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# Roadmap to improve the agricultural statistics system

## Background

The National Agricultural Statistics Review<sup>1</sup> (NASR) assessed the agricultural statistics system in Australia and its adequacy for informing decision-making, planning and policy making—both now and in the future. The review found that although the current agricultural statistics system has informed government and stakeholder needs for more than a century, there are a number of deficiencies and concerns that compromise the capacity for the system to efficiently meet current and future information needs. These shortcomings include:

- Increasing respondent burden, primarily on farmers.
- Declining quality and availability of statistics produced.
- The quality and availability of statistical infrastructure underpinning the system is inadequate.
- The coordination and governance arrangements for the continued operation of the system could be improved.

To address these concerns, the NASR recommended a number of actions that would deliver a modern agricultural statistics system based on best practice principles and a framework of five enduring goals. The recommendations of the NASR fall under five broad categories:

- Ensuring there is strong coordination of the agricultural statistics system.
- Guiding a strategic approach to future investment by government and stakeholders in data collections.
- Ensuring the best use of all available data sources, to maximise data quality, minimise respondent burden and collection costs.
- Ensuring investment in, and use of innovative new technologies, methods and processes across the statistical cycle.
- Promoting a culture of open data.

A key feature of a modernised agricultural statistics system is a shift away from primarily using direct collection methods (surveys) to, as far as possible, utilising data collected during the course of normal business operations. This has the potential to significantly improve the accuracy and timeliness of statistics while reducing data collection costs and burden on respondents. The NASR identified a range of government and industry held administrative datasets with the potential to substitute for surveys and suggested that emerging sources, such as big data, satellite imagery and machine learning, be explored for potential use in the statistics system.

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<sup>1</sup> ABS, National Agricultural Statistics Review – Final Report, cat. no. 7105.0.55.004, available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/7105.0.55.004Main+Features12015?OpenDocument>

## Joint transformation strategy

The Australian Bureau of Statistics (ABS) and the Department of Agriculture and Water Resources (DAWR) have developed a transformation strategy to guide and coordinate the longer term changes to the agricultural statistics system recommended by the NASR. The strategy seeks to migrate the current agricultural statistics system towards a *collect once use multiple times* model through cooperation and collaboration between agricultural data holders, in government and industry, and by leveraging the significant investment in ABS technical infrastructure.

The transformed statistics system will create value for stakeholders by streamlining resource use in the collection and dissemination of agricultural data and by building rich datasets for analysis in support of improved research, policy, program and decision-making outcomes.

## Streams of activity

The joint transformation strategy outlines four broad streams of activity to improve the agricultural statistics system. The first three streams seek to improve the efficiency and effectiveness of the collection, use and accessibility of agricultural statistics. The fourth stream is aimed at increasing engagement of both data suppliers, such as survey respondents, and data users, to improve data quality and to ensure statistical products continue to meet user needs.

The streams of activity form a framework for government agencies and industry organisations to undertake initiatives, in partnership and separately that reflect various organisational priorities and resourcing while contributing to the improvement of the agricultural statistics system. The ABS and DAWR will work with stakeholders to ensure duplication of effort is avoided, to facilitate collaboration on common issues and to coordinate projects with system wide implications.

### Stream 1 – Consolidation of collections

Building on the NASR, this stream will identify user needs and current data collections with the aim of reducing duplication, improving efficiency and identifying investment priorities. It will do this by working closely with key data collectors

and users, across industry and government, to understand current data arrangements and develop common standards to facilitate increased data sharing and reduced collection activities. This is expected to lower costs across the system, freeing funds that can be reinvested into further improvement or redirected to core functions of participating organisations.

### Stream 2 – Alternative data sources and collection methods

This stream will identify and assess existing datasets that are not currently used for statistics but have the potential to be inputs to the agricultural statistics system. A particular focus of this task will be the establishment of pilot initiatives to assess administrative data collected by industry and government agencies with the greatest potential to substitute for surveys and reduce respondent burden. Examples of administrative datasets include:

- Levy payer records
- Supply chain data from processors, traders and testing authorities.
- Export documentation system (EXDOC)
- Australian Tax Office data, such as Business Activity Statements
- Australian Wool Testing Authority classification data
- National Livestock Identification System traceability data

### Stream 3 – Future collection methods and data sources

This stream will identify, assess and integrate new data sources, collection methods and analytical techniques for use as inputs to the agricultural statistics system. Areas for exploration include big data, remote sensing, standard business reporting, farm management software, advanced analytics and machine learning. Again, the focus will be on those new sources, methods and techniques that have the greatest potential to substitute for surveys or fill data gaps.

### Stream 4 – Stakeholder engagement

This stream will develop and communicate a value proposition for stakeholders to participate in a statistics system that has a collaborative approach to data collection and use. This value proposition is expected to address issues such as the need, benefit and integrity (data quality, transparency and security) of the transformed system as well as the social licence associated with utilising alternate data sources in place of survey collections.

An engagement strategy will be developed to identify, understand and address stakeholder issues and concerns. The strategy is expected to be flexible enough to meet the needs of a wide variety of stakeholders, across the supply chain and commodities, and to adapt to changing needs as the transformation progresses.

### Role of stakeholders

Industry and government stakeholders are expected to have a significant collaborative role in the transformation process. In many cases industry are already driving and leading their own data initiatives, and these may be aligned with the objectives of the NASR. The transformation roadmap recognises the specialist knowledge and practical perspectives that industry stakeholders can provide.

It is anticipated that stakeholders from industry will lead, participate in and support a number of activities. In the short term, the ABS and DAWR will engage with stakeholders to gather feedback on the streams of activity and identify benefits, risks and costs to stakeholders of participating in the transformation strategy. The identification of benefits, risks and costs will inform the ABS and DAWR of industry's capacity to participate in initiatives and gain a better understanding of the implications of the transformation on a wider range of stakeholders.

Stakeholder participation in the streams of activity may include:

- Providing details of their data holdings to facilitate consolidation of collections
- Identifying needs and uses of agricultural data to inform investment priorities
- Informing the development of common data standards, governance and coordination mechanisms
- Initiation of, or partnering on, projects that support the transition to a modern statistics system.

This participation will be critical in ensuring that any recommended improvements to the agricultural statistics system address quality concerns identified through the NASR while reducing survey burden on farmers.

### Action to date

The ABS and DAWR have undertaken a number of initiatives in response to the recommendations of the NASR. These include:

- Engaging major stakeholders through forums and individual meetings to inform the prioritisation of work programs.
- Producing an annual survey calendar to highlight opportunities for improved coordination.
- Establishing pilot projects to assess administrative datasets produced by industry and government, including Levies collection data, to supplement or substitute current collections.
- Building partnerships across government and the research sector to assess the potential for big data, remote sensing and farm management systems, to be utilised for statistics.

In addition, both organisations have deepened cooperation and collaboration through the establishment of reciprocal in-posting arrangements and streamlined data exchanges.

### ABS Statistical Business Transformation Program (SBTP)

The significant investment to transform ABS statistical infrastructure, systems and processes through the SBTP is an essential enabler for improving the agricultural statistics system. The SBTP is designed to reduce the costs of statistical production and reduce statistical risk, lessen the burden and red tape on providers, decrease the time taken to release ABS statistical products, and to facilitate the growth of ABS statistical work program through harnessing enhanced methodologies and technologies. This transformation will enable the ABS to engage better with partners and develop more responsive solutions. These include leveraging data sources held by partners to expand the scope of official statistics and enhance data integration by improving the accessibility of ABS data and microdata.

## Public Data Policy

The Australian Government recognises the significant potential its data holdings have to stimulate innovation, support economic activity and improve international competitiveness, particularly in the digital economy. Reflecting this, the Government has committed to making public data more open and accessible while encouraging collaboration with the private and research sectors to extend the value of this data. To support this commitment, government entities will:

- Ensure high quality data is readily available and easy to use, with access provided free of charge (except for specialised data services).
- Increase data sharing and integration between all levels of government to improve efficiencies and inform policy development and decision making.
- Build partnerships with public, private and research sectors to build expertise and leverage public data for social and economic benefit.
- Uphold the highest security standards to protect privacy of the individual, business and national security.
- Ensure all new systems support discoverability, interoperability, data and information accessibility and cost-effective access to facilitate access to data.