:

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4 *Submission* 34, p. 10.

5 *Submission* 34, p. 10.

6 *Submission* 34, pp 10-11.

7 *Submission* 34, p. 12.

> …improve our understanding of the causes, nature, timing and consequences of climate change so that industry, community and government decisions can be better informed.[8]

5.11 The Australian Climate Change Science Program addresses six key themes: understanding the key drivers for climate change in Australia; improved climate modelling systems; climate change, climate variability and extreme events; regional climate change projections; international research collaboration; and communications.

5.12 The program is conducted in partnership with leading scientific agencies, most notably CSIRO and the Bureau of Meteorology.[9]

Greenhouse Action in Regional Australia

5.13 The Greenhouse Action in Regional Australia (GARA) program was established in 2004, and the DCC is the lead agency. The GARA program has facilitated strategic climate 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.[10]

Managing Climate Variability Program

5.14 The Managing Climate Variability Program (MCVP) program 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.[11]

5.15 According to the DAFF/DCC submission the Australian Climate Change Science Program, GARA and MCVP will provide a 'solid foundation' in addressing the first key principle of the climate change strategy for agriculture – improved quality of information. The work of these programs will also provide valuable inputs to address the third key principle of a national strategy – adapting to the impacts of climate change.[12]

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8 *Submission* 34, p. 13.

9 *Submission* 34, p. 13.

10 *Submission* 34, p. 13. See also: Chapter 3, 'Mitigating agricultural emissions'.

11 *Submission* 34, pp 13-14. See also: Chapter 3, 'Adapting to climate change'.

12 *Submission* 34, pp 12-13.

National Climate Change Adaptation Framework

5.16 The National Climate Change Adaptation Framework (the Framework) includes actions across all jurisdictions to assist sectors that are vulnerable to climate change including agriculture, biodiversity, forestry, coastal and water resources. The Framework was endorsed by the Council of Australian Governments (COAG) in April 2007. In December 2007, COAG agreed to accelerate the implementation of the Framework.[13]

5.17 The Framework will guide action by jurisdictions over the next five to seven years to:

- support decision-makers with practical guides and tools to assist in managing climate change impacts;
- establish a new centre for climate change adaptation to provide decision-makers with robust and relevant information on climate change impacts, vulnerability and adaptation options;
- provide, for the first time, climate change projections and regional scenarios at scales relevant to decision-makers;
- generate the knowledge to understand and manage climate change risks to water resources, biodiversity, coasts, agriculture, fisheries, forestry, human health, tourism, settlements and infrastructure;
- work with stakeholders in key sectors to commence developing practical strategies to manage the risks of climate change impacts; and
- assess the implications of climate change and possible adaptations for important regions such as the Murray-Darling Basin, south-west Western Australia, the tropical north, and the drying regions of eastern Australia.[14]

5.18 The DAFF/DCC submission states that the Australian Government has committed $170 million to the implementation of the Framework. That commitment includes the establishment of a Climate Change Adaptation Research Facility at Griffith University and the establishment of a new CSIRO Flagship on Climate Change Adaptation.[15] Representatives of the DCC provided the committee with information on the progress of the Climate Change Adaptation Research Facility at Griffith University.[16]

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13 *Submission 34*, p. 8.

14 National Climate Change Adaptation Framework, p. 3. Available at: http://www.coag.gov.au/coag_meeting_outcomes/2007-04-13/docs/national_climate_change_adaption_framework.pdf, accessed 16 November 2008.

15 *Submission 34*, p. 8.

16 Mr Ian Carruthers, First Assistant Secretary, Adaptation and Land Management Division, Department of Climate Change, *Committee Hansard* , 1 July 2008, pp 77-78.

National Agriculture and Climate Change Action Plan 2006-2009

5.19 Most of the information provided to the committee in relation to the progress of the Framework related to the National Agriculture and Climate Change Action Plan (NACCAP) 2006-2009. NACCAP was endorsed by the Natural Resource Management Ministerial Council in April 2006 and by COAG in March 2007. NACCAP is an agreement of Australian Governments to:

> …develop a coordinated framework for climate change policy in agriculture to contribute to the development of a sustainable, competitive and profitable Australian agricultural sector into the future. It will provide Australian, state and territory governments and research and development (R&D) organisations with a practical tool to develop effective and efficient policies to overcome the challenges imposed by climate change.[17]

5.20 NACCAP identifies four key areas to manage the multiple risks to sustainable agriculture during a period of changing climate:

- adaptation strategies to build resilience into agricultural systems;
- mitigation strategies to reduce greenhouse gas emissions;
- research and development to enhance the agricultural sector's capacity to respond to climate change; and
- awareness and communication to inform decision-making by primary producers and rural communities.[18]

5.21 The DAFF/DCC submission states that during 2007-08 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.[19]

5.22 One example of a project funded under the NACCAP is the *Methane to Markets* program, which aims to lower agricultural emissions by capturing and using methane for energy generation. NACCAP also funds projects to commence development of Climate Change Action Plans for the forestry and fisheries sector.[20]

5.23 In relation to the progress of the NACCAP, the DAFF/DCC submission states that a current review of NACCAP has identified 142 actions underway or completed

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17 National Agriculture and Climate Change Action Plan 2006-2009, p. 1. Available at: http://www.daff.gov.au/__data/assets/pdf_file/0006/33981/nat_ag_clim_chang_action_plan2006.pdf; accessed 16 November 2008.

18 National Agriculture and Climate Change Action Plan 2006-2009, p. 1.

19 *Submission 34*, p. 15.

20 *Submission 34*, p. 15. See also: Chapter 3, 'Other forms of alternative energy generation'.

across jurisdictions, with the main emphasis on adaptation. The submission goes on to note:

> 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.[21]

5.24 The DAFF/DCC submission also notes that the Australian Government recently committed to fast tracking the implementation of NACCAP to help Australian agriculture better manage climate change.[22]

National Climate Change Research Strategy for Primary Industries

5.25 The National Climate Change Research Strategy for Primary Industries (CCRSPI) is a joint initiative of the Rural Research and Development Corporations, federal, state and territory governments, and the CSIRO. CCRSPI is managed by Land & Water Australia.

5.26 Dr Michael Robinson, Executive Director of Land & Water Australia, and Chair of the Joint Strategy Team for CCRSPI, explained to the committee the aims of the project:

> The initiative looked at what exactly were the national and collaborative research needs of primary industries, including development and adoption – this is not just about the pure research end – including both the direct and indirect impact of climate change; that is also the biophysical, social and economic. We also undertook to look at mapping existing and developing research activity in this space, to look at the short- and longer term research priorities and to see where the collaborative coordination opportunities exist around Australia for this existing and new research. We then wanted to develop implementation options for making this happen in order to have a truly national coordinated and collaborative research effort in response to climate change.[23]

5.27 CCRSPI's initial report has identified six priority research areas for collaborative research, development and extension across industry and government:

- understanding future climates – need for better information about future climate and climate variability at seasonal timescales;
- managing emissions – need for an understanding of primary production life-cycles and processes to reduce and offset emissions;
- preparing industries – adaptation – need to adapt and respond to climate change to maintain productive, profitable and sustainable systems;

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21 *Submission 34*, p. 9.

22 *Submission 34*, p. 8.

23 *Committee Hansard*, 30 June 2008, p. 58.

- accessing information – need for access to clear, relevant and factual information that is nationally consistent, but regionally and sectorally specific;
- facilitating change – through capacity and capability development; and
- linking decision makers – encouraging dialogue between researchers, policy makers and primary producers to align research priorities, policy development and industry responses.

5.28 The initial CCRSPI report also outlines existing research activity and major gaps in knowledge.[24]

5.29 The DAFF/DCC submission states that CCRSPI will 'provide guidance on setting climate change research priorities for agriculture under Australia's Farming Future … and the COAG National Climate Change Adaptation Framework'.[25]

5.30 The committee notes the evidence of Mr Kevin Goss of the Future Farm Industries Cooperative Research Centre in relation to the challenges that face CCRSPI:

> There are some risks to it, and the risks are non-engagement by some parties. I should also say that, right now, CCRSPI requires very strong leadership from the Commonwealth agencies and also a strong coordinated leadership by them – that is, coming together and providing that leadership.[26]

5.31 Despite these concerns, Mr Goss also stated that 'it is the best thing going' and he believes that it is the foundation for an ongoing research and development strategy.[27]

Centre for Australian Weather and Climate Research

5.32 The Bureau of Meteorology (BoM) and CSIRO are jointly developing world class climate models and related technologies through the Centre for Australian Weather and Climate Research.[28]

5.33 The DAFF/DCC submission gave the following summary of the work of the Centre:

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24 Land & Water Australia, *A National Climate Change Research Strategy for Primary Industries: Phase 1 Report*, July 2008. Available at: http://sites.lwa.gov.au/ccrspi/, accessed 23 November 2008.

25 *Submission 34*, p. 14.

26 Mr Kevin Goss, Chief Executive Officer, Future Farm Industries CRC, *Committee Hansard*, 30 June 2008, p. 85.

27 *Committee Hansard*, 30 June 2008, p. 85.

28 Bureau of Meteorology, *Submission 7*, p. 2

> 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).[29]

5.34 The committee also received evidence about other joint CSIRO and BoM projects, such as the Australian Community Climate and Earth Systems Simulator (ACCESS) which is being developed to improve capacity to study and project climate in our region. The committee also notes that BoM has developed a suite of tools designed to provide climate information and assist farmers to manage climate risk.[30]

Other initiatives

5.35 The DAFF/DCC submission also notes some initiatives which have resulted from cooperative efforts between jurisdictions:

- the commissioning by the Natural Resource Management Ministerial Council of an assessment of the vulnerability to climate change of Australian agriculture and regions dependent on agriculture, which is due to be completed in 2008; and
- a cross-jurisdictional Emission Intensity Benchmarking Working group, established by the Natural Resource Management Ministerial Council. Emissions intensity benchmarking is a systematic approach to enable landholders 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. This Working group will 'explore the next steps in implementation of emissions intensity benchmarking'.[31]

5.36 The DAFF/DCC submission also noted two tools, the National Carbon Accounting System (NCAS) and the National Carbon Accounting Toolbox (NCAT), which have been developed to assist with the carbon accounting in relation to land use:

> 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.[32]

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29 *Submission 34*, p. 15

30 Bureau of Meteorology, *Submission 7*, pp 5-6.

31 *Submission 34*, p. 14.

32 *Submission 34*, p. 11.

Awareness of current initiatives

5.37 The committee was interested to find out how much was known about all the current initiatives outlined above by those in the agricultural sector, and more generally in the community.

5.38 CCRSPI was the most widely recognised of the initiatives, with a number of submitters and witnesses supportive of, and in some cases participating in, the process.[33]

5.39 Aside from CCRSPI, there appeared to be very little awareness by those in the agricultural sector of the initiatives that the DAFF/DCC submission described, although there is recognition within governments and scientific organisations of many of the initiatives. For example, the Bureau of Meteorology submission referred to the establishment of the Centre for Australian Weather and Climate Research, and noted that this facility needed to be supported by DCC through the Australian Climate Change Science Program and the National Climate Change Adaptation Framework.[34] Land & Water Australia referred to its involvement in the Managing Climate Variability Program.[35] The Queensland Government stated that it is in the process of implementing its ClimateSmart Adaptation Plan (2007–12), which specifically includes primary industries and supports the National Agriculture and Climate Change Action Plan 2006–2009.[36]

Future initiatives

5.40 The DAFF/DCC submission also referred to three future initiatives for addressing the gaps in the strategy, namely: Australia's Farming Future; the COAG Working Group on Climate Change and Water; and the potential future reform of drought policy. The potential future reform of drought policy was discussed in the committee's Interim Report.[37]

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33 See for example Mr Greg Brown, Acting President of the Cattle Council of Australia, *Committee Hansard*, 1 July 2008, p. 3; Dr Beverly Henry, Manager Environment, Sustainability and Climate Change, Meat and Livestock Australia, *Committee Hansard*, 1 July 2008, p. 4; Ms Nicolette Boele, Director, Strategic Projects, Agricultural Alliance on Climate Change, *Committee Hansard*, 1 July 2008, p. 18; Mr Ben Fargher, Chief Executive Officer, National Farmers' Federation, *Committee Hansard*, 1 July 2008, p. 30.

34 *Submission 7*, p. 2.

35 *Submission 3*, p. 2.

36 *Submission 30*, p. 2.

37 Senate Rural and Regional Affairs and Transport Committee, *Climate change and the Australian agricultural sector: Interim Report* (Interim Report), September 2008, pp 21-22.

Australia's Farming Future

5.41 Australia's Farming Future builds on the Australian Government's commitment to fast-track the NACCAP. According to the DAFF/ DCC submission, the Government has provided $130 million over four years to fund three distinct but connected programs: the Climate Change and Productivity Research Program ($15 million); the Climate Change Adaptation Partnership Program ($60 million); and the Climate Change Adjustment Program ($55 million).[38]

5.42 The committee notes, however, that more recent information on the DAFF website describes the programs in a slightly different manner, and with very different funding allocations:

- The Climate Change Research Program ($46.2 million) to fund research projects and on-farm demonstration pilots that address the following priorities: reducing greenhouse pollution; better soil management; and adapting to a changing climate.[39]
- FarmReady ($26.5 million) 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. Two grants will be available through the FarmReady program: the primary producer reimbursement grant; and the industry grant.[40]
- The Climate Change Adjustment Program provides assistance for primary producers to manage the impacts of climate change, including targeted training activities; individually tailored adjustment advice; and assistance while farmers consider their future in farming.[41]

5.43 It is not clear from the DAFF website why these changes have been made to the Australia's Farming Future initiative.

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38 *Submission 34*, p. 16. See also Mr Mark Gibbs, General Manager, Climate Change Policy, Department of Agriculture, Fisheries and Forestry, *Committee Hansard*, 1 July 2008, p. 77.

39 DAFF website, *Climate Change Research Program*, updated 9 September 2008. Available at: http://www.daff.gov.au/climatechange/australias-farming-future/climate-change-and-productivity-research, accessed 16 November 2008.

40 DAFF website, *FarmReady*, updated 30 October 2008. Available at: http://www.daff.gov.au/climatechange/australias-farming-future/farmready, accessed 16 November 2008.

41 DAFF website, *Climate Change Adjustment*, updated 6 November 2008. Available at: http://www.daff.gov.au/climatechange/australias-farming-future/climate-change-adjustment-assistance, accessed 16 November 2008. No funding allocation for this initiative was outlined on the website. The Climate Change Adjustment Program is discussed in the committee's Interim Report, pp 20-21.

COAG Working Group on Climate Change and Water

5.44 The COAG Working Group on Climate Change and Water was established in December 2007, and 'will provide a mechanism to progress cross-jurisdictional coordination on climate change action'.[42]

5.45 The committee received very little information on this initiative, other than ascertaining that in December 2007, COAG agreed that part of the indicative forward work program from March 2008 of the Climate Change and Water Working group would include accelerating the implementation of actions under the National Climate Change Adaptation Framework.[43]

What should be included in a national strategy?

5.46 The committee received an overwhelming response in submissions to the question of specific initiatives which should be included in a national strategy to assist the Australian agricultural sector to adapt to climate change. This section of the report outlines some of the key examples of broadly applicable initiatives provided to the committee of what should be included in a national strategy.

Water policy

5.47 The development of a cohesive national water strategy is an area that received attention from many submissions and will impact across the agricultural sector. The National Water Initiative (NWI) was a focus in this area of discussion. The Wentworth Group of Concerned Scientists described the NWI as a 'uniquely clear statement of international best practice in water management', but went on to highlight:

> When the NWI was negotiated, it was decided that it was no longer necessary to make delivery of agreed milestones a necessary condition for states to receive competition payments.
>
> Unfortunately, without the financial discipline imposed by competition payments on state and territory governments, water reform progress has slowed to a snail like pace and, to make matters worse, many of the old *ad hoc* water policy and administration habits have started to return.[44]

5.48 Growcom called for a review of national and state water management:

> A particular issue that requires attention is that of how to continue water reforms spelt out in the National Water Initiative process while providing scope for growers to diversify their farm water sources, water harvesting opportunities or management options. Tightening regulation of water

42 *Submission 34*, p. 16.

43 *Submission 34*, p. 8.

44 *Submission 17*, attachment: Prof. Mike Young and Jim McColl, *A future-proofed basin: A new water management regime for the Murray-Darling Basin*, 2008, pp 1-2.

> resource allocation and management currently severely limit [sic] the capacity and flexibility of growers to adapt to changing rainfall patterns (eg there are legal constraints to increasing on-farm water harvesting or storage).[45]

5.49 The NSW Irrigators' Council noted the NWI has allocated significant funding to scientific studies of catchments and likely future yields. The NSW Irrigators' Council stated the need for 'good scientific, social and economic data upon which to base long term policy' and argued that the current system of Available Water Determinations and Water Sharing Plans should not be altered until that data is available.[46]

5.50 The National Association of Forestry Industries also noted in its submission that it is particularly concerned that water policy development under the NWI may unfairly restrict plantation establishment.[47]

5.51 A number of submissions and evidence to the committee highlighted the potential for adaptation strategies or policies to be maladaptive or result in perverse outcomes.[48] One good example of this was discussed in the submission of The Australia Institute in relation to water policy, in particular how compensation schemes can influence behaviour in relation to water use:

> The payment of compensation to farmers for regulatory restrictions on their property rights can reduce the incentive for them to adopt sustainable natural resource management practices. Take the case of a farmer who recognises their irrigation practices are damaging the environment, primarily because they are extracting too much water from the local river at a time of year when the ecosystem needs higher flows. Why would the farmer voluntarily reduce their water use if they can get paid by the government to do so? There is a disincentive to reduce diversions voluntarily, 'because their adoption … would result in a reduction in subsidy payments to them in the future'. The creation of additional rights to compensation can also reinforce perceptions that property owners have a right to manage 'their' resources in an unsustainable manner.[49]

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45 *Submission 31*, pp 12-13.

46 *Submission 18*, p. 4. See also Gwydir Valley Irrigators Association Inc, *Submission 14*, p. 4.

47 *Submission 6*, p. 4.

48 See for example Dr Mark Howden, CSIRO, *Committee Hansard*, 30 June 2008, p. 10; Dr Michael Robinson, Executive Director, and Chair, Joint Strategy Team, National Climate Change Research Strategy for Primary Industries, Land & Water Australia, *Committee Hansard*, 30 June 2008, pp 64-65; Ms Margaret Blakers, Green Institute, *Committee Hansard*, 30 June 2008, pp 117-118; Mr Ben Fargher, Chief Executive Officer, National Farmers' Federation, *Committee Hansard*, 1 July 2008, pp 27-28 and Australian Landcare Council, *Submission 13*, p. 4.

49 The Australia Institute, *Submission 21*, attachment: Andrew Macintosh and Richard Denniss, *Property Rights and the Environment: Should farmers have a right to compensation?* Discussion Paper No. 74, November 2004, p. 37 (references not included).

The development of a database of natural resource information

5.52 The National Land and Water Resources Audit Advisory Council (Audit Advisory Council) made a compelling submission for collection, management and availability across jurisdictions of national resource information. The Audit Advisory Council drew attention to the assessment reports released by the National Land and Water Resources Audit, and specifically the Australian Agricultural Assessment:

> …this work identifies the cost of specific forms of land degradation to Australian agriculture and has provided basic information pertaining to the natural resources on which Agriculture depends. Clearly we will need to know the description of the soils and vegetation resources, and the capacity of our land managers to change land use and management practices to be able to model changing land use as a result of predicted changes in climate.[50]

5.53 One of the key points of the Audit Advisory Council's submission was the need for coordinated collection and management of national resource information:

> Despite the previous activity of the [National Land and Water Resources Audit], and progressive State of Environment reporting, there is still no definitive overall view of the types of natural resource information that are required to be collected in the national interest, and managed as a national asset.[51]

Development and management of biosecurity policy

5.54 Another area of a national strategy that could have broad application across the agricultural sector is the development and management of biosecurity policy. As was outlined in Chapter 2 climate change will impact on the distribution of pests, weeds and diseases, as well as giving rise to the potential for the introduction of new pests, weeds and diseases to Australia.

5.55 The CSIRO submission provides some guidance as to what might be required to improve biosecurity in the face of climate change:

> Maintain or improve quarantine capabilities, sentinel monitoring programs and commitment to identification and management of pests, diseases and weed threats. Improve the effectiveness of pest, disease and weed management practices through predictive tools such as quantitative models, integrated pest management, area-wide pest management, routine record keeping of climate and pest/disease/weed threat, and through development of resistant species and improved management practices.[52]

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50 *Submission* 33, cover letter.

51 *Submission* 33, p. 3.

52 CSIRO, *Submission 32*, p. 22. See also: Council of Australasian Weed Societies Inc., *Submission 5*; Cooperative Research Centre for National Plant Biosecurity, *Submission 16* and Cooperative Research Centre for Australian Weed Management, *Submission 19*, p. 3.

Compliance with international obligations

5.56 The University of Sydney Faculty of Law stated in its submission that '[i]n responding to climate change through laws and policies … it is important that Australia is mindful of the obligations it has assumed (and is likely in the future to assume) under international law'.[53]

5.57 Those obligations include commitments under the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol:

> The UNFCCC imposes on states a responsibility to adapt their practices to insulate important sectors against the effects of climate change. It requires States to 'develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture'. Social, economic and environmental policies should be formulated 'with a view to minimizing adverse effects on the economy'. Similarly, the [Kyoto Protocol] encourages States to develop and promote sustainable forms of agriculture.[54]

Other initiatives

5.58 The committee also notes the work that is going on at a regional and industry level to assist the agricultural sector to adapt to climate change. Some initiatives that the committee heard about included:

- the Winemakers Federation, which has been working with international wine industry bodies to develop a Greenhouse Gas Accounting Protocol for the International Wine Industry and calculator tool; and[55]
- the work of the Cooperative Research Centre for National Plant Biosecurity which has initiated a research project called 'Understanding and responding to the risks associated with climate change and plant biosecurity' in partnership with the Pratique bid (a consortium of 13 European research organisations). The project will examine the potential risks using pests and diseases identified in partnership with industry.[56]

Committee view

5.59 The committee is concerned that information on work being done to develop a national strategy to assist the Australian agricultural sector to adapt to climate change appears not to be reaching those who need it most – those in the agricultural sector.

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53 *Submission 39*, p. 2.

54 *Submission 39*, p. 4 (references not included).

55 *Submission 22*, p. 1.

56 *Submission 16*, pp 2-3.

5.60 This point was brought home to the committee when it assessed the agricultural sector's awareness of current initiatives as part of a national strategy to assist the agricultural sector to adapt to climate change. Disappointingly, it was predominantly Government and research organisations which demonstrated awareness of these initiatives.

5.61 In its Interim Report, the committee noted the urgent need for improved communication of climate projections to farmers and others in the agricultural sector.[57] The committee concludes that there is a need for improved communication to the agricultural sector which extends beyond the communication of climate change projections to encompass any information which would assist those in the agricultural sector to understand and adapt to climate change.

5.62 The committee is further concerned by other evidence of a lack of communication between Government departments in relation to climate change initiatives. Both the Winemakers' Federation of Australia and the National Farmers' Federation (NFF) noted their membership of the *Greenhouse Challenge Plus* program.[58] This is an initiative of the Department of Environment, Water, Heritage and the Arts which enables 'Australian companies to form working partnerships with the Australian Government to improve energy efficiency and reduce greenhouse gas emissions'.[59] The committee believes that this program could be a very valuable tool for others in the agricultural sector.

5.63 The committee understands that the DAFF/DCC submission was probably not intended to be an exhaustive compilation of all programs currently in place as part of a national strategy to assist the agricultural sector to adapt to climate change. However, the omission of the *Greenhouse Challenge Plus* program from the DAFF/DCC submission could be seen as an example of an issue that Ms Nicolette Boele of the Agricultural Alliance for Climate Change discussed in her evidence:

> …one of the main barriers to action on climate change I see in the agriculture sector has to do with the silos with which the Commonwealth deals with the issue. It is very easy to criticise from where I am sitting but it is a very clear thing. There is a move towards fixing it, but you have DAFF, DCC and other subagencies like [Bureau of Rural Sciences] and [Australian Bureau of Agricultural and Resource Economics] – groups that do not communicate well or have not been told to – who have a focus and boundaries to the work and research that they do.[60]

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57 Interim Report, p. 13.

58 *Submission 22*, p. 1; and *Submission* 24, p. 4.

59 Department of Environment, Water, Heritage and the Arts website, *Greenhouse Challenge Plus*. Available at: http://www.environment.gov.au/settlements/challenge/, accessed 18 November 2008.

60 *Committee Hansard*, 1 July 2008, p. 15-16.

5.64 The committee notes that DAFF is responsible for the development of a national climate change strategy for agriculture. The committee considers therefore that DAFF should prioritise strategic planning for climate change mitigation and adaptation and actively engage in the implementation of the CCRSPI recommendations through the development of advice and programs to the agricultural sector accordingly.

Recommendation 3

5.65 DAFF should prioritise strategic planning for climate change mitigation and adaptation in agriculture and rural communities and play a greater leadership role than is currently the case.

5.66 The committee is also alarmed by the apparent lack of coordination of, and focus to, research projects into the mitigation and adaptation of climate change, particularly those initiated by government. For example, it is not clear to the committee how initiatives such as the Australian Climate Change Science Program fit with the establishment of the Climate Change Research Facility at Griffith University or the CSIRO Flagship on Climate Change Adaptation. The committee agrees with the observations in the Land & Water Australia submission in relation to current research efforts:

> The myriad of uncoordinated and relatively small scale research projects being undertaken involves a significant risk that the research effort will not be maximised, or decrease in priority, as researchers and policy makers attempt to address competing interests and priorities.[61]

5.67 The committee understands that many in the agricultural sector and the research community see CCRSPI as a positive development in this area. However, the committee also notes that CCRSPI is limited by the information it receives from research organisations.

5.68 The committee would urge all involved in climate change research to engage in CCRSPI to ensure that the most benefit is gained from this process.

Senator Glenn Sterle
Chair

61 *Submission* 3, p. 3.