

The National Agricultural Statistics Review (NASR) found that the existing agricultural data ecosystem relies heavily on a range of voluntary and compulsory surveys, undertaken by industry and government¹. A lack of coordination and collaboration between these collection bodies regularly results in respondents receiving multiple requests to provide similar information. The escalating cost of collection activities, rising compliance burden, and increasing frustration of survey respondents has resulted in a narrowing of survey coverage and falling response rates, reducing data quality and utility.

To address these issues, the NASR recommended a number of actions to improve the statistics system and ensure that it could meet user needs now and into the future. These centred on:

- A more collaborative approach to system operation.
- A strategic approach to investment in the system.
- Best use of all available data sources.
- Use of innovative technologies, methods and processes.
- Promotion of an open data culture.

Roadmap to improve the agricultural statistics system

The Australian Bureau of Statistics (ABS) and the Department of Agriculture and Water Resources (DAWR) have developed a transformation strategy² 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.

Agricultural Statistics Roundtable

In February 2018, the ABS and ABARES hosted government and industry stakeholders to discuss opportunities to modernise the agricultural statistics system. A significant part of the meeting was dedicated to identifying key priorities and opportunities to affect systemic changes to significantly improve agricultural statistics³.

The most transformative of the opportunities identified was an integrated data platform, which would enable a reduction in duplicative collection activities, improve the discoverability and accessibility of data and greater collaboration between government and industry to support Australia's primary industries. Other opportunities, such as common property identifiers, metadata and use of government and industry data systems and holdings, are viewed as critical enabling tools for an agricultural data platform.

¹ Australian Bureau of Statistics & Australian Bureau of Agricultural and Resource Economics and Sciences, 2015, *National Agricultural Statistics Review: Final Report*, [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CCBD44885C436852CA257E900017285B/\\$File/national%20agricultural%20statistics%20review%20-%20final,%202015.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CCBD44885C436852CA257E900017285B/$File/national%20agricultural%20statistics%20review%20-%20final,%202015.pdf), Canberra.

² Australian Bureau of Statistics & Australian Bureau of Agricultural and Resource Economics and Sciences, 2017, *Roadmap to Improve the Agricultural Statistics System*, <http://www.agriculture.gov.au/SiteCollectionDocuments/abares/ag-stats-roadmap.pdf>, Canberra.

³ Australian Bureau of Statistics & Australian Bureau of Agricultural and Resource Economics and Sciences, 2018, *Stakeholder Engagement*, <http://www.agriculture.gov.au/abares/data/improving-agricultural-statistics/stakeholder-engagement>, accessed 12/11/2018.

Implementation

The ABS and ABARES are currently undertaking a range of actions to progress the transformation of the agricultural statistics system, such as:

- Developing work programs and project proposals to undertake future transformation activities.
- Identifying and assessing existing agricultural datasets, held by government and industry, for use in the production of statistics.
- Engaging with industry groups to identify opportunities to collaborate on collection activities, develop common standards and share data.
- Engaging with state and territory government agencies to improve data sharing protocols and mechanisms.
- Communicating with stakeholders about the *Roadmap for improving agricultural statistics*, transformation and statistics collection activities and seeking feedback on value propositions and stakeholder engagement strategies more broadly.

Benefits of the transformation program

More informed decision making on-farm and in the supply chain

Informed decision making, underpinned by timely and accurate data, is central to effective agricultural risk management, productivity growth and innovation.

The creation of a comprehensive and trusted agricultural data ecosystem and an appropriately skilled farm sector will enable the wider adoption and use of digital technology on-farm. A recent industry study estimated that digitising Australia's primary industries would increase the value of production by \$20billion annually.

Supply chain participants also rely on data to manage supply volatility. More detailed and timely data can assist the businesses transporting, processing or trading agricultural goods to more quickly adapt to changes. Improved data would also enable supply chain participants to better manage customer relationships, ensuring that links are maintained when production returns to normal.

Enhanced industry productivity and market intelligence

The increase in detailed and improved reliability of agricultural data will enable the research community to gain greater insights into production models and management practices that underpin the long-term productivity of Australian agriculture. Coupled with extension services tailored to farmers' circumstances, these insights will be more rapidly adopted, driving agricultural productivity.

Greater insights will also be available to inform marketing strategies for Australian produce and create greater links between producer and consumer to enhance profitability and reinforce Australia's image as a provider of clean and safe products.

Reduced uncertainties for greater capital investment and insurance

The availability of detailed, reliable and timely data will reduce uncertainty and encourage third-party investment on farm and along the supply chain. Capital expenditure that improves the efficiency of the sector and opens links to new or under serviced markets will result in increased returns to farms and industry more broadly.

Insurance companies are also expected to explore the potential more detailed farm data offers in the development of insurance products, such as index based weather insurance of multi-peril crop insurance.

Detailed data will enable the development of highly customisable services and tools that will give farmers new tools and options, tailored to their circumstances, to support improved decision making, productivity and profitability. For example, developers could build models that tell farmers the likely effects key management decisions will have on profit, given their particular circumstances.

Better targeted and more efficient government policy and investments

Linking government efforts with the transformed data ecosystem will help maintain and improve the competitive advantage of Australian agricultural exports. An increase in the detail, quality and timeliness of agricultural data will drive improvements to biosecurity, product safety and traceability systems, supporting our reputation as a provider of high-quality products, and delivering new insights from existing investments in research and development.

Detailed data will also improve policy development and enhanced targeting of government investment and assistance programs. For example, critical investment needs, such as transport and water infrastructure, could be identified that reduce uncertainties around the commercial viability of private sector investment in the sector.

Delivering the transformed agricultural data ecosystem

The successful transformation of the agricultural data ecosystem will require collaborative effort from government agencies and industry organisations, such as Rural Research and Development Corporations. These efforts will be directed at four key activities, including:

1. Transforming the agricultural data ecosystem to deliver more detailed, accurate and timely information to users through a collaborative model.
2. Building capacity of farmers and rural communities to use and act on information to drive productivity gains and improve decision making.
3. Creating opportunities for private and public sector service providers to deliver more detailed and customised advice and products to farmers.
4. Building capacity of industry and government to innovate, improve decision making and develop new systems and process that enhance industry competitiveness.

As major collectors and users of agricultural data, these stakeholders have a significant interest in supporting this transformation. However, the diversity of Australian agriculture has meant that past efforts have been uncoordinated and lacked the resources and impetus to address whole of system issues. To overcome this, a significant collaborative funding and resourcing effort will be required to support the development of a next generation data and knowledge base for agriculture and related industries.