SUBMISSION NO. 64

HOUSE STANDING COMMITTEE ON PRIMARY INDUSTRIES AND RESOURCES:
Inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change

SUBMISSION BY THE AUSTRALIAN BUREAU OF STATISTICS
APRIL 2009

Introduction

The Australian Bureau of Statistics (ABS) is Australia's official national statistical agency. It provides statistics on a wide range of economic, social and environmental matters, and covers government, business and the population. The ABS is only one of a number of national, state and local government agencies that contribute to the overall pool of information. Industry associations and individual companies also contribute.

The role of the Australian Bureau of Statistics (ABS) is to assist and encourage informed decision-making, research and discussion within governments and the community by leading a high quality, objective and responsive national statistical service.

This submission will focus on the role of government, in particular the ABS, in informing research, extension and training which assists the farm sector to better adapt to climate change. The submission will concentrate on existing ABS statistics relating to farming practices undertaken by Australian agricultural businesses, our ability to enhance these statistics, and ways in which the ABS might assist in filling information gaps.

Background

The ABS and its predecessors have been undertaking collections of the agriculture sector for over 150 years. However the type and range of agricultural information now collected is substantially different to that collected over 100 years ago. This is not surprising given the changes which have taken place in agriculture including the interest in natural resource use and management, the impact of climate change on the industry, and the implication for regions dependent on a variable agricultural industry.

Over 100 years ago, the agriculture industry accounted for around 20% of Australia's Gross Domestic Product (GDP). In addition, almost 30% of the male population and just over 10% of the female population were employed directly in the agriculture industry. Currently the industry accounts for around 3% of GDP and 3.5% of employment.

This decline in share of GDP and employment reflects structural changes in the economy rather than any decline in the size of the industry. Australian agriculture, like agriculture in most developed countries, has moved from a labour intensive industry to one that is capital intensive, using modern machinery and other technology to undertake tasks previously done manually. At the same time, the national economy has become more diverse,

reflected most dramatically in the rapid growth of the services sector, which now contributes almost half of GDP.

However, despite the relative decline in GDP, agriculture is still a very important sector from other perspectives. It utilizes a large proportion of natural resources, accounting for 65% of stored water use and almost 60% of Australia's land area. In regional and rural areas, it is a significant employer and the life-blood of many rural towns. At a more personal level, Australian agriculture directly affects every person in Australia (and a significant proportion of people living in many other countries) through the quality and availability of the food it produces.

ABS Agricultural related products

The ABS collects a variety of statistics useful in informing research projects, extension and training designed to assist the farm sector better adapt to the impacts of climate change. These statistics cover a broad range of information:

- Agricultural commodity production;
- Natural resource use and management practices;
- Water use and management;
- Perceptions of changes to climate; and
- Management of adverse seasonal conditions.

Brief outlines of relevant ABS products are outlined below.

Agricultural commodity production

The basic source of Australian agricultural commodity statistics is the annual ABS Agricultural Census/Survey conducted on a year ending 30 June basis. The collection provides comparable and consistent regional commodity production tables which can be aggregated to statistical totals for Australia as a whole.

The Agricultural Census is conducted every five years with sample surveys of approximately 1 in 5 agricultural businesses in intervening years. The most recent Agricultural Census was conducted in relation to the 2005-06 reference period.

In a census year, due to the near complete coverage of the population, data can be release at a very fine geographic level such as Local Government Area. Reliable statistics are available at the Natural Resource Management (NRM) regions and Statistical Divisions (SD) in a survey year.

A wide range of commodity and related data is collected in the Agricultural Survey/Census program including; area of holding, production and area for a large number of crops, fruit and vegetables, and numbers of livestock and, given the longevity of the collection, these statistics provide an excellent historical context to current agricultural production.

Broad level statistics are released free on the ABS web site (www.abs.gov.au) with more detailed information available as a special data request.

Commodity production statistics are released in *Agricultural Commodities Australia (cat. no. 7121.0)*

The monetary value of agricultural commodity production is derived from the commodity production information and released in *Value of Agricultural Commodities Produced, Australia (7503.0)*

Natural Resource Use and Management Practices

In the past, the ABS has included questions on the Agricultural Census and Survey questionnaires to collect data relating to natural resource condition, use and management practices. This information has been used to inform decision making and policy in relation to the preservation of the natural assets 'managed' by agricultural businesses.

In 2005 the ABS received additional Federal Budget funding to enable the ongoing biennial collection of natural resource management data from agricultural businesses. This ABS Natural Resource Management (NRM) Survey was designed to address the increasing demand for an extensive range of environmental and NRM statistics to support NRM planning and decision making, as well as assist with the implementation and evaluation of major programs such as the Natural Heritage Trust.

The first of these biennial collections related to the 2004-05 collection period with a second collection undertaken in 2006-07. These questionnaires collected quantitative and qualitative information on five focus areas; weeds, pests, land and soil, farm management and natural resource management. The results of these sample surveys of approximately 20,000 agricultural businesses were published in *Natural Resource Management on Australian Farms (cat. no. 4620.0)*

In 2007 the ABS was contracted by the Department of Agriculture, Fisheries and Forestry (DAFF) and the Department of the Environment, Water, Heritage and the Arts (DEWHA) to collect benchmark data for the 2007-08 financial year from agricultural businesses to support the monitoring and evaluation of the natural resource management policies, in particular the Caring for our Country program. The questionnaire collected quantitative information relating to; land preparation practices, soil condition, fertilizer use, effluent management, surface water management, protection of the natural environment for conservation purposes, and farm management.

Final results from this collection are expected to be published on the 29 May 2009 in *Land management and Farming in Australia 2007-08 (cat. no. 4627.0)*

To meet the ongoing reporting requirements of the Caring for our Country program, the ABS NRM survey will next be conducted in respect of the 2009-10 reference year rather than the previously scheduled 2008-09 reference year, and will focus on the quantitative information required to support the

monitoring of the Caring for our Country program. Biennial information on land preparation practices of Australian agricultural businesses, soil condition, fertilizer use, effluent management, surface water management, protection of the natural environment for conservation purposes, and farm management will be available at the NRM regional level.

Water use and management

The availability and the use of water by agricultural businesses is of high and increasing interest, and extremely relevant to the climate change debate.

As part of its agricultural statistics collection, the ABS has in recent years undertaken the regular collection of water use and water source data from agricultural businesses. On a less regular basis the ABS has also collected information relating to the management of irrigation water, entitlement usage, the purchase, sale and lease of licences and other irrigation expenditure both current and capital.

These statistics are reported in *Water Use on Australian Farms (cat. no. 4618.0)*

In addition, the ABS in conjunction with the Productivity Commission undertook a time series analysis of the characteristics of Australia's irrigated farms which was reported in *Characteristics of Australia's Irrigated Farms 2000-2001 to 2003-04 (cat. no. 4623.0)*.

Acknowledging the need for statistics on water use in Australia, the ABS produces a complementary publication, *Water Account, Australia (cat. no. 4610.0)*. This publication represents the supply and use of water in the Australian economy (including on Australian farms) and has been prepared in relation to the 2000-01 and the 2004-05 financial years. The next water account is scheduled for release in 2011 and will report the supply and use water information for the 2008-09 reference period.

To further inform the water debate, the ABS is currently preparing *Experimental estimates of the Gross Value of Irrigated Agriculture (cat. no. 4610.0.55.008)* for release in May 2009. This data is derived from information on water use by agricultural businesses collected as part of the agricultural census/surveys.

Perception of changes to climate

The ABS has the capacity to, as a one-off or as part of a series, collect statistics relevant to a particular issue as part of its existing statistical infrastructure. In 2007 it was noted that the collection of climate-related information from agricultural businesses was an emerging and highly relevant topic of interest. As a result, the ABS included a number of questions covering:

1. whether the operators of agricultural businesses considered the climate affecting their holding had changed,
2. what changes to the climate had been experienced,
3. what impact these changes to climate had had on the holding, and

4. which changes to management practices had been undertaken in response to climate change.

The results of this one-off collection have been released in *Farm Management and Climate (cat. no. 4625.0).*

Management of adverse seasonal conditions

In 2008 the Department of Agriculture Fisheries and Forestry (DAFF) identified a need to understand the methods used by farmers to effectively manage adverse seasonal conditions.

As a result, DAFF funded the one-off inclusion of a number of questions designed to collect statistics relating to; the types of adverse conditions experienced in the 2007-08 year (i.e. drought, flood, hail etc) and the responses farm mangers found effective in dealing with the adverse conditions. These responses ranged from physical responses e.g. the management of livestock, cropping activities and water to financial responses including the use of a number of government funded support activities.

Preliminary estimates were published along with other commodity production statistics in *Principal Agricultural Commodities, Australia, Preliminary 2007-08 (cat. no. 7111.0).*

Addressing the requirement for regional data

In 2006, acknowledging the usefulness of agricultural and natural resource management statistics at flexible geographies, DAFF, DEWHA and the National Water Commission (NWC) in conjunction with the ABS financially supported the geocoding of the 155,400 agricultural businesses in scope of the ABS 2005-06 Agricultural Census.

The outcome of this investment is the ability to release Agricultural Census statistics by a broad range of geographies including;

- Drainage Divisions and River Basins,
- Surface Water Management areas,
- Interim Biogeographic Regionalisation of Australia (IBRA) regions,
- Ground Water Proveniences, and
- Capital Water Supply Areas,

in addition to the traditional Australian Standard Geographic Classification (ASGC) regions of;

- Statistical Division,
- Statistical Local area, and
- Local Government Areas.

These statistics have been released in Water Use on Australian Farms 2005-06 (cat. no. 4618.0) and Agricultural Commodities, Small area data 2005-06 (cat. no. 7125.0).

The geocoding of the 2005-06 Agricultural Census has also enabled the release of information by user-defined geographies meaning ABS clients are

now able to specify a region of interest and the ABS has the ability to release the relevant confidentialised statistics. For example, 5km zones around major rivers. The flexibility of being able to geographically locate responses greatly enhances the usefulness of the statistics, particularly those relating to land use and management.

Engaging with Agricultural communities

The ABS is a regular attendee at forums such as the annual ABARE Outlook Conference, as well as more local events such as field days. These forums provide an excellent opportunity to engage directly with the farming community, assist with information inquiries, and help raise awareness of the data that exists to help them in their every day lives. ABS presence at these events helps put a face to the business of government.

In 2006, ABS was congratulated by our then Minister the Honorable Chris Pearce MP for attending the 2006 Sheepvention Agricultural Field Day held in Hamilton Victoria. Mr Pearce was responding to a letter of appreciation for ABS involvement from the local member, the Honorable David Hawker, MP, Federal Member for Wannon. In congratulating ABS, Mr Pearce encouraged, where practical, ABS to be in the field meeting and helping the people of regional Australia.

Future requirements and directions for information

The ABS acknowledges that there is a pressing need for robust and ongoing statistical information on the environment and agriculture, including information on Australian farmer's ability to manage the impact of climate change. The ABS demonstrates our commitment to this need by undertaking an annual Agricultural census/survey program and a biennial Natural Resource Management survey.

The ABS demonstrates commitment to responding to new and emerging information demands by providing statistical services such as the inclusion of questions relating to adverse seasonal conditions in the 2007-08 Agricultural survey, and the 2007-08 collection of benchmark data to support the monitoring and evaluation of the natural resource management policies. These services are provided on a cost recovery basis, but could equally be provided with additional appropriation such as was done in 2005 for the biennial NRM survey.

Gemma Van Halderen, Assistant Statistician, Environment and Agriculture Statistics Branch (phone 02 6252 6977 or email g.vanhalderen@abs.gov.au) is the ABS contact for these issues. Gemma would be happy to discuss these matters further with the Standing Committee.

Brian Pink
Australian Statistician

April 2009