Australian Government
Department of Agriculture
ABARES

WORK PLAN 2019-20

Prepared by the Australian Bureau of Agricultural
and Resource Economics and Sciences

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Our role, contributions and work planning process

What we do

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) is the research arm of the Australian Government Department of Agriculture. Our mission is to provide professionally independent data, research, analysis and advice that informs public and private decisions affecting Australian agriculture, fisheries and forestry.

We work at the interface between research and policy, with strong connections to agricultural, fisheries and forest industries and to other national and state government agencies, with strengths across agricultural and natural resource economics and sciences.

ABARES undertakes a number of different activities:

- data collection and management, including undertaking farm, forestry and fisheries surveys, publishing official statistics nationally and internationally, and ensuring the discoverability, accessibility and usability of our data holdings

- forecasting the price, volume and value of output and exports, for a wide range of farm, fishery, and forestry commodities

- undertaking and publishing public good research and analysis on issues of relevance to Australian agricultural, forestry and fisheries policy and industries

- providing analysis and advice directly to the Australian Government Department of Agriculture, and other government agencies.

We also convene the ABARES national Outlook conference and about five regional Outlook conferences each year, and participate in a wide range of expert workshops, technical committees, and conferences in Australia and overseas.

How we plan and prioritise our work

Our work is arranged in nine themes under the high-level objectives of the Department of Agriculture, as set out below.

Before setting our research priorities for the year ahead, we consult with stakeholders within and beyond the department to identify current and emerging issues over the next three-to-five years. We use this process to shape and focus our near-term research and other activities, including the development of new research and analytical capacity where required. This also helps identify opportunities for collaboration with our stakeholders and other research organisations.

This work plan summarises our prioritiesfor each theme for 2019-20.

The work is delivered by nine research programs that map closely to the themes, each responsible for several projects.

How we report our outputs and achievements

From 2019, ABARES will publish an annual summary and overview of our publications, outputs and other activities for the previous financial year, complementing the Department's annual report.

Contents of this work plan

More information and ABARES contact details

More information on our outputs and publications is available at the ABARES website.

The ABARES Executive's responsibilities are published on the Leadership Team page of the website.

Priorities for the year ahead

Encourage and reduce risks to agricultural productivity

1.   Agricultural forecasts and policy

ABARES forecasts provide up-to-date data, information and insights on Australian and world markets for agricultural commodities. These are delivered through regular publications, briefings and forecasts to support private decision making and core activities in the department. This research area covers all food and fibre industries, including forestry and fisheries, however, our primary current focus is on agriculture.

The scope of this theme covers all off-farm aspects of industry performance, such as the role of research and development, industry support, competition policy, infrastructure, and is intended to complement the enterprise-level focus of the farm performance theme.

This work is underpinned by ABARES collection of domestic and international agricultural statistics, including seasonal conditions, production, consumption, exports, imports and prices, and through more informal information collected from our professional and industry networks.

In 2019-20, we will work to maintain and improve the quality of our analysis and forecasts while also increasing the utility of ABARES commodities information to stakeholders. This will include increasing the accessibility of ABARES information and data through improved online resources and considering the scope and timing of forecasts to ensure the best use of available resources.

In 2019-20, areas of focus will include:

- **Scanning**: improving our capacity to anticipate and provide policy-relevant analytical advice on emerging issues facing the sector.

- **Policy assessment and advice**: we will work with the broader Department to integrate economic and scientific insights from agricultural markets and forecasts into policy design and reviews, and to ensure continued accessibility and relevance of economic and science-based advice across the Department.

- **Longer term issues**: we undertake policy relevant economic research into longer term strategic issues in consultation with the broader Department, industry and external researchers.

Key regular publications include:

- *Australian Crop Report* (published quarterly)

- *Agricultural Commodities* (published quarterly)

- *Agricultural Commodity Statistics* (published annually)

- *ABARES Weekly climate, water and agricultural update* (published weekly).

2. *Farm performance*

ABARES research on farm performance seeks to provide new information and insights into farm production, productivity, profitability, risk management, and related issues. This research is centred on farm businesses. Results are typically able to be disaggregated by industry and region.

The work is underpinned by ABARES long-running farm survey program, which collects a comprehensive dataset on the physical and economic performance of Australian farms, and can be linked to other datasets.

The key purpose of this work is to support the Department and industry in the pursuit of a profitable, resilient and sustainable agriculture sector by providing accurate, independent data and advice. While the next hot topic for policy is unknowable, having a solid evidence base on the factors that underpin farm performance and the welfare of farmers is crucial for making the best possible decisions.

In 2019-20, the main areas of focus for this research theme will include:

- **Farms:** includes the ongoing work of collecting and summarising the data from our farm survey program, and analysis of the structure of the farm population, labour use and the adoption of information and communications technologies.

- **Labour markets:** we will continue to gather detailed information on farm labour use to provide a better evidence-based understanding of labour supply and demand and the experiences of Australian farmers in recruiting and retaining appropriate workers. This work will have a national focus and broad industry coverage.

- **Productivity**: includes ongoing improvements to ABARES models for estimating productivity, and new applications of these models to Australia's vegetable industry and the Chinese agriculture sector.

- **Natural capital:** understanding and analysing the links between farm profit and sources of natural capital (such as vegetation and soil quality), incuding through contributing to the development of new integrated data sets.

- **Data**: includes exploring better ways to share the research and data we produce and identifying potential new sources of data.

Key regular publications include:

- *Farm survey results (published annually)*

- *Labour survey results (published annually)*

3. *Understanding climate variability, risks and impacts*

ABARES provides data, analysis and advice on the economic impacts of climate variability and change on agricultural producers. This draws on integrated national datasets including the ABARES farm survey and ABS data (covering farm inputs, outputs and management systems), climate observations from BOM and elsewhere, and the best-available seasonal climate forecasting, agronomy and

remote sensing. As part of this, we will continue to improve our understanding of the past impacts of climate variability and change on different agricultural commodities and regions, and our ability to develop robust forecasts and future scenarios of the effects of climate and climate-related price changes on the productivity and profitability of Australian farms.

In 2019-20, we will continue to:

- **Support forecasting:** provide data and analysis for ABARES agricultural forecasts.

- **Publish**: research reports and notes on managing climate impacts and risks.

- **Research**: develop and apply new models for predicting farm production and financial outcomes under a range of future climate change scenarios.

- **Collaborate:** build and maintain collaborative networks with research and science groups, including the Bureau of Meteorology and CSIRO.

Increase, improve and maintain markets

4.   Trade and global change

ABARES provides analysis and advice on trade and global policy issues to inform strategic policy and decision-making on issues affecting Australia's agriculture, fisheries and forestry sectors. The analysis advances the department's knowledge and capability to improve market access, thereby assisting Australia's competitiveness in global markets.

We will also continue collaboration with other research agencies, to leverage and develop existing global modelling frameworks to explore a range of issues in global agricultural trade and food systems, and inform priority-setting for policy development and implementation.

We expect specific issues will include near-term volatility and events, and longer-term trends and scenarios relevant to Australian agricultural production, trade and farm incomes.

The scope of this work will include the development of alternative global scenarios that can assist public and industry fore-sighting and strategic risk management.

In 2019–20, ABARES will continue analysis in several areas including:

- **Global value chains**: identifying and understanding the linkages and influences, including non-tariff measures, along the supply networks for Australian agricultural, fisheries and forestry sectors. This research will extend over the longer term to highlight areas of interest and influence on industries within these sectors.

- **Global production and market dynamics**: developing new modelling capacity (in collaboration with CSIRO) to assess impacts of climate volatility, potential shifts in consumer preferences, and potential global economic shocks and their implications for Australian agricultural exports and farm profitability.

- **China's place in global agricultural markets:** exploring the influence of Chinese consumers and changes in Chinese agricultural policy on the demand for Australian

agricultural exports. As Australia's largest agricultural export market, this research will assist in understanding potential impacts on domestic and global markets of China's market adjustments, and inform government of opportunities for Australia's exporters.

5.   Biosecurity

ABARES biosecurity research and analysis provides ongoing advice to inform policy development and operational deployment for many components of the biosecurity system. Biosecurity is relevant to all three objectives of the Department's 2019-20 Corporate Plan but this theme is included under the 'Increase, improve and maintain markets' objective because of the importance of the biosecurity system to providing confidence in Australian competitiveness in global markets.

Working directly with other areas of the department, as well as in collaboration with state and territory agencies and research providers, ABARES will focus on the development of new models, approaches and tools; adoption and application of existing and newly emerging methods; maintenance and enhancement of datasets relevant to biosecurity; and maintaining critical capability to contribute to responses to biosecurity emergencies.

Priorities for 2019-20 will include:

- **Impact of pests and diseases:** quantifying the potential impacts of pest incursions and diseases not currently in Australia, to underpin return on biosecurity investment decisions.

- **Developing and applying imports-related risk assessment:** addressing questions and issues related to managing the risk posed by imported goods and their modes of arrival, with a focus on using existing departmental data systems to quantify risk; and developing sampling systems for inspections that provide the best risk-return trade-off.

- **Analysis of surveillance systems design:** developing, assessing, and implementing analytical methods for designing cost-effective surveillance systems to detect pests and diseases.

- **Social systems analysis**: developing insights into how understanding social systems can contribute to the on-ground management of biosecurity risk.

- **Emergency response decision-making:** developing and supporting methods to inform policy, strategic and tactical decisions during emergency responses, including technical feasibility of eradication, benefit-cost and return on investment analysis, incursion and asset mapping, and interpretation of surveillance data.

- **Invasive species management and support:** analysis and advice on the management of nationally significant pests, weeds and diseases to support the national biosecurity system, including the development of prioritisation tools and scientific support to sectoral committees.

Supporting sustainable high-quality use of natural resources

6.   Forestry and land use

ABARES research, analysis and data collection in regards to forests and land use supports the sustainability of Australia's forest management, the competitiveness and profitability of Australia's forest industries and the rural and regional communities that rely on them, and the sustainable management and use of land as a resource.

Key activities include preparing nationally consistent data on forests and land use, providing evidence-based advice on scientific issues underpinning forest management and land use, and delivering on domestic and international reporting obligations.

Key outputs include national compilations and syntheses that provide the primary national data sources on Australia's forests and the forest industry, and that inform and support implementation of the National Forest Industries Plan; and delivering updates of land use data for a range of clients.

Models, data visualisation and decision support tools are also provided to assist NRM investment decisions, to assess biosecurity risks, and for examining land use options.

In 2019-20, ABARES priorities for forestry and land use research and analysis will include:

- **Essential industry statistics and analytics**: assemble and update data and statistics on the forest industry's plantation and native forest resource base, economic status and contribution to Australia's economy; and create and manage spatial analytics for biosecurity, industry and natural resource management

- **Sustainable forest management:** maintaining authoritative and current spatial data and information on all aspects of Australia's forests to provide domestic and international stakeholders with evidence of the sustainability of Australia's forest management, including publication of new methodologies for compiling spatial forest data . ABARES will continue to update and analyse Commonwealth-held data to support the requirements of ministers, policy analysts and other stakeholders relating to Regional Forest Agreements and threatened species.

- **Land use and land accounts:** compilation of the catchment-scale land-use dataset for Australia (including commodities), using data provided by states and territories; producing guidelines for land-use mapping in Australia; and contributing to the development of Australia's national land accounts

Key regular publications include:

- *Australia's forest and wood products statistics (published biannually)*

- *State of the Forests Report (published every 5 years – last edition published in early 2019)*

- *Australia's forests at a glance (published biennially)*

- *Catchment-scale land use of Australia – Update (published annually)*

7.   Fisheries

ABARES fisheries research provides information and advice for national and international fisheries management, and supports the development of improved methods for assessing effectiveness and efficiency in fisheries and fisheries management.

Key activities include: facilitating scientific support for policy development in high seas fisheries management; involvement in fisheries-related international obligations that have a direct impact on Australian domestic fisheries; independent assessment of the status of Commonwealth fish stocks and associated fisheries management programs; and economic research to assist with Commonwealth fisheries resources management, including data collection to understand the economic condition of specific fisheries and the profitability of fishers.

In 2019–20, ABARES will continue to deliver research, data and advice as part of supporting Commonwealth fisheries to remain productive and economically efficient. This work includes:

- **International engagement:** provision of scientific analyses, reviews and advice for engagement with Regional Fisheries Management Organisations (RFMOs) in relation to stock status, harvest strategies, reference points and management approaches for target species; meeting international reporting requirements including for data, papers and annual reports; and representation of the Australian Government as part of participation in bilateral and multilateral fora.

- **Resource sharing of Commonwealth fish stocks:** monitoring the catch and economic value of Commonwealth commercial fisheries and recreational fisheries, including facilitating the next national survey of recreational fisheries, the upcoming survey of Southern Bluefin Tuna catch by recreational fishers, and an economic survey to determine the value of retained catch of Southern Bluefin Tuna by recreational fishers.

- **Building resilience in Australia's Commonwealth fisheries:** to ensure sustainable and profitable fisheries that benefit the broader community ABARES will continue to monitor and assess the impact of marine reserves on fishery opportunities, assist the Australian Fisheries Management Authority to refine catch quota management and trading schemes, and analyse the economic performance of Commonwealth managed commercial fisheries.

Key regular publications include:

- *Fishery Status reports (published annually)*

- *Australian Fisheries Statistics (published annually)*

- *Australian Fisheries Surveys Reports (published annually)*

8.   Water and other natural resources

Effective management of natural resources, including water, soil and ecosystem services, is crucial to the productivity and resilience of farm enterprises and regional communities. The current primary focus of ABARES effort in this area is the collection and analysis of data on water trading in Australia.

ABARES also undertakes modelling and analysis on issues of water policy, especially in regards to the implementation of the Murray-Darling Basin Plan. In addition, ABARES provides analysis of the irrigated agriculture industry, drawing on data from ABARES surveys of irrigation farms in the Murray-Darling Basin.

In 2019-20, the water research program will include:

- **Water markets:** analysis of the drivers of water market prices within the southern Murray-Darling Basin, and investigating trends within the Australian irrigation sector, particularly trends in water use efficiency.
- **Policy:** including contributing to the monitoring and evaluation of the department's water recovery programs within the Murray-Darling Basin.
- **Models and tools:** further development of the ABARES Water Trade Model.

Key regular publications include:

- *Water market outlook (published biannually)*

Improving data and knowledge

In addition to our three high-level research objectives, ABARES will continue to progress a modernisation agenda for Australia's food and fibre data and information systems to deliver better intelligence for the Department, industry and other stakeholders to underpin policy development, regulatory reform and public and private decision making.

9. *Future information systems*

In 2019-20, ABARES will:

- **Manage the agricultural statistical system:** continue working with the Australian Bureau of Statistics (ABS) and industry stakeholders to modernise and improve Australia's agricultural statistical system.

- **Improve public information and data sharing:** facilitate improved sharing of our publically available data and information with the department and external stakeholders as well as integrating information from external agencies more effectively through open data services and business intelligence services.

- **Support multi-agency data integration:** work with the ABS and other agencies to demonstrate and assess potential benefits of integration and analysis of multi-agency data within highly secure data environments.

- **Modernise ABARES data, applications and business processes:** continue to transform our data and applications onto an enterprise data platform, transfer our core business activities into a standardised business process model, strengthen our data governance arrangements, and establish an authoritative spatial reference library to enhance integration of the department's data holdings.