THE 2014 REGIONAL WELLBEING SURVEY
FARMERS AND AGRICULTURE

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People and place in Australia: The 2014 Regional Wellbeing Survey

Part 2: Farmers and agriculture

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Executive Summary

Introduction

Australian farmers are internationally competitive and economically efficient producers, but also experience unique challenges to their wellbeing related to where they live and what they do for a living. Internationally, there is increasing recognition that measuring progress requiring monitoring how the wellbeing of people and communities is changing, as well as economic trends. This report examines the wellbeing of Australian farmers, focusing on their quality of life, how they feel about their communities, and what is happening on their farms. It draws on data from 3,710 Australian farmers who took part in the 2014 Regional Wellbeing Survey, a large omnibus survey of people living in rural and regional Australia. Detailed information about the survey, which was completed by a total of 12,125 people in 2014, is available at http://www.regionalwellbeing.org.au. This report examines:

- What ‘typical’ Australian farms and farmers look like in the 21st Century
- The challenges of measuring the wellbeing of farmers
- Determinants of wellbeing
- How farm businesses are changing
- On- and off-farm work
- Farm finances
- Markets and prices
- Irrigation and water trade
- Natural resource management and regenerative farming
- Supports and services accessed by farmers
- Drought and extreme weather events
- How farmers experience leaving the farm.

Methods

The 2014 Regional Wellbeing Survey included many questions designed specifically for farmers, which asked about their farming experiences and farm conditions. Several farming and agricultural organisations were involved in the process of developing and testing survey questions.

A farmer was defined as a person directly involved in managing a farm, whether or not they owned that farm. Farmers were recruited by posting flyers and surveys to a stratified random sample, selected from the FarmBase database. Multiple farming and farmer-related organisations also encouraged farmers to take part. In total, 3,710 farmers completed the 2014 Regional Wellbeing Survey. This included 2,679 dryland farmers and 1,031 irrigators. Weighting was used to correct for over- and under-sampling, using the Australian Bureau of Statistics GregWT procedure; all analyses in this report use weighted data unless otherwise specified.

Farmers were classified by farm business type. These are compared throughout this report and include: beef graziers, cotton farmers, cropping (grain and oilseed) farmers, dairy farmers, fruit and vegetable growers, intensive livestock producers, mixed crop-sheep farmers, rice farmers, sheep graziers, sheep-beef graziers and wine grape growers.

As with all research, the survey data have limitations, which are noted throughout the report. The survey was approved by the University of Canberra Human Research Ethics Committee.

Wellbeing of farmers

A person with high levels of wellbeing is able to realise their potential, cope with normal life stresses, work productively and make a contribution to their community. Wellbeing is influenced by
many factors, including a person’s safety and security, their physical and mental health, their relationships and social networks, their access to goods and services, and the fairness of the society they live in. Farming is also associated with occupation-specific factors that can challenge wellbeing, including the effects of drought, pest and disease outbreaks, market fluctuations, rising input costs, regulation of farming, geographic isolation and social isolation.

Past studies have found that some groups of Australian farmers have poorer mental and physical wellbeing than non-farmers – but not all. Measuring wellbeing of farmers can be problematic, with past studies identifying that even farmers who score positively on key mental health and wellbeing measures are more likely than non-farmers to experience poor mental health.

We used one core measure of farmer wellbeing: their self-assessed ‘global life satisfaction’. The average life satisfaction score of Australian farmers in 2014 was 74, on a scale measured from 0 to 100. This is comparable to average wellbeing scores in multiple other studies examining farmer wellbeing. Caution is needed when comparing farmers to non-farmers, as it is possible farmers answer life satisfaction questions differently to non-farmers. However, it is possible to compare the wellbeing of different types of farmers. Overall, the farmers reporting the highest levels of wellbeing in 2014 were Tasmanian farmers, those aged 65 and older, dairy farmers and beef graziers. Those reporting the lowest levels of wellbeing were wine grape growers, fruit and vegetable growers, cotton farmers, and those experiencing farm financial difficulties.

The 21st Century Australian farm

The stereotypical Australian farmer is an older man operating and living on a farm that supports his household, with a wife who works off the farm as well as on it. This stereotype is true for some farmers, but not a lot. In reality, many farmers are women, and not all are middle aged and older: according to the Australian Bureau of Statistics Census of Population and Housing, 28.4% of farmers and farm managers were female in 2011 – and this doesn’t include the many women who list farming as their secondary occupation. The Census also showed that 20% of farmers were aged under 40, and half under 55. The Regional Wellbeing Survey also shows the true diversity of farmers and challenges stereotypes, finding that:

- While most farmers have worked in agriculture all their working life, more than half of those aged under 60 have spent some years working outside farming.
- Nearly a quarter of farmers (22.5%) do not live on their main farm property, particularly those involved in cropping, cotton farming and fruit and vegetable growing.
- While many farmers manage a single property, a large proportion, 44.7%, manage multiple farming properties.
- While most own their land, not all do: 14.3% of land farmed was leased or sharefarmed.
- When farm business structure was examined, only 17.0% of farmers were sole traders, with more using family partnership structures (50.4%), family trusts (19.7%), and some using corporate structures (12.9%).
- Farms vary substantially in economic size: the gross value of agricultural production (GVAP) reported by farmers for 2013-14 included 6% who had no gross earnings, 20% earning less than $50,000, 22% producing $50-199,999, 21% between $200-499,000 and 30% with GVAP of $500,000 or more. Female farmers, older farmers, and sheep and beef graziers were more likely to report GVAP of $100,000 or less. Conversely, more than 38% of cotton, rice and dairy farmers reported a GVAP of $1 million or more.
- Similar to GVAP, the number of workers differed substantially on different farms: sheep and beef farms had the lowest numbers of farm workers. Intensive livestock, cotton, wine grape and dairy farms had the highest numbers of full-time workers; and wine grape and fruit and vegetable enterprises the highest number of part-time workers.
• Younger farmers were more likely than older farmers to work on farms with a large number of employees. This suggests many younger farmers get a start in farming by working as paid farm managers, and that larger farms provide a critical entry point into farming.
• Only 23% of farmers derive all their income from the farm business; 77% have multiple income sources. For 55% of farmers this includes off-farm paid work (particularly for women and those aged 40-54), while 43% have off-farm income other than paid work, such as investments or pensions (particularly those aged 55+).
• Engaging in off-farm work was more commonly reported by farmers who were not making a profit on their farm, and by beef, wine grape, fruit and vegetable growers. Dairy farmers, cotton, grain/oilseed crop and rice growers were least likely to work off-farm. Two-thirds of those who had off-farm paid work reported enjoying their off-farm work, although 46% said they would not work off-farm if they didn’t need to.

Overall, only 15-20% of farms fit the ‘old Aussie farmer’ stereotype. The rest include ‘modern Aussie farmers’ with larger farms and a mix of on- and off-farm income managed as a family partnership or trust (40-50% of farms), ‘lifestyle’ farms relying mostly on off-farm income (20-25%), commercial full-time farmers with large farms and no off-farm income (20-25%), and agribusiness companies (5-10%).

Importantly, the wellbeing of farmers isn’t better if they choose one particular farming pathway: there was little difference in the wellbeing of farmers irrespective of their farm size, business structure, on- and off-farm income, or history of farming. Farmers make their lives work socially and economically using many different strategies: for example, some combine on- and off-farm work; others increase farm size in order to earn all income on farm. Ensuring farmers have the ability to engage in the mix of on-farm and off-farm activities that best suits them is likely to provide the best wellbeing outcomes.

**Determinants of wellbeing, resilience and adaptive capacity**

The extent to which farmers report having access to social and economic resources that are likely to support their wellbeing, resilience and adaptive capacity was assessed. These resources include having access to a good standard of living, skills and education, a supportive and well governed community, social capital, access to services and infrastructure, a safe community and a pleasant landscape to live in, amongst others. Farmers who reported poorer access to each resource also typically reported poorer wellbeing.

Just over a quarter (27.5%) of farmers reported poor household financial wellbeing, particularly those making a loss on their farm, and only 12.2% reported having very good or excellent household finances. Many farmers (45.5%) reported poor economic conditions in their local economy, particularly Queensland farmers, and only 4.8% very good or excellent conditions. Older farmers, profitable farmers, rice farmers and dairy farmers were the most likely to report good conditions in their local economy.

Farmers were almost twice as likely as non-farmers to be experiencing moderate to high psychological distress, with 48.7% having psychological distress scores in this range. Farmers more likely to be experiencing distress included farmers in Queensland, those making a loss on the farm, grain/oilseed, cotton, fruit, wine grape, and vegetable growers. Sheep, mixed sheep-beef, rice farmers and profitable farmers reported lower distress.

Most farmers (86.0%) reported high levels of confidence in their skills and education, particularly younger and more profitable farmers. Most (89.0%) also reported good to excellent levels of leadership and collaboration in their community. However, around a quarter of farmers had low confidence that they could have a say and be listened to in their community and felt their community was not inclusive. Another quarter were very confident in being able to have a say and their community’s inclusiveness, while the remainder had moderate confidence. Confidence in being
able to have a say and be heard was higher for farmers in Western Australia and lower for Victorian farmers, Queensland farmers, younger farmers and those experiencing farm financial stress.

When social capital was examined, most farmers reported regularly spending time with family and friends (68.5%), volunteering in the last 12 months (68.8%), and feeling a strong sense of belonging to their community (63.3%). Fewer regularly took part in community activities such as festivals, local clubs and other activities (31.5%).

Access to services and infrastructure such as education, health and professional services was poor for almost a quarter of farmers (24.8%), and good or excellent for only 22.1%. Tasmanian, male, older and profitable farmers, and wine grape growers, were more satisfied; and cropping and mixed livestock-cropping farmers the least satisfied.

Most farmers (55.8%) reported having poor access to telecommunications, and only 15.0% very good or excellent access. Tasmanian farmers, older farmers, and those involved in intensive production and irrigation were more satisfied with their access to telecommunications compared to others.

In total, 22.7% of farmers reported feeling unsafe in their community, and 38.1% very safe. Farmers living in Tasmania, South Australia and Victoria felt safer, while those who felt less safe included New South Wales, Queensland, female and younger farmers, as well as cotton farmers, fruit and vegetable growers and those in high financial stress.

Most farmers find their local landscape attractive, particularly Tasmanian and Victorian farmers, and least commonly Queensland farmers. Most (71.9%) also report observing environmental problems in their region. Tasmanian farmers were most likely to report good environmental health in their local region, together with male farmers, older farmers and those making a profit. Western Australian farmers were more likely to report observing environmental problems.

These results support the use of interventions to support farmer wellbeing that (i) address psychological distress, (ii) improve economic opportunity and/or access to the infrastructure that supports economic opportunity, (iii) increase social activities in the local community, and (iv) improve the safety and inclusiveness of the communities farmers live in.

The changing Australian farm business

Australian farms are changing all the time as farmers buy, sell and lease land; invest in new technology and infrastructure; and modify what they produce and the markets they sell into. Just over 12% of Australian farmers bought land in the 12 months before completing the survey, while 12% leased new land, 6% sold some land, and 7% leased out land. Buying and leasing new land was more common for profitable farmers, in Western Australia and New South Wales, and for younger farmers, cotton, cropping, and dairy farmers. It was less common in Tasmania and Queensland, for wine grape growers, beef growers and for older farmers.

Across Australia, 40% of farmers had invested in new equipment, technology or infrastructure in the last 12 months, particularly profitable farmers, younger farmers, cotton, dairy, crop-sheep and rice farmers; while 48% had postponed planned investment, most commonly Queensland farmers, unprofitable farmers, wine grape, cotton and intensive livestock farmers. Those who had invested in their farm on average reported higher life satisfaction than those who had postponed.

Almost a quarter of farmers found new markets in the last 12 months, particularly those in South Australia, intensive livestock farmers, fruit and vegetable growers and wine grape growers. Meanwhile, 15% had changed what they produced, particularly those in Tasmania, fruit and vegetable growers and intensive livestock farmers. There were few differences in either the farm financial performance or the wellbeing of those who had and had not changed markets and production.
Across Australia, 26% of farmers reported having reduced production in 2014, particularly those in Queensland, beef farmers and cotton farmers, while 27% had reduced on-farm employment, particularly cotton farmers and wine grape growers. Both reducing production and reducing employment were associated with poorer farm financial performance and lower farmer wellbeing, indicating they are most commonly occurring in times of financial or personal stress.

Almost 40% of farmers reported increasing their on-farm work in the last 12 months, particularly those in Queensland, younger farmers, intensive livestock, cotton and wine grape growers. Meanwhile 22% increased off-farm work, particularly younger farmers and female farmers, cotton, wine grape and sheep-beef farmers. A total of 13% had reduced their on-farm work in the last year, predominantly older farmers. Increasing on- and off-farm work was more commonly done by those who also reported poorer farm financial performance and poorer wellbeing.

Ten per cent of farmers reported sharing expenses with other farmers in the previous 12 months through actions such as joint investment in equipment or partnership, with crop growers of all types particularly likely to do this. Meanwhile 33% reported reducing the amount of inputs they used, particularly those who also reported being in financial stress on the farm. Reducing inputs was associated with poorer wellbeing, while sharing expenses was not.

In the 12 months before completing the survey, 15% of irrigators had reduced the area of land they irrigated, and these irrigators were more likely to report poor wellbeing than those who had not reduced the area irrigated. Seventeen per cent had increased the area irrigated, and 41% reported improving the efficiency of their irrigation. Irrigators in New South Wales and South Australian and cotton farmers were more likely to have reduced the area of land irrigated than other farmers. Expansion of irrigation area was most commonly reported by Queensland, Tasmanian, younger and more profitable irrigators. Cotton and rice farmers more commonly reported increasing irrigation efficiency than other farmers.

Farmers were asked whether, if faced with lower farm income, they would find it most appealing to increase off-farm work, cut back farm investment, or make do with lower income. Increasing off-farm work was more appealing to women, younger farmers, dryland farmers and sheep farmers than other farmers. Cutting back farm investment was more appealing to men and irrigators. Making do with lower income was more appealing to older farmers and dairy farmers.

**Barriers to farm development**

A subset of the farmers surveyed were asked whether they had experienced any of a number of barriers in the last five years that had prevented them from developing their farm enterprise the way they wished to. The most commonly reported barriers were rising inputs costs (reported as a moderate to large barrier by 82% of farmers), falling prices (74%), drought (70%), lack of adequate telecommunications infrastructure (63%), red tape in the form of regulations affecting farm management (62%), and rising electricity costs (62%). Other barriers were reported to have a moderate to large effect by less than 60% of farmers. The ‘top five’ most common barriers were similar for most types of farmers, however there were some exceptions: irrigators were more likely to report rising costs of water entitlements as a barrier to their business development, wine grape growers were more likely to report a lack of demand; and male farmers were more likely to report ‘red and green tape’ (bureaucratic and environmental regulations) as barriers. Drought topped the list for New South Wales and Queensland farmers, reflecting the extended drought occurring in large parts of these states in 2014.

Farmers who reported experiencing multiple barriers to their farm development also reported much lower than average life satisfaction, while those who reported experiencing no or very few barriers to their farm development in the last five years reported higher than average wellbeing.
Drought and extreme weather events

Extreme weather events such as drought, heatwaves, cold snaps, severe storms, floods, bushfires and cyclones are often experienced by Australian farmers. These events often impact on farm production, as well as having much broader impacts on the farm household and the wider community. Three quarters of farmers reported that they had experienced drought in the past five years, 64% a heatwave lasting several days, 52% a severe storm that caused damage, 46% a flood, 40% an unusual cold snap, 35% a bushfire and 8% a cyclone. Drought was most commonly reported by farmers in New South Wales (87%) and Queensland (83%) and least commonly in Tasmania (35%). Heatwaves and cold snaps were most commonly reported by wine grape growers and cotton growers. Floods were most commonly reported by Queensland farmers and cotton farmers. Severe storms were most commonly reported by Western Australian and Tasmanian farmers. Experiences of bushfire were more localised.

Farmers who experienced these events typically reported slightly lower life satisfaction, but often not significantly so, largely because not all farmers who experienced extreme weather events were severely affected personally by these events. Of those farmers who experienced drought in the last five years, 54% said it severely affected them personally, compared to 37% of those who experienced floods, and 24% of those who experienced bushfire. Farmers who reported that drought had a severe effect on their lives also reported poorer than average wellbeing compared to those for whom drought had minimal impact. The same was not true for bushfire or flood, where those who reported being severely affected did not report significantly or consistently differing levels of life satisfaction, likely reflecting that some had experienced the event several years previously and that they had largely recovered in the intervening period.

Farm finances

Forty nine percent of farmers reported their farm was profitable in the 2013-14 financial year, 20% that it was breaking even, and 32% that it was making a loss. Poor cash flow was a problem for 34% of farmers. Almost half (47%) were satisfied with their farm financial performance, while 42% reported their farm was in high financial stress. Twenty four per cent of farmers reported they had reduced their farm debt in the last 12 months, 23% had increased their debt, and 26% were finding it difficult to service their debt. Just over a quarter (26%) had applied for a farm loan in the last year. Of those who had applied for a loan, 9% reported their application had been rejected. The most common collateral farmers had used for loans in the last five years was their farming properties, used by 40% of farmers, followed by their house and farm equipment. Water entitlements were used as collateral by 18% of irrigators.

Queensland farmers were more likely than those in other states to report making a loss, being in high financial stress, taking on increased debt, finding it difficult to service debt, and being rejected for a loan in the last year. Western Australian farmers reported high debt levels that were difficult for many to service, but many were reducing their debt. Younger farmers were more likely than older farmers to be making a loss, increasing debt levels, and finding it difficult to service their debt. The types of farmers most commonly reporting good financial performance on their farm in 2013-14 were rice, mixed crop-sheep or crop-sheep-beef, dairy, and cotton farmers, while wine grape growers, beef farmers and sheep farmers were more likely to report making a loss and/or experiencing high levels of farm financial stress. Overall, irrigators were more likely to report their farm was in high financial stress (47%) compared to dryland farmers (40%).

Farmers who reported poor financial performance on the farm of any kind, including making a loss, finding it hard to service debt, or having poor cash flow (all of which often occur simultaneously) on average had much lower levels of wellbeing compared to those reporting positive farm financial performance.
Markets and prices

Australian farmers sell into a range of markets, and the price they receive for their produce is determined in different ways depending on the market. Concerns are regularly raised about the impact of low or no farmgate price growth (particularly when coupled with rising input costs) on the financial viability of farms and the wellbeing of farm families. Across Australia, 63.6% of farmers felt they had good access to information about their markets, 74.5% that they had no choice in the prices they received for their produce, and only 31.2% that they were able to negotiate prices with some or all of their buyers. Intensive livestock farmers, fruit and vegetable growers, and crop growers were slightly more likely than others to report being able to negotiate prices with at least some buyers of their produce. Dairy farmers were least likely to report having the ability to negotiate prices, followed by sheep farmers, with 22% or less being able to negotiate prices. Cotton, grain and oilseed growers most commonly felt they had some choice in prices received, while dairy farmers, most livestock farmers and wine grape growers less commonly reported this. Only half of fruit, vegetable and wine grape growers or dairy farmers felt they had good access to market information, compared to more than 70% of intensive livestock farmers, grain and oilseed growers and cotton growers.

Some farmers predominantly sold to a single buyer, including 84% of wool growers and dairy farmers, and 75% of wine grape growers. Sheepmeat and beef growers were more likely to sell to multiple types of buyers, with more than half selling to two or more buyers. Almost half of grain and oilseed growers also sold to multiple types of buyer. Most farmers reported that prices for their produce were set in a single way, for example through the buyer setting the price, an auction, or other market processes. However, grain and oilseed growers commonly used multiple price setting mechanisms including forward selling, spot prices, pools and futures markets.

Farmers who reported having no choice in the prices they received, and those who reported poorer access to market information, were more likely than others to report experiencing high levels of financial stress on the farm. Farmers who reported making a profit and being satisfied with their farm financial performance were more likely to have good access to market information and to feel they could negotiate prices with their buyers.

Irrigation and water trade

Irrigated farms produce a large proportion of Australia’s total agricultural production from a small proportion of Australia’s agricultural land. The 1027 irrigators who took part in the Regional Wellbeing Survey were asked questions about their irrigation systems and practices, and water trade.

Across Australia, 61% of irrigators reported they had improved their on-farm irrigation infrastructure in the last five years, particularly in Tasmania (75%) and New South Wales (68%). Of those who had invested, 78% self-funded the work, 23% received a government grant, and 19% used a bank loan to cover part or all of the costs. Farmers who had improved on-farm water infrastructure in the past five years reported better farm financial performance compared to those who had not. Of the 127 irrigators who had received a government grant to improve on-farm water infrastructure, 77% found the grant very useful, 20% found it moderately useful, and 3% reported it was not useful.

Most irrigators are confident to trade water, find doing so easy, and can access the information they need to trade. This confidence grew between 2013 and 2014. There was lower confidence in the security of water rights and fairness of the water market: just over half of irrigators felt that their rights to access water (when it is available) were secure; 40% that the water trade market is fair for all users. Only 35% felt that changes to water trading rules in recent years had increased their confidence in the water market, although it is not known whether this reflected continuing low levels of confidence for some, or that confidence was already high prior to changes. New South
Wales and Queensland irrigators, and cotton and rice farmers, were less confident in the security of their water rights than those in other states, and Tasmanian irrigators more confident.

In total, 38% of irrigators had increased their use of water allocation trade in the last five years. Irrigators in New South Wales and Victoria irrigators, younger irrigators, profitable irrigators, and rice, dairy and cotton farmers had most commonly done this.

In the 12 months to October 2014, just over half of irrigators carried water over to the next water year. Twenty six percent bought allocation (temporary water) and 21% sold allocation; while 10% bought entitlements, 9% sold entitlements to the government and 6.5% sold entitlements to private water users. Irrigators in New South Wales and South Australia, rice farmers and cotton farmers, women and younger farmers were more likely to have engaged in water trade than other farmers.

The most common reasons for selling or transferring entitlements were high fixed entitlement water charges (41% of irrigators), higher relative return from selling water compared to using it on the farm (35%), having surplus water (31%), low farm returns (27.5%), needing to reduce debt (27%), and transferring entitlements in order to access water infrastructure grants (20%). A majority of those who engaged in trading water entitlements and water allocation reported that the trade – whether it involved buying or selling – was positive for their farm business, and was easy to do. Just over half of those who bought entitlements agreed that it was ‘more expensive than planned’. Being unable to engage in water trade in times of stress was associated with poorer wellbeing: those who wanted to sell either entitlement or allocation, and had been unable to, reported lower life satisfaction than other irrigators.

Natural resource management & regenerative farming

Most Australian farmers engage in natural resource management (NRM) activities intended to reduce problems such as weed and pest invasion, to protect water quality, and promote natural vegetation growth on parts of their farm. Across Australia, 40% of farmers were engaged in NRM at the time of doing the survey, and only 6% had never done NRM on their farm. Eight nine per cent of farmers reported having at some point undertaken NRM with no assistance, 68% with the help of locals with good knowledge; 51% with help from a government grant; 43% with assistance from an expert; 48% as part of a landcare or NRM group, and 49% had participated in a course or workshop.

Some NRM activities were more common than others: in the last five years, more than 60% of farmers had planted trees for shade and shelter or environmental purposes, worked with others to reduce feral animals, or changed grazing practices to improve ground cover. Between 50% and 60% encouraged regeneration of native vegetation on their property or worked with others to reduce invasive weeds in their district. Between 30% and 46% encouraged regeneration of native pasture, reduced use of fuel, chemical or fertiliser, or fenced riparian areas.

Increasingly, many farmers are changing their farming systems to incorporate regenerative principles (also called, amongst other things, holistic or natural sequence farming). Regenerative farming approaches differ to ‘traditional’ NRM in that regenerative farming involves systemic changes to how a farm is managed. Regenerative farmers were identified based on the extent to which they reported having a plan for NRM (46% of farmers) and actively monitoring NRM outcomes (34%), and to which they prioritised maintaining groundcover (77%) and increasing the diversity of plants and organisms on their farm (55%). In total, 18% of Australian farmers had no regenerative farming characteristics, 17% had many, and the remaining 65% had some regenerative farming characteristics. When compared to other farmers, regenerative farmers (those managing their farm according to all regenerative farming characteristics measured) were more often female, older, dryland farmers running a sheep or beef enterprise. They were less likely to be male, younger, an irrigator, and running a cropping enterprise.

The life satisfaction of farmers who had more regenerative farming characteristics was significantly higher than those who had fewer of these characteristics. This was the case for farmers overall, and...
also for those who had experienced severe drought in the last five years supporting the argument that regenerative farming is associated with improved farmer wellbeing, and with better wellbeing outcomes after experiencing drought. Regenerative farmers were also more likely to report being satisfied with their farm financial performance than others, but just as likely to report experiencing financial stress on the farm.

**Accessing grants, support and services**

Farmers were asked if in the last three years they had accessed any of several grants, support, and services intended to support farmers in difficult times or to support preparedness and self-reliance in the longer term. In total, 39% of farmers reported that they had used farm management deposits (FMDs), particularly Western Australian farmers, male farmers, and farmers aged under 65. Use of FMDs was associated with better farm financial performance and higher levels of farmer wellbeing. Fifteen per cent of farmers reported having accessed the Rural Financial Counselling Service (RFCS), particularly those experiencing farm financial stress, New South Wales and Queensland farmers, those aged under 65, wine grape growers, fruit and vegetable growers, sheep farmers, and dairy farmers. RFCS participants reported significantly poorer wellbeing than other farmers, reflecting the level of financial stress farmers are typically experiencing when they access the service. Ten per cent of farmers reported accessing assistance from Centrelink in the last three years, while 6% had accessed the Exceptional Circumstances Interest Rate Subsidy, 5% the Exceptional Circumstances Household Relief Support; 3% had accessed the Transitional Farm Family Payment and Farm Household Allowance or their interim equivalents. Accessing any of these was associated with poorer wellbeing. Five per cent had received support from non-government organisations in difficult times, or had accessed online or phone support such as Lifeline or Beyond Blue; these farmers also reported poorer than average wellbeing. All these forms of support were considered useful by most of the farmers who had accessed them.

Our findings support the argument that assistance that promotes preparedness and self-reliance in difficult times – such as FMDs - can support wellbeing, as it is likely to help prevent the circumstances often associated with poorer farmer wellbeing. However, the services that provide support in times when preparedness and other strategies have not been sufficient to prevent severe farm financial stress are also critical: they provide essential support to those whose wellbeing is often very poor, and who are consequently at higher risk of a range of negative health outcomes.

**Leaving the farm**

The number of farmers in Australia has declined substantially in recent decades, and this decline is likely to continue. Very little is known about the wellbeing of farmers who are planning to leave farming, or of what happens to farmers after they leave farming.

Of the farmers who participated in the 2014 Regional Wellbeing Survey, 27% reported being likely or very likely to leave farming in the next five years, and 65% unlikely or very unlikely. Wine grape growers were more likely than any other type of farmer to be planning to exit farming in the next five years, followed by fruit and vegetable growers and rice growers. Intensive livestock producers, those engaged in mixed crop-sheep-beef farming, and cotton growers were least likely to be planning to leave farming. Getting older was the most common reason for intending to leave farming (75% of farmers), followed by difficulty maintaining a financially viable farm business (50%). Intending to exit farming within the next five years was associated with substantially lower life satisfaction, even for older farmers.

All Regional Wellbeing Survey participants were asked if they used to own or manage a farm but did not any more. A total of 625 survey participants indicated they were former farmers, and these participants were asked about their experiences of leaving farming. Retirement and financial difficulties were the most common reasons former farmers gave for leaving farming. Male ex-
farmers had more often left for health reasons than women, while women more often reported that a relationship breakdown or the health of others were factors that influenced their decision to leave farming. Immediately after leaving farming, 45% of former farmers worked for a salary/wages, 30% retired, and 11% founded or bought a non-farm business. Eighty three per cent of ex-farmers felt that leaving farming was a positive thing. Only 19% wished they hadn’t left farming, and 51% found leaving farming was stressful. Generally, ex-farmers are about as satisfied with their lives as current farmers are.

Discussion and conclusions

Because this report presents data for only a single point in time, it is not possible to definitively identify what is causing poorer or higher farmer wellbeing. Despite this, the strong associations identified in this report between the wellbeing of farmers and what is happening on and off the farm suggest a number of key areas where there is potential to support farmer wellbeing.

Our findings show that farmers report poor access to several of the resources that are often argued to support wellbeing. In particular, consistent with other studies we found that farmers are more likely than non-farmers to have high levels of psychological distress. Many organisations around Australia are working to improve the mental health of farmers, and continued support for these organisations and their work is essential to addressing this critical issue. In addition to providing direct support to farmers experiencing psychological distress, indirect support can be provided by addressing some of the many factors likely to be directly and indirectly contributing to higher incidence of distress amongst farmers. Poor farm financial performance in particular was strongly associated with poorer wellbeing of farmers. Given this, action that supports farmers to address financial stress and to prevent it occurring is a key area for intervention. Existing services that provide this type of support are viewed positively by most farmers who access them, including rural financial counselling and farm management deposits, although each of these operates in very different ways to address farm financial stress. In addition to these forms of direct support to farmers, working to address the factors that reduce farmer’s economic activity and access to infrastructure and services can support farmer wellbeing. In particular, improving telecommunications access in rural areas has potential to improve economic opportunities both on and off the farm, and to provide improved remote access to education, health and other services.

Reducing farm financial stress is likely to support farmer wellbeing. Addressing the many sources of financial stress on Australian farmers, though, is challenging. Our results suggest that one key entry point is investing and addressing the factors that act as barriers to farm development for many farmers: rising input costs (including water entitlement costs for irrigators), falling prices, drought, lack of access to telecommunications, red tape and rising electricity costs. Interventions that address these barriers are likely to support farm financial performance and, via this, to support farmer wellbeing.

In 2014, dairy farmers were more likely to report high levels of wellbeing than others, while cotton growers, wine grape growers, and fruit and vegetable growers other than wine grape growers, more commonly reported low levels of wellbeing. Sheep and beef graziers reported poorer farm financial performance than others, but had wellbeing similar to the average. Farmers in Queensland were more likely than those in other states to report high levels of psychological distress and poor farm financial outcomes, typically associated with experience of drought combined with multiple other farm stresses.
This report presents a snapshot in time. The Regional Wellbeing Survey is conducted annually, and future reports will track change in the wellbeing of Australian farmers over time, giving a more comprehensive understanding of how Australian agriculture is changing.
Chapter 1: Key points

- There is increasing international recognition that wellbeing is as important a measure of progress as economic outcomes.
- Australian farmers are internationally competitive and economically efficient producers, but also experience unique challenges to their wellbeing related to where they live and what they do for a living.
- This report examines the wellbeing of Australian farmers, focusing on their quality of life, how they feel about their communities, and what is happening on their farms.
- The report draws on data from 3,710 Australian farmers who took part in the 2014 Regional Wellbeing Survey.
- More information about the survey, which was completed by a total of 12,125 people in 2014, is available at www.regionalwellbeing.org.au.
- The following chapters describe the survey methods and results. They focus on what ‘typical’ Australian farms and farmers look like in the 21st Century, the challenges of measuring wellbeing of farmers, determinants of wellbeing, how farm businesses are changing, barriers to farm development, drought and extreme weather events, farm finances, markets and prices, irrigation and water trade, natural resource management, supports and services accessed by farmers, and how farmers experience leaving the farm.
- For each topic, we examine whether the wellbeing of different types of farmers differs depending on the type of farmer they are, the types of farming they are involved in, or the changes they are experiencing on and off the farm.

1. Introduction

This report examines the wellbeing of Australian farmers, focusing on their quality of life, how they feel about their communities, and what is happening on their farms. The report draws on data from 3,710 farmers who took part in the 2014 Regional Wellbeing Survey.

We focus on wellbeing as there is increasing recognition that wellbeing is just as important a measure of progress as more traditional economic measures: an increasing number of national and international organisations are including assessments of wellbeing in their reporting (see for example Helliwell et al. 2013, Durand 2015). The word ‘wellbeing’ is used in different ways by different people, and is sometimes used interchangeably with related concepts such as ‘quality of life’. In general (including in our use of the term) it refers not only to a person’s health, but to their economic and social wellbeing more broadly.

Wellbeing is just as important for farmers as for any other group but, as discussed in this report, farmers often face unique challenges to their wellbeing, that are directly related to where they live and what they do for a living.

The Regional Wellbeing Survey

It is often difficult to find information on wellbeing, and particularly so for rural and regional communities. The Regional Wellbeing Survey was initiated in 2013 to help address this gap, by examining the subjective wellbeing of people living in rural and regional areas of Australia, and how they are experiencing the many changes occurring in their communities. Conducted each year by researchers at the University of Canberra, a total of 12,125 rural and regional Australians completed the survey in 2014, including the 3,710 farmers whose survey responses are analysed in this report.
Two other reports are being released that examine results of the 2014 survey: the *People and communities* report was released in June 2015, and the *Environment and natural resource management* report. Further information on the Regional Wellbeing Survey and partner projects, as well as detailed tables of data for individual regions and different types of farmers, can be found at [www.regionalwellbeing.org.au](http://www.regionalwellbeing.org.au).

**Wellbeing and the farming sector**

The health and wellbeing of Australian farmers is the focus of a substantial body of research. This is driven by the often poorer than average physical and mental health of farmers:

Rural Australians face a higher mental health and lifestyle disease burden (obesity, diabetes and cardiovascular disease) than their urban counterparts ... the Australian farming community has even poorer physical and mental health outcomes than rural averages. In particular, farm men and women have high rates of overweightness, obesity, abdominal adiposity, high blood pressure and psychological distress when compared against Australian averages.

Source: Brumby et al. (2011, p. 89)

The occupation of farming is ‘associated with a unique set of characteristics that is potentially hazardous to mental health’ (Fraser et al., 2005, p.340), a sensitive indicator of poor overall wellbeing. Many, but not all, studies comparing farmers and non-farmers have identified that farmers have higher rates of mental illness than non-farmers (Fraser et al., 2005; Berry et al., 2011a; Hounsome et al., 2012) and it is well accepted that at least some groups of farmers ... have demonstrably poorer mental and physical wellbeing than non-farmers (Berry et al., 2011a).

Source: Schirmer et al. (2013, p.98)

Although on some measures farmers have poorer wellbeing compared to non-farmers, this is not the case for all measures of wellbeing (Schirmer et al. 2013). It is critical to understand which farmers are experiencing higher and lower levels of wellbeing at particular points in time, and why. It is also important to understand how the act of farming itself influences the wellbeing of farmers: the wellbeing of farmers is influenced not only by the typical determinants of wellbeing that matter for non-farmers – including their personal relationships, their own health, and their social relationships, amongst others – but also by what is happening on the farm:

...farmers are highly sensitive to changes to their land and their relationship with it ... farmer wellbeing is influenced by several occupation-specific stressors ... including drought, flood and pest/weed outbreaks; farm economic pressures, such as rising costs and volatile commodity prices; complex government bureaucracy and regulation of farming; and social isolation of farmers

Source: Schirmer et al. (2013, p.99)

This report focuses on change on the farm, and its associations with farmer wellbeing, as one way of contributing to a better understanding of the wellbeing of Australian farmers.

**What does this report examine?**

This report examines both the wellbeing of farmers, and what is happening on the farms they manage, including:

- Chapter 3: Farmer wellbeing - The challenges of measuring wellbeing of Australian farmers
- Chapter 4: The 21st Century Australian farm - what did a ‘typical’ Australian farm look like in 2014?
- Chapter 5: Determinants of wellbeing – how do farmers feel about different aspects of their lives, and the communities they live in, that can influence wellbeing?
- Chapter 6: The changing Australian farm business – how are farms changing, and why?
- Chapter 7: Barriers to farm development – what factors do farmers find prevent them developing their farm the way they would like to?
- Chapter 8: Drought and extreme weather events – which farmers have experienced drought, flood, bushfire and other weather and natural disasters, and how are they faring?
- Chapter 9: Farm finances – who is experiencing different types of financial opportunity versus stress on the farm?
- Chapter 10: Markets and prices – how do farmers connect to their supply chain, and how do they feel about their access to markets?
- Chapter 11: Irrigation and water trade – how are irrigators changing their irrigation, and how do they experience trading water?
- Chapter 12: Natural resource management and regenerative farming – which farmers engage in different types of NRM and regenerative practices?
- Chapter 13: Accessing grants, support and services – which farmers are accessing different types of grants and support, and how useful do they find them?
- Chapter 14: Leaving the farm: Which farmers are planning to leave farming – and what happens to them after they leave?
The Regional Wellbeing Survey is a large omnibus survey that includes many topics. See Schirmer et al. (2015) for a detailed description of survey methods.

The survey included many questions specifically designed for farmers, asking about their farming experiences and farm conditions. Several farming and agricultural organisations were involved in the process of developing and testing survey questions.

Farmers could complete the survey online or on paper. Farmers were recruited by posting flyers and surveys to a stratified random sample, selected from the FarmBase database; multiple farming and farmer-related organisations encouraged farmers to take part via email, newsletter and social media promotion.

In total, 3,710 farmers completed the 2014 Regional Wellbeing Survey. This included 2,679 dryland farmers and 1,031 irrigators.

A farmer was defined as a person directly involved in managing a farm, whether or not they owned that farm.

Female, Victorian, and older farmers were over-sampled. Weighting was used to correct for over- and under-sampling, using the Australian Bureau of Statistics GregWT procedure; all analyses in this report use weighted data unless otherwise specified.

Farmers were classified by farm business type. These different farm types are compared throughout this report and include: beef graziers, cotton farmers, cropping farmers, dairy farmers, fruit and vegetable growers, intensive livestock producers, mixed crop-sheep farmers, rice farmers, sheep graziers, sheep-beef graziers and wine grape growers.

As with all research, the survey data have limitations. These are noted throughout the report.

The survey was approved by the University of Canberra Human Research Ethics Committee, protocol number 12-186.

### 2. Methods

#### Introduction

The Regional Wellbeing Survey is a large omnibus survey that covers many topics and includes both farmers and non-farmers. A detailed description of the methods used to collect data in the 2014 survey is provided in the People and communities report (Schirmer et al. 2015). This chapter briefly describes key aspects of the survey methods relevant to understanding farmers and agriculture.

#### Designing survey questions

Many of the items included in the 2014 Regional Wellbeing Survey were asked specifically of farmers. Farmers and farming organisations were consulted on the design of the survey content at several stages:

1. Selecting survey topics. Multiple farming organisations, as well as government agencies with an interest in agriculture, were consulted when identifying 2014 survey topics.
2. Draft survey items were tested in focus groups and revised. These focus groups included both dryland farmers and irrigators.
3. The revised survey items were sent to survey partner organisations and academic experts for review and comment, and further revised based on feedback received. These included farming organisations, and experts with experience in surveying farmers.
4. The revised survey items were formatted for optimal presentation and a pilot survey was tested on a sample of 120 people, which included 30 farmers. The test results were examined, and a final revision of questions undertaken.
Survey topics

The survey included questions asked of all rural and regional Australians, whether or not they were farmers, and questions asked specifically of farmers. Table 2.1a summarises the farmer specific topics. Table 2.1b identifies the topics that were asked of both farmers and non-farmers, and indicates whether each topic was asked of all participants, or of a randomly selected subset.

Collecting survey data

Survey data were collected from adult people living across rural and regional Australia. Rural and regional Australia was defined as all areas of Australia outside cities with a population of more than 100,000 people. However, farmers were included in the survey whether they lived in a rural area or a large city, although the large majority lived in rural or regional areas. Two platforms were used to collect data, and participants were recruited using a variety of methods, described below.

Survey platforms

A survey ‘platform’ refers to the mechanism by which people take part in a survey. The 2014 Regional Wellbeing Survey could be completed either online or as a paper survey. A total of 8,711 people chose to complete the survey online; of these, 1,320 were farmers. Paper surveys were posted to a large number of farmers, as most farmers who participated in the survey in 2013 indicated a preference for completing the survey on paper. In total, 2,850 people completed the paper version of the survey, of which 2,380 were farmers.

Survey recruitment

A wide variety of methods can be used to encourage, or ‘recruit’, people to take part in a survey. The 2014 Regional Wellbeing Survey aimed to achieve a large sample of farmers to ensure that the experiences of different types of farmers could be analysed. To achieve this, farmers were recruited using multiple methods:

- Flyers and printed surveys delivered to letterboxes.
  - In intensively sampled regions, flyers were delivered to every letterbox in designated postal areas. This occurred only in areas in which funding was received to intensively sample the local region, listed in Schirmer et al. (2015).
  - To ensure a large sample of farmers was achieved, farmers were deliberately over-sampled. This was done by identifying a stratified random sample of farmers using the FarmBase database. The sample was stratified by region, and by farmer type, with a goal of achieving a large enough sample to be able to report on the experiences of those producing different types of commodities.
- Email and social media promotion. Rural and regional organisations throughout Australia were asked to promote the survey to their networks. Many farming and irrigation organisations did this, resulting in widespread promotion of the survey to Australian farmers via email and social media.
- Newsletter and traditional media promotion: A media release was sent to media outlets through rural and regional Australia, and the survey was promoted in rural media.
<table>
<thead>
<tr>
<th>Survey topic</th>
<th>What type of topic is this?</th>
<th>Where can I access results for this topic?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer and farm enterprise characteristics</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Type of farm (e.g. commodities produced), area, business structure</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Irrigation and water trading (asked of irrigators only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of irrigation system used, volume of water entitlements and allocation, engagement in water trading activity in last 12 months</td>
<td>✓</td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Agricultural grants and support</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Use and usefulness of different types of grants and support accessed by farmers</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Agricultural markets and supply chain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers were asked how they interact with customers, focusing on how prices for their produce are set and access to market information</td>
<td>✓</td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Farm finances and on- and off-farm income</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Farmers were asked about their farm financial health, and on-and off-farm income earning</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Farm enterprise change</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Farmers were asked whether they had changed the size, type or employment structure of their farm enterprise in the last 12 months</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Future farming intentions</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Farmers were asked how likely they were to change the size, type of employment structure of their farm enterprise in the next 5 years</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Natural resource management and regenerative farming</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Farmers were asked if they undertake any of a number of NRM activities or manage their farm using regenerative farming principles</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Farmer identity</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Importance of different aspects of farming to the farmer</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Barriers to farm development</td>
<td></td>
<td>Report 2: Farmers and agriculture</td>
</tr>
<tr>
<td>Extent to which different issues present barriers to farm development</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Survey topic</td>
<td>What type of topic was this?</td>
<td>Regular topic (Asked each year; all items in topic asked of all respondents, each year)</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Community wellbeing</td>
<td>Views about liveability, environment, economy, local organisations, local government, crime and safety in local community</td>
<td>✓</td>
</tr>
<tr>
<td>Access to services and infrastructure</td>
<td>Views about how poor or good access is in local area to health, education, childcare, roads, housing, professional services, retail shops etc.</td>
<td>✓</td>
</tr>
<tr>
<td>Belonging and exclusion</td>
<td>Views about whether people feel a sense of belonging or exclusion, or feel other people are excluded, in their community</td>
<td>✓</td>
</tr>
<tr>
<td>Environmental health</td>
<td>Views about health of the environment in the local region</td>
<td>✓</td>
</tr>
<tr>
<td>Extreme weather events</td>
<td>Experience of extreme weather events such as droughts, bushfire, cyclone</td>
<td>✓</td>
</tr>
<tr>
<td>Migration and residence</td>
<td>How long people had lived in their current community, and whether they intended to shift. A subset were asked their reasons for migration</td>
<td>✓</td>
</tr>
<tr>
<td>Participation in social and civic activities</td>
<td>How often people participate in different activities such as sports groups, community events, community organisations</td>
<td>✓</td>
</tr>
<tr>
<td>Volunteering</td>
<td>Whether person volunteers (asked of all), and reasons for volunteering or not volunteering (asked of subset)</td>
<td></td>
</tr>
<tr>
<td>Skills and education</td>
<td>Views about a person’s confidence in their skills and access to resources</td>
<td>✓</td>
</tr>
<tr>
<td>Individual wellbeing</td>
<td>Participants were asked to rate their wellbeing using a series of standard questions on subjective wellbeing</td>
<td></td>
</tr>
<tr>
<td>Health &amp; health relevant behaviours</td>
<td>Participants were asked questions assessing their general health, psychological distress, physical health, and smoking and drinking behaviours</td>
<td>✓</td>
</tr>
<tr>
<td>Survey topic</td>
<td>What type of topic was this?</td>
<td>Where can I access results for this topic?</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Regular topic (Asked each year; all items in topic asked of all respondents, each year)</td>
<td>Used in all reports</td>
</tr>
<tr>
<td>Socio-demographic characteristics</td>
<td>Occasional topic (Asked this year only; some items asked of all &amp; more detailed items of subset of participants)</td>
<td></td>
</tr>
<tr>
<td>Age, gender, cultural background, household structure, educational attainment, household income, occupation</td>
<td>Exploratory topic (Asked this year; questions asked only of a subset of participants)</td>
<td></td>
</tr>
<tr>
<td>Environmental watering</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Views about environmental watering, and observed outcomes of environmental watering events</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Murray-Darling Basin Plan</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Participants were asked if they had views about the Basin Plan. If they did, they were asked their views about the process and impacts of the Plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptability of land use change</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Participants were asked how acceptable they find a number of land and water use changes that are occurring in parts of rural and regional Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climate change</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Participants were asked their views about climate change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical literacy</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Participants were asked how confident they feel about their physical appearance and engaging in physical activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mining and energy industries</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Participants were asked if mining or renewable energy industries operated in their region. A subset were asked their views about impacts of these industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlled burning</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Views about the use of controlled burning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor recreational activity</td>
<td></td>
<td>Report 3: Environment and NRM</td>
</tr>
<tr>
<td>Engagement in and views about taking part in outdoor recreational activity in ‘green space’ and ‘wild space’ areas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Defining farmers

In this report, a farmer is defined as a person who is directly involved in managing a farm. This includes those who both own and manage a farm, those who manage a farm on behalf of an owner, and both paid and unpaid farm managers. Not all people who manage a farm identify or define themselves as a farmer: because of this, the online survey included several screening questions that were used to identify whether a person was involved in managing a farm and therefore whether their responses were analysed for this report. This included asking if they:

- Were a farmer
- Helped their partner manage a farm (whether paid or unpaid), or
- Managed a farm on behalf of an owner.

This information was used to define which respondents were farmers and which were not.

Farmer survey response

In total, 3,710 farmers completed the 2014 Regional Wellbeing Survey. This included 2,679 dryland farmers and 1,031 irrigators. The sampling strategy deliberately oversampled farmers: while farmers and farm managers make up 4.5% of the population of rural and regional Australia, 30.6% of the people who completed the Regional Wellbeing Survey were farmers.

Table 2.1c shows how many farmers participated in the survey from different states, of different genders and ages, and how this compares to data from the Australian Bureau of Statistics (ABS) 2011 Census of Population and Housing on the characteristics of farmers and farm managers. Overall, the survey resulted in an undersampling of farmers from Queensland and South Australia, and oversampling of farmers from Victoria. Farmers aged 18 to 39 were undersampled while those aged 55 and over were oversampled. Female farmers were oversampled, however this is in part due to differences in how farmers were defined in the Regional Wellbeing Survey compared to the ABS Census. In the Census, a person is only recorded as having a single occupation: this means that if a person works off the farm as well as being a farmer, they are only recorded as a farmer in the Census if they wrote farming as their primary occupation.

Table 2.1c Comparison of farmer sample with Australian farmer population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Regional Wellbeing Survey 2014 sample</th>
<th>Australian farmers¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dryland farmers</td>
<td>Irrigators</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSW &amp; ACT</td>
<td>24.7%</td>
<td>32.9%</td>
</tr>
<tr>
<td>VIC</td>
<td>52.2%</td>
<td>48.4%</td>
</tr>
<tr>
<td>QLD</td>
<td>6.1%</td>
<td>6.4%</td>
</tr>
<tr>
<td>SA</td>
<td>6.4%</td>
<td>10.3%</td>
</tr>
<tr>
<td>WA &amp; NT</td>
<td>10.6%</td>
<td>2.1%</td>
</tr>
<tr>
<td>TAS</td>
<td>2.5%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>42.4%</td>
<td>36.9%</td>
</tr>
<tr>
<td>Male</td>
<td>57.6%</td>
<td>63.1%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-39</td>
<td>7.8%</td>
<td>8.5%</td>
</tr>
<tr>
<td>40-54</td>
<td>28.6%</td>
<td>31.4%</td>
</tr>
<tr>
<td>55-64</td>
<td>31.7%</td>
<td>30.4%</td>
</tr>
<tr>
<td>65+</td>
<td>31.9%</td>
<td>29.6%</td>
</tr>
</tbody>
</table>

¹Data source: Australian Bureau of Statistics 2011 Census of Population and Housing. Data accessed via TableBuilderPro. Data were calculated for rural and regional Australia and exclude people living in cities with >100,000 population.
Defining farm enterprises

Farmers were asked what their farm business produced: some produced multiple types of livestock, grains, fruit and vegetables; while others were focused on a single type of livestock or purely on cropping. These diverse farm businesses were grouped into the following categories to enable comparison of different types of farms throughout this report:

- **Beef graziers:** Farmers who produced beef, and had few or no other farm activities; this excluded intensive beef producers (who were included in the ‘intensive livestock’ category).
- **Cotton farmers:** All farmers who grew cotton were included in this category. Some of these also grew other crops, or ran livestock. As a relatively small number of cotton farmers took part in the survey, this group was combined with cropping farmers when reporting some results.
- **Cropping farmers:** This category was defined as those farmers who reported producing broadacre grain and oilseed crops (e.g. wheat, barley, canola) but did not also run livestock or produce fruit or vegetables.
- **Dairy farmers:** Farmers who produced dairy milk. Many of these also produced beef cattle.
- **Fruit and vegetable growers:** Those who grew fruit or vegetables (many reported growing both), excluding wine grapes.
- **Intensive livestock:** Farmers who ran intensive livestock enterprises, excluding dairy farmers. This included intensive beef production in feedlots, chickens, and pigs.
- **Mixed crop-sheep enterprises:** Farmers who produced wool/sheepmeat and also grew grain or oilseed crops.
- **Rice farmers:** All farmers who reported growing rice were included in this category. Rice farmers typically grew both rice and other types of crops, and some also ran livestock.
- **Sheep graziers:** Farmers who produced wool and/or sheepmeat, and had few or no other on-farm activities.
- **Sheep-beef graziers:** Farmers who ran mixed beef and sheep enterprises.
- **Wine grape growers:** Those who grew wine grapes as a major part of their enterprise. Many also produced some fruit and vegetables, or ran livestock.

These groups of farmers are often themselves diverse: for example, fruit growers produce many types of fruit using differing production systems.

Data analysis and weighting

Prior to analysis, survey data were processed and cleaned. Analyses presented in this report were undertaken using Microsoft Excel, SPSS, SAS and Stata.

**Calculation of averages**

‘Average’ scores are reported for many results in this report. In all cases, unless otherwise specified, the term ‘average’ refers to the mean score for the group of people being analysed (not to the median or mode).

**Data weighting**

‘Weighting’ refers to a statistical process in which known biases in the responses received are corrected for. Weighting was used to correct for both intentional over-sampling (for example, of Victorian farmers), and non-intentional biases (the bias towards female and older farmers). Weighting responses involves adjusting the relative contribution each survey respondent contributes to the whole when analysing survey results, so that analysed data from the survey sample more accurately represents the population it was drawn from (in this case, Australian farmers and farm managers). Weighting doesn’t change the answers people gave to survey questions. Data were
weighted using GREGWT, a generalised regression weighting procedure developed by the Australian Bureau of Statistics (Bell 2000). GREGWT is a SAS macro that generates survey weights so that survey estimates agree with external benchmarks, which we obtained from the 2011 Australian census. For the 2014 Regional Wellbeing Survey, the benchmarks used to weight data for farmers were age (18-39 years, 40-54 years, 55-64 years, 65+ years), sex (female, male), and geographical location (state). Individual weights have been applied to all analyses in this report, unless otherwise specified. In some cases, it was not appropriate to apply weights as the items being analysed were only asked of a specific sub-sample of survey respondents to whom the weights used elsewhere may not be applicable.

Confidence intervals

Throughout this report, confidence intervals are shown as part of the results. A confidence interval, put simply, is a measure of how confident it is possible to be in a particular result. More accurately, it tells you the boundaries between which the value of a given variable would be 95% likely to fall if you repeated the survey multiple times with a similar sample. In general, confidence is higher if there is a large sample size and little deviation in scores (for example, almost all people answered ‘4’ on a scale of 1 to 7). Confidence is lower if there is a small sample size and high deviation (for example, equal numbers of people answered 1, 2, 3, 4, 5, 6 and 7 on a 7-point scale). An example is shown in Figure 2.1a, to help explain how to interpret confidence intervals.

Confidence intervals can be used to help identify if a difference is likely to be significant or not. If the confidence intervals of two scores don’t overlap, it is highly likely there is a significant difference between them. In this figure, the confidence intervals all overlap – so we cannot say we are confident there is a difference in the mean scores for different states.

Confidence intervals for mean scores were calculated using the classic formula. Using this formula, there is 95% confidence that, if multiple similar samples were taken, the true value of the mean would fall between $\pm 1.96 \times \frac{\sigma}{\sqrt{n}}$ where $\sigma$ is the standard deviation, and $\frac{\sigma}{\sqrt{n}}$ is the standard error of the mean. Confidence intervals for proportions were calculated using the modified Wald confidence interval proposed by Agresti and Coull (1998), which has been shown to be appropriate for large sample sizes such as that available in the Regional Wellbeing Survey (Brown et al. 2001).

While confidence intervals provide a useful way of understanding how reliable the results are likely to be, they are not perfect. Confidence interval calculations assume that data are normally
distributed, and a representative sample has been achieved. If these conditions are not met, the confidence interval may not be an accurate representation of confidence, and the weighting of data has potential to amplify unknown biases in the dataset.

Obtaining data for regions

This report discusses survey results related to farming and agriculture. Results are reported for different types of farmers, and for farmers living in different states. More detailed results by state and type of farmer are available to download in results tables available on the survey website, www.regionalwellbeing.org.au.

Caveats and limitations

All research has limitations; the Regional Wellbeing Survey is no exception. The following important limitations should be noted when reading this report and drawing conclusions from it.

'Significant' differences are not always meaningful

Throughout this report, confidence intervals are used to identify whether there is likely to be a significant difference between groups. Significance is a statistical term, and in this case significance is measured using a confidence interval. It is not a test of meaningfulness. The meaningfulness of differences between regions, or different groups of people, can be judged subjectively (through people discussing what they believe to be a meaningful difference), or objectively (for example, by statistically analysing what size difference between groups needs to be present before some other relevant variable changes in a measurable way).

Technical limitations: missing data, sample error

Not all respondents answered every question they were asked and no-one was asked every question in the survey. Missing data imputation can be used to estimate what respondents might have said if they had been asked, or had answered, each question, but in the initial analysis of results presented in this report no imputation has been undertaken. This means that results may differ compared to any future analyses of the survey data that do impute missing data. Though the data were in most analyses weighted to address biases resulting from sampling, not all sample-related error will have been removed.

Ethics

The Regional Wellbeing Survey was approved by the University of Canberra Human Research Ethics Committee, protocol number 12-186.
Chapter 3 - Key points

- A person with high levels of wellbeing is able to realise their potential, cope with normal life stresses, work productively and make a contribution to their community.

- Wellbeing is influenced by many factors, including a person's safety and security, their physical and mental health, their relationships and social networks, their access to goods and services, and the fairness of the society they live in.

- Farming is also associated with occupation-specific factors that can challenge wellbeing, including the effects of drought, pest and disease outbreaks, market fluctuations, rising input costs, regulation of farming, geographic and social isolation.

- Past studies have found that some groups of Australian farmers have poorer mental and physical wellbeing than non-farmers – but not all.

- Measuring wellbeing of farmers can be problematic, with past studies identifying that even farmers who score positively on key mental health and wellbeing measures are more likely than non-farmers to experience some types of mental health problems.

- We used one core measure of farmer wellbeing: their self-assessed 'global life satisfaction'.

- Overall, Australian farmers report higher levels of life satisfaction compared to non-farmers. However, this difference largely disappears when results are controlled for age and gender. Caution is needed when comparing farmers to non-farmers, as it is possible farmers answer life satisfaction questions differently to non-farmers. However, it is possible to compare the wellbeing of different types of farmers.

- Overall, the farmers reporting the highest levels of wellbeing in 2014 were Tasmanian farmers, those aged 65 and older, dairy farmers and beef graziers.

- Those reporting the lowest levels of wellbeing were wine grape growers, fruit and vegetable growers, cotton farmers, and those whose farm was not profitable.

3. Wellbeing of farmers

Introduction

The maintenance of wellbeing is critical in enabling farmers to succeed in their personal and professional lives, but the wellbeing of farmers, like that of other groups, is complex and multifaceted with a range of determinants. The World Health Organization defines the wellbeing of any person, whether a farmer or not, as:

*a state ... in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community.* (World Health Organization 2013)

A person’s wellbeing is influenced by their environment and disposition, their safety and security, their physical and mental health, their relationships and social networks, their access to goods and services, and the fairness of the society they live in, to name just a few of the contributing factors. Farmers are no different to other people in this regard, and these factors will affect their overall wellbeing. However, understanding the wellbeing of farmers is especially complex as, in addition to the usual factors that influence wellbeing, farming is associated with a number of occupation-specific factors that can challenge wellbeing. These include climatic variability such as the experience of drought, pest and disease outbreaks, market fluctuations, rising input costs, complex government bureaucracy and regulation of farming, geographic isolation with associated lack of access to key services, and social isolation for many farmers (Berry et al. 2011; Schirmer et al. 2013).
It is often argued that farmers experience poorer mental health and wellbeing than non-farmers. Studies examining this have produced inconsistent results, most likely because not all farmers are the same, and different studies have looked at different groups of farmers. However, the results of a number of studies suggest that at least some groups of Australian farmers have poorer mental and physical wellbeing than non-farmers (Berry et al. 2011; Schirmer et al. 2013).

Much of this report examines whether what is happening on and off the farm is associated with higher or lower levels of wellbeing for farmers. This chapter discusses how we measure farmer wellbeing, and the key limitations in attempting to do so.

Measurement of wellbeing is problematic for farmers: several studies have found that even farmers who score positively on traditional mental health or wellbeing measures ‘appear more likely than non-farmers to feel hopeless about the future, have suicidal ideation or complete suicide, a contradiction not yet fully understood but apparent in several countries’ (Schirmer et al. 2013, p. 98). This means that some caution is needed when making statements about farmer wellbeing, as further research is needed to better understand how farmers answer common survey questions about wellbeing, and what their answers mean in terms of their overall quality of life, mental health, or other wellbeing-related outcomes.

Farmers are a diverse group with a range of circumstances that may affect their wellbeing in different ways, and it is important to recognise that diversity. To avoid any issues that may arise from attempting to compare the objective wellbeing of farmers with very different material circumstances, we use one specific indicator of wellbeing throughout this report: a farmer’s self-assessed satisfaction with their life. This measure is usually referred to as a person’s global life satisfaction.

The global life satisfaction (GLS) measure is a way of quantifying a person’s subjective wellbeing in a ‘global’ sense, which is to say the whole of someone’s wellbeing, rather than any specific aspect of it. It does this by asking survey participants to think about their life and personal circumstances and to rate how satisfied they are with that life on an 11 point scale, from 0 (completely dissatisfied) to 10 (completely satisfied). This score is then transformed into a score out of 100 for ease of interpretation. This approach has the benefit of allowing respondents to determine what is important to them and to assess their life based on that, rather than on criteria proposed by others, arguably increasing the validity of the response (Diener et al. 1985). See Schirmer and Berry (2014) and Schirmer et al. (2015) for more detail on the use of this measure in the Regional Wellbeing Survey.

When the average (mean) wellbeing score of farmers is compared to non-farmers, as shown in Figure 3.1, there is an apparent difference: on average, farmers reported higher wellbeing in 2014 compared to non-farmers. However, caution is needed in interpreting this: farmers are typically older, and more likely to be male, than the general population. When farmers and non-farmers are compared by gender and age group (Figure 3.2), a more complex picture emerges. For the most part, farmers and non-farmers in the same gender and age group reported similar levels of wellbeing. Where there were differences, they were mostly within the 95% confidence interval, suggesting they may not be meaningful. The results presented in figure 3.2 suggest that female farmers potentially had higher levels of wellbeing compared to female non-farmers in some age groups, but it is not possible to conclusively state that their wellbeing was higher. Similarly for male farmers, while those aged 30 to 49 reported higher wellbeing than their non-farming counterparts, and this difference was meaningful (based on 95% confidence intervals), it is not possible to be conclusive as there was no consistent difference in wellbeing of male farmers and non-farmers for other age groups.
Figure 3.1 Global life satisfaction score of non-farmers compared to farmers, 2014

Figure 3.2 Global life satisfaction score of farmers and non-farmers, 2014, by gender and age group
This analysis is based on the assumption that farmers and non-farmers rate themselves in the same way on the global life satisfaction scale. In other words, it assumes that when a farmer rates their satisfaction with their life a 7 out of a possible 10, they are equally as satisfied as a non-farmer who rates their satisfaction 7. This assumption is potentially false, given the evidence of previous studies that suggests farmers who give a high rating of their wellbeing remain at higher risk of some mental health problems. More work is needed to better understand whether factors such as the well-documented stoicism of Australian farmers influences their reported life satisfaction; it is possible that Australian farmers experiencing stresses rate their lives as satisfactory when those same stresses, if experienced by a non-farmer, would result in a poorer life satisfaction rating.

Because of this, from this point on in this report we do not compare life satisfaction scores of farmers and non-farmers. Instead, we focus on comparing the experiences of different types of farmers. As the personal and professional characteristics of farmers vary considerably, we would expect their wellbeing to do the same, and it is important to understand whether different types of farmers are experiencing different levels of overall life satisfaction. Figure 3.3 compares the average life satisfaction score of farmers experiencing differing on-farm circumstances and with different socio-demographic characteristics.

State: Differences in the average life satisfaction scores of farmers were small, with all except Tasmanian farmers having mean scores between 70 and 75. Only Victorian and Tasmanian farmers had wellbeing scores higher than the national average. As Australian states are large and diverse, with different farmers in each state likely to be experiencing different types of change, it would be unusual to see large differences between states.

Gender: Male and female farmers reported similar levels of satisfaction with their lives, with a difference of less than one point in mean scores of these two groups.

Age: Farmers aged 65 and older had considerably higher life satisfaction than did younger farmers. We note that, in this sample, farmers aged 18 to 29 had higher mean life satisfaction than farmers aged 30 to 64, however, it is important to treat this with caution due to the small sample size and broad confidence interval. The age-related patterns observed for farmers are similar to those for non-farmers, with multiple studies identifying a similar age-based pattern of variation in life satisfaction. For more detailed information on wellbeing, and how it differs by age, see Schirmer et al. 2015.

Farm type: Dryland farmers had slightly higher life satisfaction scores (74) than irrigators (73), but the difference was small and not significant. Dairy farmers were the most satisfied with their lives and wine grape growers the least. This may in part reflect the economic conditions in their respective industries. The dairy sector has been experiencing growth and improved profitability in recent years (Dairy Australia 2014). Meanwhile in 2014, 84% of wine grape growers were unable to make a profit (Winemakers’ Federation of Australia 2015, p. 5), and concerns has been expressed about the implications of oversupply of wine grapes in Australia for prices and market demand in the wine grape sector for some time (Lockshin 2013). More broadly, the types of farmers most likely to report higher levels of life satisfaction were dairy farmers, beef farmers (including beef farmers with mixed cropping or sheep enterprises), and to a slightly lesser extent rice farmers and broadacre croppers. Together with wine grape growers, fruit and vegetable growers and cotton growers reported lower levels of wellbeing compared to the average for all farmers.
Figure 3.3 Wellbeing of different types of farmers
Farm financial performance: Lower profitability of the farm enterprise was associated with poorer farmer wellbeing. However, it is important to recognise that this association was not necessarily the result of poor profitability causing decline in wellbeing: it is also likely that those experiencing wellbeing problems rated their profitability as being lower, and/or were finding it more difficult to manage their farm enterprise, resulting in lower profitability. That said, it is likely that lower farm profitability does contribute to poorer wellbeing, and the differences in wellbeing are large, with farmers making a financial loss on the farm having a life satisfaction score 18 points lower than that of farmers who were making a profit. This is a large difference that is comparable to the differences observed in other studies of people who are experiencing life events such as divorce, moving house, or other major stressful events (Peel et al. 2015).

Conclusions

The wellbeing of farmers is not simple to measure, and this chapter has presented only a single indicator of wellbeing – a person’s self-rated satisfaction with their life. Even when using this single measure, it is clear that there are many important differences between farmers: farmers of different ages, farm types, and with differing levels of self-rated farm profitability had significantly different levels of satisfaction with their lives. The associations identified between life satisfaction and these characteristics are not necessarily causal, but are important to explore and understand further. For example, farmers aged over 65 reported higher life satisfaction compared to those in other age groups, a pattern very similar to that for the broader population. The reasons for this higher life satisfaction are likely due to the life circumstances that typically accompany this age (such as being retired, debt free, reduced stress, and other factors), rather than to the specific age itself (people aged under 65 with similar life circumstances may report similarly high life satisfaction, for example). Associations between change on the farm and farmer wellbeing are explored further in the rest of this report, to better understand whether there are linkages between experiencing particular types of on-farm and off-farm circumstances, and a farmer’s overall satisfaction with their life.
Chapter 4 - Key points

- The stereotypical Australian farmer is an older man operating and living on a farm that supports his household, with a wife who works off the farm as well as on it. This stereotype is true for some farmers – but not a lot.

- In reality, many farmers are women, and not all are middle aged and older: according to the Census of Population and Housing, 28.4% of farmers and farm managers were female in 2011 – and this doesn’t include the many women who listed farming as their secondary occupation. The Census also showed that 20% of farmers were aged under 40, and half under 55.

- The Regional Wellbeing Survey also shows the true diversity of farmers, finding that:
  - While most farmers surveyed had worked in agriculture all their working life, more than half of those aged under 60 had spent some years working outside farming.
  - Nearly a quarter of farmers (22.5%) do not live on their main farm property, particularly those involved in cropping, cotton farming and fruit and vegetable growing.
  - Farms varied substantially in economic size: the gross value of agricultural production (GVAP) reported by farmers for 2013-14 included 6% who had no gross earnings, 20% earning less than $50,000, 22% producing $50-199,999, 21% between $200-499,000 and 30% with GVAP of $500,000 or more.
  - Female and older farmers, and sheep and beef graziers, were more likely to report GVAP of $100,000 or less. Conversely, more than 38% of cotton, rice and dairy farmers reported a GVAP of $1 million or more.
  - Only 23% of farmers derived all their income from the farm business in 2014, while 77% had both on-farm and off-farm income sources. Fifty five per cent of farmers had off-farm paid work (most commonly women and those aged 40-54), while 43% had off-farm income other than paid work, for example from investments or pensions (particularly those aged 55+). Off-farm work was more common amongst farmers who were not making a profit on their farm, and for beef, wine grape, fruit and vegetable growers. Dairy farmers, cotton, grain/oilseed crop and rice growers were least likely to work off-farm. Two-thirds of those who worked off-farm reported enjoying their off-farm work, although 46% report that they would not work off-farm if they didn’t need to.
  - Sheep and beef farms on average had fewer farm workers than other types of farms. Intensive livestock, cotton, wine grape and dairy farms typically employed more full-time workers; and wine grape and fruit and vegetable growers more part-time workers.
  - Younger farmers were more likely to work on farms with a large number of employees than older farmers: this suggests younger farmers often work as paid farm managers, and that larger farms often provide a critical entry point into farming.
  - Overall, only 15-20% of farms fit the ‘old Aussie farmer’ stereotype. The rest include ‘modern Aussie farmers’ with a larger farms and mix of on- and off-farm managed as a family partnership or trust (40-50% of farms), lifestyle farms relying mostly on off-farm income (20-25%), commercial full-time farmers with large farms and no off-farm income (20-25%), and agribusiness companies (5-10%).
  - The wellbeing of farmers isn’t better if they choose one particular farm structure. Farmers make their lives work socially and economically using many different strategies: for example, some combine on- and off-farm work; others increase farm size in order to earn all income on farm. All these strategies can effectively support the wellbeing of farmers.
4. The 21st century Australian farm

Introduction

Australian farming, farms and farmers are continuously changing and adapting to new technologies, new market demands, evolving social values, and improved understanding of how Australian landscapes operate. Farming practices and technologies may be evolving rapidly, but the broader Australian population doesn’t always keep up. Sometimes, the views of the broader Australian population about farming, farms and farmers are based on stereotypes that reflect how Australian agriculture operated in the mid-20th century rather than the early 21st. While society’s understanding of farming and farmers will always take a while to catch up to evolving farming practices, there is a danger in the use of stereotypical assumptions about farming. In particular, these stereotypes may lead community groups, non-governmental organisations or government agencies to design policies and programs that meet the needs of 20th century farmers instead of 21st century farmers. Without a deeper and more nuanced understanding of the pressures and opportunities experienced by different types of farmers, such programs are unlikely to be effective in enhancing the security, the prosperity or the wellbeing of farmers and their households.

Media reports and social discussions around farming often assume that Australian farmers:

- Are male
- Are ageing, with most aged in their 50s or 60s
- Are ‘sole operators’ who manage their farm with a simple business structure
- Own and live on a single property and have a business size that supports a single household
- May have a wife who works off the farm, but do not work off the farm themselves
- Do most of the work on their property themselves, with little use of contractors.

These assumptions are true for some farmers – but not all, and in some cases, not many. Many farmers are women; some farmers are young; many farms have complex business structures including using trusts and corporate registration; many farmers lease or share farm land in addition to (or instead of) owning their own property; many farmers (male and female) work off the farm as well as on it; and farmers are increasingly managers who contract others to do work on their property.

In this chapter we explore what the Regional Wellbeing Survey tells us about modern farmers and farm businesses. We identify how many farmers fit the common stereotypes found in media reports or the social imagination, and how many fit into other, less commonly recognised, categories. We also examine whether life satisfaction varies a lot for these different types of farmers.

Farmer demographics: are all farmers middle aged (or older) men?

The stereotypical farmer is a man aged in his 50s or 60s. How accurate is this stereotype? As was shown earlier, across Australia more than a quarter of farmers are female: in the ABS 2011 Census of Population and Housing, 28.4% of all people who indicated that farming was their primary occupation were female. This did not include the large proportion of women for who farming was a secondary occupation, or who are what Alston (2003) termed ‘invisible farmers’: women who play a large role in the management of the farm but who do not define themselves as farmers, and whom others do not recognise as farmers. In the Regional Wellbeing Survey, in which respondents are considered farmers irrespective of whether they have a job off the farm as well as their work on the farm, 40.8% of the farmers who completed the Regional Wellbeing Survey were female. Thus while many farmers are male, a very large minority are female, and it is important to challenge the stereotype that farmers are predominantly male.

Similarly, while farmers are on average older than the general working population (Table 4.1), they are not all ‘old’: one in five was aged under 40 in 2011, and half were aged under 55. This does,
however, confirm that younger people are under-represented in farming. The reasons for this under-representation are often discussed. Perhaps the most commonly discussed barrier to entry of young people into farming is the equity required to purchase or access agricultural land (Katchova and Ahearn 2014), meaning that many younger people work in agriculture or other careers for many years to build equity prior to becoming a farm manager.

Table 4.1 Demographic characteristics of Australian farmers compared to the Australian working age population

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Australian farmers and farm managers¹</th>
<th>Australian population aged 15 and over¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>28.4%</td>
<td>51.0%</td>
</tr>
<tr>
<td>Male</td>
<td>71.6%</td>
<td>49.0%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-39</td>
<td>20.3%</td>
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<td>40-54</td>
<td>32.3%</td>
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<td>55-64</td>
<td>24.8%</td>
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</tr>
<tr>
<td>65+</td>
<td>22.6%</td>
<td>17.3%</td>
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</tbody>
</table>

¹Data source: Australian Bureau of Statistics Census of Population and Housing 2011. Data accessed via TableBuilderPro. Data were calculated for rural and regional Australia and exclude people living in cities with >100,000 population.

What farmers do on the farm often differs depending on their age and gender, as can be seen in Figure 4.1. Wine grape growing and rice farming were more male-dominated than other types of farming. Younger farmers were more likely to report managing cotton, dairy, and broadacre cropping farms, whereas those managing sheep, beef, wine grape and rice farms were older on average (and in particular more likely to be aged 55 and above). Throughout this report, we compare differences between male and female farmers, and farmers of different ages, to better understand how these groups differ in their farm management, their wellbeing, and their views about their community.
Figure 4.1 Demographic characteristics of farmers managing different types of farms
Is farming a life-long occupation?

Another typical assumption is that most farmers have been farming all their working life or, for many, since they were children. When we asked farmers how long they had worked in farming, the majority indicated they had been farming all their working life (Figure 4.2). However, many of those aged under 50 had spent at least some years working outside farming².

![Figure 4.2 Proportion of working life Australian farmers have spent working in farming](image)

Years in farming varied depending on the type of farmer and farming involved (Figure 4.3). On average:

- Women had worked fewer years in farming compared to men
- Tasmanian and South Australian farmers had worked slightly fewer years on the farm, and Queensland and New South Wales farmers more, compared to the average
- Wine grape and vegetable growers reported fewer years in farming, and those in rice growing, broadacre cropping, and mixed sheep-beef farming the most
- Those who had worked fewer years in farming were slightly more likely to report their farm was making a loss than those who had worked more than 30 years, but the differences were small.

² It is likely those aged over 50 also had; however, the survey only asked if farmers had spent a pre-determined number of years in farming, with the maximum being ’30+’ years, not allowing us to distinguish whether farming was a lifelong occupation for those aged 60 and over.
Figure 4.3 Average years spent working in farming by different types of farmers
Do all farmers live on the farm?

Many people assume that all farmers live on their farm. We asked farmers if they lived on their main farming block, or somewhere else. Almost a quarter (22.5%) of farmers reported they did not live on their main farming block: most of these lived in a nearby town, or in some cases on a rural property other than their main farming property. The proportion of farmers who live ‘off the farm’ varied by region and type of farmer (Figure 4.4):

- Tasmanian farmers were less likely to live off the farm than those in other states
- Male farmers were more likely to report living off the farm than female farmers
- Younger farmers were more likely to live off the farm than older farmers
- Farmers involved in pure cropping enterprises, cotton farming, and fruit and vegetable growing were more likely to live off the farm, while intensive livestock farmers, sheep and beef farmers were more likely to live on the farm
- While those whose farm was in high financial stress or making a loss were slightly more likely to live off the farm compared to those who were making a profit, the difference was very small
- While those who lived off the farm reported slightly lower life satisfaction on average, the difference was not significant.
Figure 4.4 Living off the farm: the proportion of different types of farmers who do not live on the main agricultural property
Farm enterprises: farm business structure and size

Many people assume that a farmer manages a single property as a sole trader or other simply structured business, that they are owners of their land, and that their farm supports a single household. There is also much discussion in the media and the academic literature about the emergence of ‘corporate’ farming, which is often presented as a situation in which a large existing corporation purchases many farms from small farmers (see for example Magnan 2015). The reality is more complex. Farmers often manage multiple properties, and will lease or share farm some or all of these; and they often use partnership, trust or corporate structures. In fact, the family farm can readily have a corporate structure – care is needed in what is meant by the term ‘corporate farms’.

Farmers also manage farms that vary substantially in economic size: the gross value of agricultural production (GVAP) reported by farmers in 2013-14 ranged from 6% who reported no gross earnings, to 20% earning less than $50,000, just over 10% who produced between $50-99,999 and $100-199,000 respectively, and between 5% and 10% reporting earning in a further seven categories from $200,000 to over two million dollars (Figure 4.5)³.

![Gross value of agricultural production reported by Australian farmers, 2013-14](image)

³ Farmers were asked what their gross value of agricultural production (GVAP) was in 2013-14, and given the following definition: ‘For the period July 1 2013 - June 30 2014 what was your gross value of agricultural production? Your gross value of agricultural production is the total value of sales before costs, this is also called gross earnings. Please estimate if you do not yet know your precise turnover.’
Overall, in 2014, just over half of farmers (55.3%) managed a single property while 20.8% managed two properties, and the remaining 23.8% managed three or more properties. Men, younger farmers, and those managing rice, cotton and dairy farms were more likely to report having multiple properties; older farmers and sheep farmers were more likely to manage a single property than others (Figure 4.6). Those managing a single property were slightly more likely to report making a loss, and those managing multiple properties slightly more likely to report making a profit on their farm.

The average area of land managed by farmers varied substantially by state and by enterprise type, as is expected: the area of land managed or farmed is not an indicator on its own of anything to do with farm economic size unless it is compared for specific types of farming (Figure 4.7). While most farmers reported owning most of the land they managed, leasing was also common, with 14.3% of the land farmers managed being leased from others or, less commonly, sharefarmed. Leasing was most common in Western Australia, followed by Queensland. Farmers aged under 55 were much more likely to report leasing land than older farmers, likely reflecting the use of leasing as a way of entering farming for those who cannot afford to purchase land. Leasing was more common for cotton farmers, intensive livestock farmers and beef farmers, and less common for others. Life satisfaction was similar for those managing differing areas of land, although those managing less than 50 hectares did report lower life satisfaction compared to others.

Only 17.0% of farmers were sole traders, 19.7% had farm businesses structured as a family trust, 50.4% were structured as a family partnership, and 12.9% were a private or public company (many family owned). The typical sole trader or family partnership-structured farm was a dryland sheep or beef farm run by an older farmer. Farmers whose farm was structured as a sole trader business reported slightly lower wellbeing than other farmers, despite being older than average (something usually associated with higher wellbeing), and were more likely to make a loss or be breaking even on their farm, and less likely to be making a profit, than other farmers (Figure 4.8). Farms structured as family trusts were more commonly cotton, rice and dairy farms, and more likely to have younger farm managers. Corporate structures were more common amongst cotton, intensive livestock, wine grape and fruit and vegetable growers than other types of farms.

In most states there was a similar distribution of farms by economic size, with one exception (Figure 4.9): Western Australian farmers were more likely than those in other states to have farms with GVAP of $400,000 or more. Female farmers were more likely to have farms of smaller economic size than male farmers, as were older farmers. Cotton, rice and dairy farmers reported the largest average economic farm size, with more than 38% of these farmers reporting a GVAP of $1 million or more. At the other end of the scale, sheep and beef graziers who did not also grow crops reported the smallest economic farm sizes, with most having a GVAP of $100,000 or less in 2013-14. Economic size and profitability were positively associated: farmers who reported making a loss were more likely to also report smaller GVAP, and profitable farmers were more likely to report being in a higher GVAP category. Economically large farmers were also more likely to report being in financial stress than smaller farms. There was relatively little association between a farmer’s wellbeing and the economic size of the farm.
Figure 4.6 Number of properties managed, by type of farmer
Figure 4.7 Area of land owned, leased or sharefarmed, by type of farmer
Figure 4.8 Farm business structure, by type of farmer
Figure 4.9 Average gross value of agricultural production in 2013-14, by type of farmer
On- and off-farm income

Off-farm income is an integral part of life for many farmers and farm families. The ability to derive income from a source independent of the farm – whether this is paid work, or income from other sources such as shares, other investments or a pension - can provide a number of potential benefits, particularly having a source of income that isn’t subject to same risks as farming. Off-farm paid work can also provide the opportunity to socialise off-farm and to strengthen connections with the wider community.

Only 23% of farmers derived all their income from the farm business in 2014, meaning that 77% of farmers had both on- and off-farm sources of income. For most, off-farm income came from off-farm work: 55% of farmers had off-farm paid work, while 43% reported having some household income from off-farm income other than paid work, such as investments and pensions (Figure 4.10).

![Figure 4.10](image)

Figure 4.10 Average proportion of household income Australian farming households earned on and off the farm in 2014

When different farmers were examined (Figure 4.11):

- Tasmanian farmers earned slightly less, and Western Australian farmers more, on-farm income than farmers in other states.
- Women were more likely to have off-farm paid work than male farmers.
- Farmers aged 40-54 were most likely to report having off-farm paid work, while receiving income from off-farm sources other than paid work was more common for farmers aged 55 and over than for younger farmers.
- Farmers who were making a loss or breaking even were more likely to report having off-farm paid work than farmers who reported making a profit.
- Dairy, cotton, crop-sheep, crop and rice farmers were least likely to have off-farm paid work, and intensive livestock, beef, wine grape, fruit and vegetable farmers were more likely to. Sheep farmers and wine grape growers were more likely to report having off-farm income from sources other than paid work than other types of farmers.
- Those who had no off-farm paid work reported higher wellbeing compared to those with some off-farm paid work; conversely, those with a large proportion of off-farm income from sources other than paid work reported higher than average life satisfaction. This is largely due to age-related differences, as older farmers (who typically had higher wellbeing) were
less likely to have off-farm paid work, and more likely to earn off-farm income from sources other than paid work, compared to younger farmers.

Figure 4.11 Average proportion of farmer’s household income derived on and off the farm, by type of farmer
Why do farmers work off-farm?

Farmers worked off-farm for a number of reasons. We asked a subsample of farmers who worked off-farm how they felt about their off-farm work, by asking them to indicate how much they agreed or disagreed with a number of statements. Responses were recorded on a scale ranging from 1 (strongly disagree), to 7 (strongly agree).

Off-farm work was an essential part of income for most farmers who work off the farm: the majority of farmers who had off-farm paid work agreed that their off-farm work was good back-up for bad years on the farm, essential for day to day expenses and helped them afford special things like holidays. Only 26% felt their off-farm income was less important than their on-farm income (Figure 4.12).

Off-farm work was also often important for reasons beyond the income it provided: two-thirds of farmers reported enjoying their off-farm work, while 21% did not. However, farmers with off-farm jobs were evenly divided when asked whether they would work off-farm even if they didn’t need to, with 43% agreeing and 46% disagreeing.

Some farmers used their off-farm work to generate funds for freeing up labour time on the farm: 37% reported that off-farm income was used to invest in labour-saving technology or practices on the farm.

These views differed depending on the amount of income earned from off-farm paid work, as shown in Figure 4.13. In general, those who earned a smaller proportion of their household income off-farm were less likely to agree that their off-farm work was essential for household expenditure, or had been used to invest in labour saving technology; and were more likely to agree that their off-farm income was less important than their on-farm income. They were also slightly less likely to say the off-farm income was a good back-up in bad years on the farm, or that they enjoyed their off-farm work.

Figure 4.12 Farmers views about their off-farm income – all farmers
Figure 4.13 Farmers views about their off-farm income – by amount of income earned off-farm
Employment

Australian farms are highly diverse when it comes to the number of people employed on a single farm: employment ranges from farms run by a single farmer to enterprises employing many farmers and farm workers. Farmers were asked how many people had worked on their farm business on average during the last 12 months, including themselves. They were asked to include salaried workers and people who work for a share of the farm returns.

Across Australia, the ‘average’ farmer reported having 2.8 full-time and 3.9 part-time workers in the 12 months prior to completing the survey, but this average described very few farms as employment varied substantially by type of farmer, as shown in Figure 4.14. Sheep and beef farmers reported the lowest average numbers of full-time and part-time workers, while the most full-time workers were reported by intensive livestock, cotton, wine grape and dairy farms; and the most part-time workers by wine grape and fruit and vegetable growers.

Younger farmers were more likely to work on farms with a large number of employees than older farmers: this is likely to reflect how many younger farm managers get a start in farming, with many hired as farm managers on larger farms rather than having a farm they manage themselves. Larger farms (many of which are structured as corporations) therefore appear to be providing a critical entry point into farming for younger farmers.

The 2014 survey did not ask about the use of agricultural contractors on the farm, an area that would provide important additional insight into how agricultural employment is structured in Australia, and will be asked about in future surveys.
Figure 4.14 Average workers employed on Australian farms, by type of farmer
So what is a ‘typical’ Australian farmer these days?

There is no ‘typical’ Australian farmer, and there is a need to ensure farmers are not mistakenly thought of as being a homogenous group. Box 1 presents five stereotypes of Australian farmers, and briefly discusses how many farmers fall into each category. Of course, these categories themselves are not true representations: every farm is different, and many would not fit clearly into any one of these five categories. However, what is clear is that the stereotype of the small Australian farm with an older male farmer who has no or little off-farm work is out of date. This type of farm, which was likely relatively common in previous decades, has been overtaken by other types of farms: large farms on which the farmers (often a wife and husband) earn both on- and off-farm incomes; very large farms where the farmers earn all their income from their property; corporate farms; and lifestyle farms which are effectively run as a part-time second business in addition to a farmer’s primary job off the farm.

These diverse farm types are the reason that the ‘largest 10 percent of farms (as measured by gross farm income) produce over 50 percent of the value of Australia’s agricultural production’ (Barr, 2003, p. 123). This largest 10% is typically represented by the commercial full-time and corporate farms of Australia, and is sometimes represented as the ‘future of farming’. However, this is not necessarily the case: to understand economic viability of farms, we need to understand how farmers are making their lives work economically and socially; for many, that is to combine on- and off-farm work.

There is relatively little difference in the overall life satisfaction of farmers who engage in different modes of farming. Once age was taken into account, there was little difference in the wellbeing of farmers who had differing levels of on- and off-farm work, who lived on or off the farm, or had differing farm enterprise sizes. While sole traders reported slightly lower life satisfaction on average, the difference was small compared to, for example, the differences in life satisfaction reported at different stages of life. This suggests that farmers are selecting the farming business structures that best suit them: no particular combination of on- and off-farm work, farm business structure, number of properties, and other factors was associated with large differences in wellbeing.

Rather than assuming a farm must produce enough to support a family from the farm income, the picture of modern farming here suggests a need to think differently: some farmers are choosing to ‘get big or get out’ by enlarging farm enterprises to a size at which they can support their household with no off-farm income, but many are choosing instead a combination of on-farm and off-farm income that works for them.

Instead of assuming that farming must necessarily shift to ever larger farms in order to support the economic and social wellbeing of farmers, we need to examine the overall quality of life of farmers who operate different types of farms, and better understand how the choices they have made regarding on-farm and off-farm income are working for them.

The rest of this report examines other aspects of the places farmers live in, and the things happening on their farms, and whether these are associated with differing levels of wellbeing.
Box 1. What is a typical Australian farm now?

**The old Aussie farmer:** Many media stories present Australian farmers as being mostly comprised of smaller farms (often grazing enterprises) run by an older male farmer as a sole trader or partnership, with little off-farm income. This type of farm in reality represents only around 15-20% of farmers (and a smaller proportion of farming land and economic production).

**The new Aussie farmer:** More common is the mid-sized modern farm business, managed as a family partnership, with one or more of the partners working off-farm as well as on-farm. These farms still tilt towards older farmers aged over 55, but differ to the ‘old’ Aussie farmer in their broader range of farm enterprise mixes – including cropping, horticulture, and livestock enterprises and various combinations of these - combined with off-farm work, and often a larger farm size than the ‘old Aussie farmer’. Around 40-50% of farms fall into this category.

**The lifestyle farmers:** This farm is an economic enterprise (as opposed to a hobby property), but the farmers running it earn their principal income from a ‘day job’ in town or the city, and often live in that town or city, while farming is their part-time second job. The farm is often relatively small, and particularly likely to run beef or sheep. These farmers represent a growing proportion of farms – likely 20-25% - but a small proportion of Australia’s agricultural production.

**The commercial full-time farmer:** This group of farmers work full-time on the farm, with little to no off-farm income, and manage a large farm business, often made up of multiple properties, and structured as a family partnership or family corporation. These farmers represent only around 20-25% of all Australian farmers, but produce a substantial proportion of agricultural output. As they are often large enough to have more than one farm manager, there are more young farmers on these farms than on ‘Aussie farmer’ or ‘lifestyle’ farmer farms.

**The agribusiness company:** These farms are structured as corporations, and often have multiple employees, sometimes including multiple paid farm managers. They may be part of an agribusiness corporation, or a family corporation. They typically have multiple farming properties, often spread geographically, and specialise in producing particular commodities while being able to move stock, machinery and other assets between properties depending on season and commercial prospects. They are often profitable, and despite being a small percentage of farmers (5-10%), produce a much larger proportion of agricultural output due to their physical and economic size. They often employ younger farmers.
Chapter 5: Key points

- This chapter examines the access farmers have to various resources that are argued to support a person’s wellbeing, resilience and capacity to adapt successfully to change.

- **Household financial wellbeing**: 27.5% of farmers report poor household finances, particularly those making a loss on their farm, and only 12.2% very good/excellent finances.

- **Local economy**: Many farmers (45.5%) reported poor local economic conditions, particularly Queensland farmers, and only 4.8% very good/excellent conditions. Older farmers, profitable farmers, rice farmers and dairy farmers were the most likely to report good conditions.

- **Health**: Farmers are almost twice as likely as non-farmers to be experiencing moderate to high psychological distress, with 48.7% experiencing this, particularly farmers in Queensland, those making a loss on the farm, grain/oilseed, cotton, fruit, wine grape, and vegetable growers. Sheep, mixed sheep-beef, rice farmers and profitable farmers reported lower distress.

- **Confidence in skills and education**: Most farmers (86.0%) reported good/very good (39.3%) confidence in their skills and education, particularly younger and more profitable farmers.

- **Community leadership and collaboration**: Most farmers (89.0%) reported good to excellent levels of leadership and collaboration in their community. Farmers living in Queensland and Tasmania, and fruit and vegetable growers, had the lowest confidence.

- **Institutional capital**: Around a quarter of farmers reported low confidence in being able to have a say in their community and in its inclusiveness, another quarter high confidence, and the remainder moderate confidence. Confidence in being able to have a say and be heard was higher for farmers in Western Australia and lowest for Victorian farmers, Queensland farmers, younger farmers and those experiencing farm financial stress.

- **Social capital**: Most farmers regularly spend time with family and friends (68.5%), volunteer (68.8%) and feel a strong sense of belonging to their community (63.3%). Fewer regularly take part in community activities such as festivals, local clubs and other activities (31.5%).

- **Access to services and infrastructure**: 24.8% of farmers reported poor access to services and infrastructure, and 22.1% very good or excellent access. Tasmanian, male, older and profitable farmers, and wine grape growers, were more satisfied; and cropping and mixed livestock-cropping farmers the least.

- **Access to telecommunications**: Most farmers (55.8%) reported having poor access to telecommunications, and only 15.0% very good or excellent access. Tasmanian farmers, older farmers, and those involved in intensive production and irrigation were more satisfied with their access to telecommunications compared to others.

- **Crime and safety**: 22.7% of farmers felt unsafe in their community, and 38.1% very safe. Farmers living in Tasmania, South Australia and Victoria felt safer, and those who felt less safe included New South Wales, Queensland, female and younger farmers, as well as cotton farmers, fruit and vegetable growers and those in high farm financial stress.

- **Landscape & aesthetics**: Most farmers found their local landscape attractive, particularly Tasmanian and Victorian farmers, and least commonly Queensland farmers.

- **Perceived environmental health**: Most farmers (71.9%) reported observing some to many environmental problems in their region. Tasmanian farmers were most likely to report good environmental health, together with male farmers, older farmers and those making a profit. Western Australian farmers were more likely to report environmental problems.

- **These results support the use of interventions to support farmer wellbeing that (i) address psychological distress, (ii) improve economic opportunity and/or access to the infrastructure that supports economic opportunity, (iii) increase social activities in the local community, and (iv) improve safety and inclusiveness of the communities farmers live in.**
5. Determinants of wellbeing, resilience and adaptive capacity

Introduction

Much of this report examines whether specific events or conditions on the farm are associated with differing levels of wellbeing. Before doing that, however, it is important to consider the broader determinants of wellbeing, which matter for all people, whether they are farmers or not. Growing worldwide interest in understanding the factors that promote wellbeing has in recent decades led to an expanding body of evidence regarding the longer term factors that are important determinants of wellbeing. Longer term factors means the things that occur over the long term in a person’s life, such as their financial wellbeing, social relationships, and confidence in their skills and education, as opposed to short term events (such as acute illness or the death of a loved one). For example, a person’s social networks, their general health, and their household finances (up to a point) have all been shown to influence a person’s overall wellbeing (see Schirmer et al. 2015 for a more detailed discussion).

At the same time that interest in understanding the determinants of wellbeing has been growing, there has been interest in understanding what helps improve the resilience of people to change, and their ability to adapt to change in ways that minimise negative impacts while capitalising on opportunities presented by change. In the diverse literature on resilience and adaptive capacity, a surprisingly similar set of factors is often argued to matter, and these are in turn similar to the factors that are commonly identified as determining wellbeing. These issues were examined in our People and communities report for all rural and regional Australians (Schirmer et al. 2015), and some of the explanatory text in this chapter is reproduced from that report.

This chapter examines some of the most commonly identified determinants of wellbeing, resilience and adaptive capacity, to better understand how these vary amongst Australian farmers — and what this means for how to best support the wellbeing of farmers. The chapter focuses on:

- Financial capital: The household financial wellbeing of farmers, and their rating of their local economy
- Human capital: A person’s access to skills and resources in the form of health (physical and mental), and confidence in their skills and education, and how well these skills and resources are brought together in their local community
- Institutional capital: A person’s ability to have a say in their local community, and the equity and inclusiveness of that community
- Social capital: A person’s social interactions with friends and family and in their broader community, and the sense of belonging that results from them
- Physical capital and liveability: The physical characteristics of a person’s community, including access to services and infrastructure, crime and safety, and the attractiveness of the local landscape
- Natural capital: How farmers perceive the environmental health of their local landscape.

Each of the measures presented in this chapter is explained in more detail in Schirmer et al. (2015), and Schirmer and Berry (2014).

Figure 5.1 compares how farmers rated these different determinants of wellbeing, resilience and adaptive capacity. Overall, the areas rated highest by farmers were their sense of belonging to their community, their enjoyment of the landscape they live in, and the time they spend with friends and family. The areas rated poorest by farmers were their access to telecommunications, wellbeing of their local economy, and their level of involvement in community activities (excluding volunteering activities). A large proportion of farmers rated their health, psychological distress levels, access to local services and infrastructure, crime and safety in their community, household financial wellbeing,
level of inclusiveness in their community, and their ability to have a say and be heard as either poor, or as ‘OK to good’ – the latter indicating potential for improvement.

This overview suggests multiple areas where intervention has potential to improve wellbeing, some more direct than others – for example, reducing psychological distress levels is likely to have a more direct and immediate impact on farmer wellbeing than improving local economic conditions, which will more indirectly lead to improved wellbeing. Both are important to farmer wellbeing in different ways.

Of course, farmers are all different – and different types of farmers have different access to the resources that help support their wellbeing, resilience and adaptive capacity. Recognising this, the following sections compare how access to each resource varies amongst different types of farmers.

![Figure 5.1 Determinants of wellbeing, resilience and adaptive capacity: how do farmers rate how they are going?](image)

**Financial capital**

‘Financial capital’ measures the access households and communities have to financial resources. This is measured at two levels:

- Household financial wellbeing – how well a farming household can meet their expenses and achieve their desired standard of living
Community economic wellbeing – whether farmers believe their local community has adequate job availability, viable local businesses, and affordable living.

The way each of these aspects of financial capital was measured is explained in detail by Schirmer et al. (2015).

**Household financial wellbeing**

Household financial wellbeing was not high for most farmers. While most farmers rated their household financial wellbeing as OK to good (60.3%), only 12.2% rated it as very good/excellent. More than a quarter – 27.5% - had poor household financial wellbeing, reporting both that they had low household income and that their household was either ‘very poor’, ‘poor’, or ‘just getting along’.

When the household financial wellbeing of different types of farmers was compared, there was not a high level of variability between different types of farmer in most cases. The average level of household financial wellbeing reported by farmers was relatively similar across different states (with Queensland farmers reporting lower and Tasmanian farmers higher financial wellbeing, but these differences being within confidence intervals), for male and female farmers, for farmers of different ages (with older farmers reporting slightly lower average household financial wellbeing) and for most farm enterprise types (although poorer financial wellbeing was reported by intensive livestock farmers, fruit and vegetable growers and sheep and beef farmers). The one area of large difference was between farmers reporting a loss on their farm and those making a profit: farmers whose farm was making a loss or in high financial stress also reported significantly poorer household financial wellbeing, while those making a profit reported higher than average household financial wellbeing (Figure 5.1).

**Community economic wellbeing**

Many farmers reported concerns about the health of their local economy, with 45.5% rating the health of their local economy as poor or very poor, 29.2% as OK to good and only 15.0% rating it as very good or excellent. This reflects the location of many farmers, who often live in small rural communities where economic decline is more common than in larger towns and cities. Given that many farmers rely on off-farm work for a substantial proportion of their income, it also highlights that health of the local economy is a significant concern for farmers in multiple ways: not just in terms of accessing supplies and services for the farm, but also in terms of availability of income earning opportunities off the farm.

As can be seen in Figure 5.2, older farmers, rice farmers and dairy farmers, and farmers making a profit were most likely to report their local economy was going well in terms of jobs and economic activity. Queensland farmers reported the lowest confidence in their local economy (as did Queensland residents in general, irrespective of whether they were farmers, as reported by Schirmer et al. [2015]), followed by those experiencing financial stress or making a loss on the farm. Men were more likely to feel confident in their local economy than women, and farmers aged 55 to 64 were less confident than those in other age groups. People who reported poorer than average community economic wellbeing tended to report poorer than average life satisfaction overall.
Figure 5.2 Average financial wellbeing of farming households, by type of farmer
Figure 5.3 Confidence of farmers in their local economy, by type of farmer
Human capital

‘Human capital’ refers to the resources available to people and communities as a result of their skills, education, health and more broadly their personal resilience and capabilities. Three aspects of human capital were examined:

- Health – two measures of health were used: farmers’ rating of their general health and their level of psychological distress
- Confidence in skills and education – how confident a farmer is that their education is adequate for their needs, and that their skills are in demand
- Community leadership and collaboration - the extent to which the community a farmer lives in has strong leaders who draw on the skills and resources available in their own and nearby communities to help their community cope with change.

The way each of these aspects of human capital was measured is explained in more detail in Schirmer et al. (2015).

Health – overall health

Farmers were asked to rate their overall health as being excellent, very good, good, fair or poor. Just over half (50.9%) reported having very good or excellent health, while 33.5% reported ‘good’ health and 15.6% reported poor health. Farmers living in Tasmania reported better general health compared to the national average for all farmers (Figure 5.3). Farmers living in South Australia and Queensland reported the poorest general health compared to the other states. On average, poorer health was reported by male and older farmers, and better health by younger and female farmers. When enterprise types were compared, cotton farmers reported the poorest general health on average, and dairy farmers the highest. Farmers who were making a profit on their farm, and who were satisfied with their farm financial performance, reported better general health than farmers who were in high financial stress or making a loss on their farm, although differences were relatively small.

Health – psychological distress

Psychological distress is a significant issue for Australian farmers, identified in multiple studies (e.g. Brumby et al. 2012; McShane et al. 2014). Regional Wellbeing Survey data shows that farmers were almost twice as likely to be experiencing psychological distress as non-farmers living in rural Australia. One-fifth of farmers – 20.8% - had scores on the Kessler 10-item psychological distress scale that indicated high levels of distress often associated with the presence of moderate to severe mental disorders, compared to 12.7% of rural and regional Australians overall. A further 27.9% of farmers had scores often considered to indicate likely presence of a mild mental disorder, compared to 13.7% of the general rural Australian adult population. Only 51.2% of farmers had scores indicating low levels of distress.

Farmers living in Queensland reported higher levels of psychological distress compared to farmers living in other states, and Tasmanian farmers lower levels (Figure 5.4). Male and female farmers reported the same levels of psychological distress, while older farmers (aged 65 and over) reported lower levels of distress compared to younger farmers, a pattern that is very similar to the non-farming population. Cropping farmers, fruit and vegetable growers (including wine grape growers), and cotton farmers reported higher levels of distress compared to rice farmers, sheep and mixed sheep-beef farmers who reported the least. This is likely to at least in part be due to age differences among these types of farmers: rice, sheep and sheep-beef farmers were typically older than crop, fruit and vegetable growers, and older people in general reported lower levels of psychological distress using the K10 measure reported here. Farmers who were making a loss or in high financial stress reported significantly higher levels of psychological distress, and those who were making a profit and satisfied with their farm financial performance reported significantly lower distress.
Confidence in skills and education

Similar to the broader population, many farmers reported moderate to high levels of confidence in their skills and education: 46.7% reported high confidence, 39.3% moderate and only 14.0% reported low levels of confidence in their skills and education.

Farmers living in different states reported relatively similar levels of confidence in their skills and education, although South Australian and Tasmanian farmers reported slightly higher confidence and Queensland farmers reported slightly poorer confidence than farmers in other states (Figure 5.5). Female and male farmers reported similar levels of confidence in their skills and education, with males only slightly higher than females. Younger farmers aged 18 to 39 reported significantly higher confidence in their skills and education compared to older aged farmers. Beef farmers and mixed crop-sheep farmers reported higher confidence in their skills and education compared to other enterprises, while cropping farmers and mixed crop-sheep-beef farmers reported the lowest levels. Farmers who were making a profit and who were satisfied with their farm financial performance reported higher confidence in their skills and education than farmers who were making a loss and who were under high financial stress. As with other determinants of wellbeing, low levels of confidence in skills and education were associated with poorer life satisfaction.

Community leadership and collaboration

When asked how much they agreed that there was strong leadership in their community and that people in their community worked together to achieve change, 38.5% of farmers reported very good or excellent community leadership and collaboration, 50.5% OK to good levels, and 11.0% poor levels of leadership and collaboration. Farmers living in Queensland and Tasmania reported significantly lower levels of community leadership and collaboration compared to the national average of farmers and the other states (Figure 5.6). Female farmers, farmers aged 65 and over, rice farmers, intensive livestock farmers, mixed crop-sheep farmers and mixed crop-sheep-beef farmers reported higher levels of community leadership and collaboration compared to other farmers. Fruit and vegetable growers reported the lowest confidence in their community leadership and collaboration. Farmers who were satisfied with their farm financial performance reported higher confidence in community leadership and collaboration than farmers who were in high financial stress. Low confidence in their community’s leadership and collaboration was associated with lower levels of life satisfaction.
Figure 5.4 Self-assessed general health of farmers, by type of farmer
Figure 5.5 Psychological distress, measured using the Kessler 10 item psychological distress scale, by type of farmer
Figure 5.6 Confidence of Australian farmers in their skills and education, by type of farmer
Figure 5.7 Confidence of Australian farmers in the level of leadership and collaboration in their community, by type of farmer.
Institutional capital

Institutional capital refers to the quality, representativeness, fairness and inclusiveness of local organisations and, more broadly, decision making processes in a person’s local community. Two aspects of institutional capital were examined:

- The quality, representativeness and fairness of governance in a community (a person’s ability to have a say and be heard in local decision making processes)
- The extent to which farmers felt every group in their community was included and fairly treated in that community’s day to day life (equity and inclusion).

The way these two aspects of institutional capital were measured is detailed in Schirmer et al. (2015). Both are associated with life satisfaction: people who had less confidence in their local governance, and who reported lower levels of equity and inclusion in their communities, also typically had lower levels of life satisfaction, as can be seen in Figures 5.7 and 5.8.

Having a say and being heard

Most farmers felt moderately confident that they could speak up and be heard in their local community, if they wanted to, with 53.5% reporting OK/good ability to have a say and be heard, 26.6% very good/excellent ability, and 19.9% poor ability.

Confidence in being able to have a say and be heard was considerably higher for farmers living in Western Australia than the other states, and lowest in Victoria and Queensland (Figure 5.7). There was little difference between male and female farmers and between ages, although older farmers (aged 65 and older) felt more confident in their ability to have a say and be heard than younger farmers. Rice farmers, mixed crop-sheep farmers and sheep farmers had higher confidence in having a say and being heard than other farmers, while cropping farmers and fruit and vegetable growers reported lower confidence. Farmers who were satisfied with their farm financial performance were more confident in being able to have a say and be heard than farmers experiencing high financial stress.

Equity and inclusion

While most farmers (52.6%) felt their community was moderately equitable and inclusive, only 23.0% rated equity and inclusiveness as very good or excellent, while almost one in four (24.4%) rated it as poor.

Farmers living in Tasmania reported lower levels of equity and inclusion in their communities compared to other states, while South Australian and Western Australian farmers reported higher levels (Figure 5.8). Men and older farmers were more likely to report high levels of equity and inclusion, and women and younger farmers less likely to: the youngest farmers (those aged 18 to 39) reported the lowest levels of equity and inclusion of any group. Rice farmers and cropping farmers felt most included, while fruit and vegetable growers felt most excluded, compared to other enterprises. Farmers who were making a profit felt higher levels of equity and inclusion compared to those making a loss.
Figure 5.8 Confidence of farmers in being able to have a say and be heard in their local community, by type of farmer
Figure 5.9 Views of farmers about the level of equity and inclusiveness in their community, by type of farmer
Social capital

Social capital refers to the behaviours, systems, experiences and perceptions that promote cooperation, mutual support and collaborative problem-solving between people, and is often referred to as the ‘glue’ that holds communities together, as discussed in Schirmer et al. (2015). Social capital can be measured in many different ways, as there are multiple dimensions to the concept. The 2014 Regional Wellbeing Survey examined three aspects:

- **Spending time with friends and family**, often referred to as informal social connectedness, refers to how often people spend time with friends, extended family and neighbours.
- **Getting involved** in the local community or civic engagement, refers to taking part in organised community activities such as local community groups and events.
- **Sense of belonging** refers to the extent to which farmers feel welcome in their community, part of their community, or like an outsider in their community.

The way each of these aspects of social capital was measured is detailed in Schirmer et al. (2015).

Social capital is strongly associated with life satisfaction, irrespective of how it is measured, with people who report low levels of social capital typically reporting much lower levels of satisfaction compared to those with higher levels of social capital (Figures 5.9, 5.10 and 5.11).

**Spending time with friends and family**

The majority of farmers (68.5%) reported that they spend time with friends and family quite often, very often, or all the time. Only 11.2% reported never or only occasionally spending time with friends and family, and 20.4% reported ‘sometimes’ spending time with family and friends.

While there were not large differences between states, Tasmanian farmers reported spending more time with family and friends, and Western Australian farmers less time, compared to other farmers (Figure 5.9). There were few differences between male and female farmers, while farmers aged 55 and over spent more time with friends and family than younger farmers. Rice farmers reported spending the most amount of time with friends and family compared to those managing other types of enterprises, while fruit and vegetable growers spent the least amount of time. Farmers who were satisfied with their farm financial performance and making a profit reported spending more time with friends and family than farmers who were in high financial stress and making a loss.

**Getting involved**

When asked how often they engaged in activities in their communities **other** than volunteering activities, many farmers – 43.7% - reported that they never or only occasionally took part in community activities such as clubs and associations (e.g. Lions, Rotary), markets or festivals, arts or cultural events, or going to community resource centres; 24.8% that they sometimes did this; and 31.5% that they quite often or often did this. This compares to 68.8% of farmers who have volunteered in the last 12 months, and a further 23.6% who have volunteered at some point prior to the last 12 months. Tasmanian and Western Australian farmers were slightly more likely to get involved in their local community compared to those living in other states, and Queensland farmers slightly less likely to (Figure 5.10). Female farmers, older farmers, cotton farmers and fruit and vegetable growers more often reported getting involved in their local community than other farmers. Cropping farmers, dairy farmers and farmers aged 18 to 39 were least likely to get involved. Farmers who were satisfied with their farm financial performance or making a profit were typically more involved in community activities than those who were in high financial stress or making a loss.

**Sense of belonging**

Most farmers (63.3%) reported feeling a very strong sense of belonging to their community, and only 4.8% reported a poor sense of belonging. Farmers in different states had relatively small differences,
although farmers living in Tasmania were less likely to feel a strong sense of belonging to their local community compared to those in other states (Figure 5.11). Older farmers, male farmers, rice farmers and farmers who were satisfied with their farm financial performance reported higher levels of belonging than other farmers.

Figure 5.10 Social capital – time spent with friends and family, by type of farmer
Figure 5.1 Social capital – level of involvement in local community activities, by type of farmer
Figure 5.12 Social capital – sense of belonging to local community, by type of farmer
Physical capital and liveability

The physical characteristics of the place a person lives can influence that person’s wellbeing. For example, living in an aesthetically pleasing landscape is argued to be beneficial for health, while living in a region with limited access to health services can negatively impact health.

Four aspects of physical capital were examined:

- **Access to services and infrastructure** – the extent to which farmers have access to services such as healthcare, education, childcare, professional and legal services in their local community

- **Access to telecommunications** – whether farmers have access to reliable, high speed, phone and internet in their community

- **Crime and safety** – whether farmers feel their community is a safe place to live, and whether there are high levels of crime, or high levels of drug or alcohol abuse

- **Landscape and aesthetics** – the extent to which farmers find the landscape in which they live aesthetically pleasing.

The way each aspect of physical capital was measured and why it is measured this way is detailed in Schirmer et al. (2015). Each aspect of physical capital was associated with life satisfaction, with people who had poorer access to physical capital typically also reporting poorer life satisfaction, as can be seen in Figures 5.12 to 5.15.

**Access to services and infrastructure**

Almost a quarter of farmers (24.8%) reported having poor or very poor access to services and infrastructure such as health and professional services and retail shops in their community, while 53.1% reported OK/good access, and 22.1% very good or excellent access.

Farmers living in Tasmania reported having better access to services and infrastructure than those in other states, while those in Western Australia, South Australia and New South Wales on average reported the poorest access (Figure 5.12). Male and older farmers were more satisfied with their access to services and infrastructure than female and younger farmers. Farmers involved in broadacre cropping were typically the least satisfied with their services and infrastructure access: cotton, cropping and mixed crop-livestock farmers reported poorer access than others. Wine grape growers, meanwhile, were generally more satisfied with their access to services and infrastructure, as were farmers who were making a profit.

**Telecommunications**

More than half of farmers, 55.8%, reported having poor or very poor access to telecommunications in the form of reliable high speed internet and good mobile phone services. Only 15.0% reported having very good or excellent access.

Farmers living in Tasmania reported having better access to telecommunication than those in other states, likely reflecting the early roll-out of the National Broadband Network in many parts of that state. Farmers in Western Australia and New South Wales were least satisfied with their access to telecommunications (Figure 5.13). Older farmers were more satisfied with their access to telecommunications than younger farmers. Wine grape growers, and to a lesser extent fruit and vegetable growers, dairy farmers and beef farmers, were more satisfied, likely reflecting that many of these enterprise types are located closer to regional centres than the cropping and sheep enterprises that are often in more remote locations. There was little difference in the views of male and female farmers, or those making a loss versus a profit on their farm, about their access to telecommunications.
Crime and safety

Farmers reported quite different levels of crime and safety in different communities. Overall, 38.1% reported very good or excellent levels of safety (and low levels of crime) in their local area, while 39.2% reported OK/good safety, and 22.7% reported poor safety and high levels of crime.

Farmers living in Tasmania, South Australia and Victoria were more likely than those living in other states to feel their community was a safe place to live. Those living in New South Wales and Queensland were more likely to report feeling unsafe in their community (Figure 5.14). Female farmers, younger farmers, cotton farmers, fruit and vegetable growers and farmers in high financial stress were more likely to feel unsafe than other farmers.

Landscape and aesthetics

A small majority of farmers (55.5%) found the buildings and landscapes near where they lived very attractive, and rated the landscape and surrounds they live in highly, while another 37.0% felt moderately positive. Only 7.5% rated their local landscape as poor or very poor.

Farmers living in Tasmania and Victoria were more likely to be living in landscapes they found aesthetically pleasing than farmers in other states, while farmers living in Queensland were least likely to find their landscape aesthetically pleasing (Figure 5.15). Female and male farmers shared similar views about the aesthetics of the landscape. Older farmers were more likely than younger farmers to report their communities were aesthetically pleasing. Farmers making a profit and who were satisfied with their farm financial performance were more likely to rate the aesthetics of their local landscape highly than those making a loss. Rice farmers were more likely to be living in a community they found aesthetically pleasing than any other type of farmer.
Figure 5.13 Self-rated level of local access to services and infrastructure, by type of farmer
Figure 5.14 Self-rated level of access to telecommunications, by type of farmer
Figure 5.15 Feeling of safety in local community, by type of farmer
Figure 5.16 Satisfaction with local landscape quality, by type of farmer
Natural capital refers to the natural resources in a region, and the ecosystem services they provide. Farmers (and all other survey participants) were asked their views about the health of the environment in their local area. This measure is called ‘perceived environmental health’ as it reflects a person’s perceptions of environmental health, and these perceptions may be different to objective measures of environmental health. Farmers were asked how they perceived local water quality, soil health, feral animal levels, extent of weed invasion, air quality, health of vegetation, and diversity of animals in their local region. The way each of these aspects of natural capital was measured is detailed in Schirmer et al. (2015).

Perceived environmental health

Just over a quarter of farmers (28.0%) felt that there were few environmental problems in their local area, 60.6% reported some (but not many), and 11.3% felt that there were multiple environmental problems.

Farmers living in Tasmania were most likely to believe their environment was healthy, while farmers living in Western Australia were least likely to do so (Figure 5.16). Male farmers, farmers aged 65 and over, rice farmers and farmers who were satisfied with their farm financial performance and making a profit were more likely to believe their local environment was in good condition, compared to other farmers. People who reported concerns about environmental health also typically reported slightly lower life satisfaction, while those who felt environmental health was good reported higher than average life satisfaction (likely related to the older average age of this group).
Figure 5.17 Perceived health of the local environment, by type of farmer
Conclusions

It is often argued that a useful way to support a person’s wellbeing is to increase their access to the many and varied resources that are known to support wellbeing, resilience and adaptive capacity. These range from having access to local economic opportunities to being able to participate in local community life, and having positive mental health.

Many farmers reported having poor access to the resources that support wellbeing and resilience: in particular, many had moderate to high levels of psychological distress, poor access to telecommunications, low levels of engagement in community activities other than volunteering, and limited local economic opportunities available to them. Many farmers (around a quarter) also had poor access to services and infrastructure, poor household financial wellbeing, and lived in communities they found unsafe and/or inequitable and non-inclusive.

This suggests some areas of potential intervention to support wellbeing of farmers:

- Improving mental health. Many people and organisations have highlighted the need to support the mental health of farmers, and our results strongly support the need to develop effective interventions to address high levels of psychological distress experienced by many farmers.
- Improving access to economic opportunity. Many farmers rely on off-farm income for a significant proportion of their household income, and also rely on access to key services and infrastructure in order to run a successful farm. Yet many reported having poor local economic conditions, and poor household financial wellbeing. Both of these can reduce the range of economic opportunities available off the farm as well as often reducing access to the services and goods needed by a successful farm business (and by the farming household).
- Improving access to telecommunications. The poor access of most farmers to telecommunications has multiple effects: it reduces ability to develop the farm business; the ability to access economic opportunities off the farm other than those available in the immediate local area; and can also reduce social communication. Addressing this can support wellbeing in multiple ways.
- Improving participation in local community social activities. While most farmers volunteer for groups like the local bushfire brigade, many don’t regularly participate in local community clubs and organisations, arts and cultural events, and other aspects of community life. Supporting this type of interaction can provide forms of social support that in turn support wellbeing.

Additionally, interventions that address issues of exposure to crime in farming communities, and the inclusiveness of some communities, have the potential to support the wellbeing of some farmers, particularly the younger farmers who more commonly reported these issues. Older farmers, in contrast, were less confident in their skills and education than other farmers, and reported poorer general health, suggesting that interventions to build skills and address health issues are more likely to be effective in promoting wellbeing amongst older farmers.
Chapter 6: Key points

- This chapter examines how farmers are changing the farms they manage, including the area of land management, investment in technology and infrastructure, and changing markets, production and employment.

- **Who is buying, selling and leasing land?** Just over 12% of Australian farmers bought land in the 12 months before completing the survey, while 12% leased new land, 6% sold some land, and 7% leased out land. Buying and leasing new land was more common for profitable farmers, in Western Australia and New South Wales and for younger farmers, cotton, cropping, and dairy farmers. It was less common in Tasmania and Queensland, for wine grape growers, beef growers and for older farmers. Buying land was associated with higher wellbeing.

- **Who is investing in their farm machinery, technologies or infrastructure?** Across Australia, 40% of farmers had invested in the last 12 months, particularly profitable farmers, younger farmers, cotton, dairy, crop-sheep and rice farmers; while 48% had postponed planned investment, most commonly Queensland farmers, unprofitable farmers, wine grape, cotton and intensive livestock farmers. Those who had invested on average reported higher life satisfaction than those who had postponed.

- **Who is changing their markets or production?** Almost a quarter of farmers found new markets in the last 12 months, particularly those in South Australia, intensive livestock farmers, fruit and vegetable growers and wine grape growers. Meanwhile, 15% had changed what they produced, particularly those in Tasmania, fruit and vegetable growers and intensive livestock farmers. There were few differences in either farm financial performance or wellbeing of those who had and had not changed markets and production.

- **Who has reduced farm production or employment?** Across Australia, 26% of farmers reported having reduced production in 2014, particularly those in Queensland, beef farmers and cotton farmers, while 27% had reduced on-farm employment, particularly cotton farmers and wine grape growers. Both reducing production and reducing employment were associated with poorer farm finance performance and lower farmer wellbeing.

- **Who has changed their on- or off-farm work?** Almost 40% of farmers reported increasing their on-farm work in the last 12 months, particularly those in Queensland, younger farmers, intensive livestock, cotton and wine grape growers. Meanwhile 22% increased off-farm work, particularly younger farmers and female farmers, cotton, wine grape and sheep-beef farmers. Thirteen per cent had reduced their on-farm work in the last year, particularly older farmers. Increasing on- and off-farm work was associated with both poorer farm financial performance and poorer wellbeing.

- **Farm inputs and expenditure:** 10% of farmers had shared expenses with other farmers in the previous 12 months through actions such as joint investment in equipment or partnership, particularly crop growers of all types. Meanwhile 33% reported reducing the amount of inputs they used, particularly those who also reported being in financial stress on the farm. Reducing inputs was associated with poorer wellbeing, while sharing expenses was not.

- **Changing use of water by irrigators:** Of irrigators, 15% had reduced the area irrigated, 17% increased the area irrigated, and 41% reported improving the efficiency of their irrigation in the last 12 months. Reduction in irrigation area was more common for New South Wales and South Australian irrigators and for cotton farmers; growth in irrigation area was more commonly reported by Queensland, Tasmanian, younger and more profitable irrigators. Cotton and rice farmers more commonly reported increasing irrigation efficiency than other farmers. Reducing irrigation area was associated with lower wellbeing.

- **How do farmers respond to difficult times?** Farmers were asked whether, if faced with lower farm income, they would find it most appealing to increase off-farm work, cut back farm investment, or make do with lower income. Similar proportions found each option appealing. Increasing off-farm work was more appealing to women, younger farmers, dryland farmers and sheep farmers than other farmers. Cutting back farm investment was more appealing to men and irrigators. Making do with lower income was more appealing to older farmers and dairy farmers.
6. The changing Australian farm business

Introduction

Australian farmers are continually adapting to change, which is driven by both long-term, large-scale global trends in agricultural markets, and shorter-term, smaller scale pressures and changes. Large-scale trends include changing access to international markets as new trade agreements are reached and the exchange rate fluctuates, lifting of agricultural protections, and rapidly changing supply chain structures that have often transformed the path produce takes from the farm to the retail shelf. They also include ongoing decline in the terms of trade, despite which Australian agriculture continues to exhibit strong long-term productivity growth (Sheng et al. 2015). These macroscale shifts have changed the face of Australian agriculture: for example, the removal of the wool floor price in 1991 led to ongoing decline in the number of wool producers across the country and the volume of wool produced, and increased production of other commodities such as beef, sheep meat and broadacre cropping in place of wool growing (Massy 2011).

Ongoing pressures to increase productivity have driven both widespread farm amalgamations as farmers seek to increase the amount of land they manage in order to increase their efficiency and scale of production, and intensification of production by many farmers, although recent analyses suggest that productivity growth has been driven more by technological change than by increasing farm size (Sheng et al. 2015).

Shorter-term and more localised changes include seasonal changes in demand or prices, pest and disease outbreaks, drought, and establishment of new processing facilities. For example, the cotton gins established in Hay, New South Wales in 2014 and 2015 have provided opportunities for local farmers to switch to growing cotton as there is now a market for it in the local region.

Changes on the farm are also often driven by what is happening in the farm household. Farmers change their farm enterprise to suit their individual circumstances: they might choose to switch to a different type of production that is less labour intensive as they age, for example, or lease out land when offered increased hours in an off-farm job.

This chapter examines the types of changes farmers have made on their farms recently, what changes they are planning for the next few years, and the types of change they are most likely to make when faced with difficult times on the farm.

Who has been changing their farm, and how?

Farmers are constantly changing how they manage their farm. Some are increasing the area of land they manage or intensifying production while others are downsizing; some are reducing inputs; some are investing in new capital, technology or infrastructure; while others are changing their mix of on- and off-farm hours. To get a better idea of the types of changes farmers are making to their farm, and plan to make in the near future, we asked farmers if in the last 12 months they had:

- Bought or sold land
- Leased land out or leased additional land
- Made or postponed significant new investments in infrastructure, machinery or equipment
- Found new markets or changed what they produce
- Reduced production or number of employees
- Changed the amount of on- and off-farm work they do
- Reduced use of inputs or shared expenses with other farmers
- For irrigators, changed the area they irrigated or improved their irrigation efficiency.

We then asked farmers whether in the next five years they planned to:

- Sell or lease out part or all of their land
• Intensify their enterprise or increase area farmed
• Change their production to reduce workload
• Increase or decrease off-farm income earned.

Changing the area of land managed

Each year, many farmers buy and sell properties, and rates of agricultural property turnover are high. Mendham and Curtis (2010) estimated that in a ten year period, around 50% of farm properties will change hands. Farmers were asked whether they had bought or sold land in the past 12 months (Figure 6.1). Given the widespread use of leasing (identified earlier in this report), and the use of leasing by some farmers as a preferred business model that can reduce risk and avoid transaction costs involved in buying land, farmers were asked whether they had leased additional land to add to their farm, or leased out some of their land to others (Figure 6.2). Farmers were also asked if they planned to sell part of their land, sell all of their land, or lease out some or all of their land in the next five years (Figure 6.3).

Many farmers are leasing, buying and selling land as part of their farm management strategy. Across Australia, just over 12% of farmers reported buying new land in the last year, while 6% had sold some of their land (the survey did not include farmers who had exited farming completely, who would likely make up a substantial additional proportion of land sales), 12% had leased new land and 7% leased out some of their land. When asked about future plans, 19% said they were likely to sell all their land in the next five years, another 17% were likely to sell part of their land, and 13% were likely to lease out part or all of their land.

State: Farmers in Western Australia, New South Wales and South Australia were most likely, and those in Tasmania and Queensland least likely, to have bought new land. Western Australian, Queensland and Victorian farmers had more commonly leased new land than those in other states. Farmers in Queensland and New South Wales were more likely to be planning to sell all their land than those in other states, while South Australians were most likely to be planning to sell part of their land, and Western Australians were most likely to be planning to lease out land. Tasmanian farmers were least likely to be considering doing any of these things.

Gender: Female farmers were slightly more likely than male farmers to report having bought land, and slightly less likely to have sold land, in the last 12 months. Women were also slightly less likely to be planning to sell or lease out land in the next five years. This likely reflects the younger age profile of female farmers compared to male farmers.

Age: Farmers younger than 55 were more likely to have bought or leased new land in the last 12 months, and less likely to be planning to sell or lease out land in the next five years than older farmers. Those aged 55 and over were more likely to have sold or leased out land, and much more likely to be planning to sell or lease out all or part of their land in the next five years.

Farm type: While the proportion of farmers selling land in the last 12 months was similar across farm types (5-10% for most types of enterprise), there was greater variability in buying and leasing activity. Cotton farmers, mixed cropping-livestock farmers, intensive livestock and dairy farmers were more likely to have bought land than other types of farmers, with 15-22% of these types of farmers buying land in the last 12 months compared to less than 10% of those running other types of enterprises. Wine grape growers and beef growers were the least likely to have bought new land, with 5-6% having done so. Leasing out land was most common for intensive livestock farmers, rice farmers and sheep farmers, while leasing additional land was most commonly done by cotton and dairy farmers. Wine grape, fruit and vegetable growers were more likely than others to be planning to sell land in the next five years, followed by sheep farmers. Dairy, rice and mixed livestock or livestock and cropping enterprises were least likely to be planning to sell land.
Farm financial performance: The proportion of farmers who had sold land in the last 12 months was similar irrespective of how they rated the financial performance of their farm. Buying land was another matter: those who reported good financial performance were twice as likely to have bought new land in the last 12 months as those who reported making a loss. Rates of land leasing did not vary significantly for those with different financial performance. There were, however, differences in the future plans of farmers who reported good versus poor farm financial performance: those who reported their farm was in financial stress, making a loss, or breaking even were more likely to be planning to sell all or part of their land in the next 12 months than those who reported having a profitable farm; more work is needed to identify whether the planned sale or lease assists these farmers in reducing the impacts of difficult times.

Farmer wellbeing: Farmers who had bought or leased new land had, on average, higher life satisfaction than those who had sold or leased out land in the last 12 months. This difference was small but significant, and was particularly so when age was taken into account. Those who reported being likely to sell all or part of their land in the next five years had lower wellbeing than those who had recently sold land. This suggests that, for many farmers, selling or leasing out land is associated with stressful times and poorer wellbeing.
Figure 6.1 Proportion of farmers who bought and sold land in the previous 12 months, by type of farmer
Figure 6.2 Proportion of farmers who leased land in the previous 12 months, by type of farmer
Figure 6.3 Proportion of farmers who plan to sell or lease land in the next 5 years, by type of farmer
Capital investment

Australian farmers have achieved productivity growth in recent decades that ‘has been strong relative to other sectors of the economy and comparable with other OECD countries’ (Nossal and Sheng 2010, p. 216). A large part of this productivity growth has resulted from investment in technologies, infrastructure and machinery that enable the substitution of capital for labour (Sheng et al. 2015). Ongoing investment in infrastructure, farm machinery and new technology is critical to growing farm productivity and efficiency of production, and through this maintaining farm financial viability.

We asked farmers whether, in the last 12 months, they had (i) invested in major new farm machinery, technologies or infrastructure, or (ii) postponed investment in farm capital such as equipment and machinery (Figure 6.4). This can provide insight into which farmers may be less likely to increase productivity in future, which in turn is likely to create greater risk of farm financial stress. Across Australia, 40% of farmers reported investing in major new machinery, technologies or infrastructure in the last 12 months, while 48% reported having postponed investment.

State: Farmers living in different states reported similar rates of investment (and postponement of investment), with two exceptions: Queensland farmers were more likely to have postponed investment, with almost 60% reporting having done so, likely a consequence of extended drought in many farming areas in that state; and South Australian farmers were less likely to have made new investments in the last 12 months, with just over 30% having done so, compared to 40% across Australia.

Gender: Male and female farmers were equally likely to have invested or postponed investment, although female farmers were slightly less likely to report having postponed investment than male farmers.

Age: Investment behaviour differed with age: younger farmers were more likely to have made new investments than older farmers, with more than 50% of farmers aged 18-39 making new investments in the last 12 months compared to just under 30% of those aged 65 and older. Those aged 65 and older were less likely than others to have postponed investment, likely because in this age group there was less intention to make substantial investments compared to younger age groups.

Farm type: Cotton, dairy, mixed crop-sheep and rice farmers most commonly reported making new investments in the last 12 months, while beef and sheep graziers were least likely to report this, likely related to the greater use of capital intensive technologies in cropping industries compared to grazing enterprises. Cotton, wine grape and intensive livestock farmers were more likely to have postponed planned investments than other types of farmers.

Farm financial performance: Farmers who were making a loss or breaking even were less likely to have made new investments and more likely to have postponed investment, and those making a profit more likely to have made new investments.

Farmer wellbeing: Farmers who reported making new investments also had, on average, higher life satisfaction compared to those who had postponed investment.
Figure 6.4 Proportion of farmers who made new investments and postponed investment in the farm in the previous 12 months, by type of farmer
Markets and production

Farmers often seek new markets or change what they produce. They do this for a range of reasons, from targeting an emerging market or focusing on commodities with better returns, to changing their on-farm workload or shifting their production to better suit the climatic conditions on their farm. Across Australia, almost a quarter of farmers reported that in the past 12 months they had found new markets for some or all of their produce, while 15% had changed the types of goods they produced (Figure 6.5).

State: South Australian farmers were most likely to report having found new markets in the last 12 months, and Tasmanian and Queensland farmers the least likely. Farmers in Queensland and Western Australia were least likely to have changed the types of goods they produced, and those in Tasmania most likely to have. This may in part reflect changes in production associated with expansion of irrigation in Tasmania.

Gender: Similar proportions of female and male farmers had found new markets or changed what they produce in the previous 12 months.

Age: While farmers aged 65 and older were less likely than younger farmers to have found new markets or changed what they produce, differences were relatively small between age groups: for example, 20% of those aged 65 and older had found new markets compared to 25% of those aged 18 to 39.

Farm type: More than 30% of intensive livestock farmers, fruit and vegetable growers, rice farmers and wine grape growers reported having found new markets in the last 12 months, compared to less than 20% of sheep and beef graziers, dairy farmers and cotton farmers. Intensive livestock farmers and fruit and vegetable growers were also more likely than others to have changed what they produce in the last 12 months.

Farm financial performance: Farmers who reported making a loss were similarly likely to those making a profit to have found new markets or changed what they produce in the last 12 months, although those making a loss were slightly more likely to have changed what they produce.

Farmer wellbeing: Those who had found new markets in the last 12 months had similar wellbeing to the average for all Australian farmers, while those who had changed what they produce had, on average, slightly lower life satisfaction.
Figure 6.5 Proportion of farmers who found new markets or changed what they produced in the previous 12 months, by type of farmer.
Employment and farm activity

A reduction in the number of employees or the amount of production on a farm is a potential indicator of farm enterprise stress – such as that resulting from prolonged drought or difficult personal circumstances. Reduced production and employment do not, however, always reflect negative change on the farm. Some farmers actively choose to reduce their production and their on-farm work for lifestyle reasons, such as a desire to reduce their own workload as they age, to be able to focus more on off-farm work, or to engage in lower intensity farming in order to reduce issues such as erosion on their property, to give a few examples. Additionally, reducing farm employment does not necessarily mean a farmer has reduced production – reduced employment may be a result of increased efficiency of production.

Across Australia, 26% of farmers reported having reduced production in 2014, and 27% had reduced the number of people employed on their farm (Figure 6.6). The proportion of those who had reduced employment because they were becoming more labour efficient, versus those who were reducing employment because of reduced production on the farm, is not known.

State: Farmers in Queensland were more likely than those in other states to report reducing production and on-farm employment in the last year, and those in Western Australia, Tasmania and Victoria least likely to.

Gender: Women were more likely than men to report having reduced production in the last year, and men slightly more likely to report having reduced on-farm employment.

Age: The proportion of farmers who reduced production or the number of on-farm employees in the last year was relatively similar across all age groups, although those aged 65 and older were slightly less likely to report doing either.

Farm type: Cotton farmers and wine grape growers were almost twice as likely as other types of farmers to report reducing on-farm employment in the last 12 months. Beef farmers (including those running mixed beef-crop enterprises and intensive livestock enterprises), and cotton farmers were the most likely to have reduced production.

Farm financial performance: Almost 40% of farmers who reported poor farm financial wellbeing had reduced production and on-farm employment in the last 12 months, compared to 20% of those reporting a profitable farm enterprise.

Farmer wellbeing: Farmers who had reduced production and on-farm employment reported lower life satisfaction than those who had not.
Figure 6.6 Proportion of farmers who reduced farm production and employment in the previous 12 months, by type of farmer.
Work hours

Farmers often report working very long hours on the farm, and many also work off-farm. The number of hours worked on and off the farm can have important implications for the health of farmers and others in their households, but little is known about whether increased work hours on or off-farm are associated with particular types of change in either the financial circumstances of the farm enterprise, or the wellbeing of the farmer.

We asked farmers if, in the last 12 months, they had increased the number of hours they worked on their farm, decreased their on-farm hours, or if they or others in their household had increased their off-farm work (Figure 6.7). We also asked if they were planning to either reduce or increase their off-farm income in the next five years (Figure 6.8). Across Australia, almost 40% of farmers reported increasing their on-farm work in the last 12 months, while 22% had increased their off-farm work, and 13% had reduced their on-farm work. In the next five years, 12% felt they were likely to reduce their off-farm income and 16% felt they were likely to increase it.

State: Farmers in Queensland were more likely than those in any other state to have increased their on-farm work in the last 12 months (46%), and those in Tasmania less likely to have (31%). There was little difference in the proportion of farmers who reported increasing off-farm work in different states. Similar proportions of farmers in different states planned to increase and decrease their off-farm workload in the next five years.

Gender: Female farmers were slightly more likely to have increased their off-farm work in the last 12 months compared to male farmers, although the difference was small. Women were also more likely to be planning to increase their off-farm income earning in the next five years than men.

Age: Younger farmers were much more likely than older farmers to have increased their on- and off-farm workload in the last 12 months: 53% of farmers aged 18-39 had increased their on farm work compared to 23% of those aged 65 and older, while 34% of 18-39 year old farmers had increased off-farm work compared to 10% of those aged 65 and older. Farmers aged under 55 were much more likely to be planning to increase their off-farm work in the next five years than those aged 55 and older.

Farm type: Those most likely to have increased their on-farm workload in the last 12 months were intensive livestock farmers, cotton farmers and wine grape growers. Cotton growers, wine grape growers and sheep-beef farmers were most likely to report having increased off-farm work in the last 12 months. Crop growers were most likely to be expecting to increase off-farm income in the next five years, and mixed crop-sheep farmers and dairy farmers least likely to.

Farm financial performance: Those who reported poor farm financial performance were more likely to have increased both on- and off-farm workload in the last year, and to be planning to increase off-farm income in the next five years, while those with good financial performance were least likely to.

Farmer wellbeing: Farmers who had increased on-farm or off-farm work hours in the last year had life satisfaction below the national average for farmers. Those who were planning to increase off-farm income in the next five years also had substantially lower life satisfaction than the average. Both these observations may reflect the correlation between unsatisfactory financial performance and lower life satisfaction with the need to seek additional work. In contrast, those who had reduced on-farm work hours only (who were typically older farmers) reported higher than average life satisfaction.
Figure 6.7 Proportion of farmers who changed on- and off-farm work hours in the last 12 months, by type of farmer.
Figure 6.8 Proportion of farmers who were likely to change the amount of off-farm income they earned in the next 5 years, by type of farmer.
Inputs and expenditure

Rising input costs are commonly cited as one of the biggest challenges faced by Australian farmers (Millar and Roots 2012). In the 2013 Regional Wellbeing Survey, the most common difficulty farmers reported experiencing on their farms in recent years was the rising cost of inputs (Schirmer and Berry 2014). The importance of this issue was reflected in submissions made to the recently released agricultural white paper, in which concerns about high input costs ‘emerged as a major issue for Australian agricultural industries and primary producers’ (Joyce 2014).

Given the challenge presented by high input costs, reducing input costs is a key focus for many Australian farmers. We asked farmers if during the last 12 months they had either reduced their use of inputs such as fertiliser, fuel and chemicals, or shared expenses with other farmers through actions such as jointly investing in equipment or forming partnerships (Figure 6.9). Both of these are strategies that can address input cost issues.

Across Australia, 10% of farmers reported sharing expenses with other farmers through actions such as joint investment in equipment, and 33% reported reducing the amount of inputs used in the last 12 months.

State: There were few differences by state, although Tasmanian farmers were slightly more likely to report reducing use of inputs, and Western Australian farmers slightly more likely to report sharing expenses with other farmers.

Gender & age: Male and female farmers, and farmers of different ages, were similarly likely to report sharing expenses and reducing input use.

Farm type: Wine grape growers and intensive livestock farmers were more likely than other types of farmers to have reduced use of inputs in the last 12 months. Sharing of expenses between farmers was more common for farmers who undertook cropping as part of their enterprise (including cotton growing, grain and oilseeds).

Farm financial performance: Reducing input use was more commonly reported by farmers who also reported poor financial performance, suggesting that it is a strategy often associated with the necessity of reducing expenses in difficult times. There was little difference in the farm financial performance of farmers who did and didn’t report sharing expenses.

Farmer wellbeing: Farmers who had reduced use of inputs on average reported poorer than average life satisfaction, while those who shared expenses reported wellbeing similar to the average.
Figure 6.9 Proportion of farmers who reduced use of inputs or shared expenses with other farmers in the previous 12 months, by type of farmer.
Changing irrigation

For irrigators, water is one of their most critical input costs. We asked irrigators whether in the last 12 months they had reduced the area of land they irrigated, increased the area of land they irrigated, or had improved their irrigation efficiency (Figure 6.10): across Australia, 15% had reduced the area irrigated, 17% increased the area irrigated, and 41% reported improving the efficiency of their irrigation.

State: Irrigators in New South Wales and South Australia were slightly more likely than those in other states to have reduced the area they irrigated in the past 12 months, while those in Queensland and Tasmania were more likely to have increased the area of land they irrigated. Victorian irrigators were less likely to have improved irrigation efficiency, and those in Queensland, New South Wales and Tasmania most likely to report having done so.

Gender: Female irrigators were slightly more likely to report having improved efficiency of irrigation than male farmers.

Age: Younger irrigators were more likely to report that they increased their irrigation area and their irrigation efficiency, and older irrigators less likely to, while the proportion of irrigators who reported reducing their irrigation area was similar across all age groups.

Farm type: Cotton and rice farmers were particularly likely to report having increased irrigation efficiency in the last 12 months. Cotton farmers were more likely to report having reduced the area of land they irrigated than other types of farmers.

Farm financial performance: While irrigators who were satisfied with their farm financial performance were less likely to have reduced their area of irrigation than those who were experiencing high levels of farm financial stress, farm financial performance was not associated with differences in the likelihood of having increased irrigation area. Profitable irrigators were more likely to report improving efficiency of irrigation than loss making irrigators.

Farmer wellbeing: Those who reduced the area they irrigated also had lower than average life satisfaction, while those who had increased the area or efficiency of irrigation reported levels of life satisfaction similar to the national average.
Figure 6.1 Proportion of irrigators who had changed the area they irrigated or improved efficiency of irrigation in the previous 12 months, by type of farmer
Who is planning to change what they produce or the farm area managed?

Farmers were asked whether, in the next five years, they planned to (i) switch to more intensive farm enterprises, (ii) increase their farm area, or (iii) change their enterprise mix to reduce their farm workload (Figure 6.11). Just over 7% planned to intensify their farm production, while 18% planned to increase farm area, and 19% planned to change production to reduce their workload.

State: Queensland and Western Australian farmers were most likely to be planning to increase their farm area, and South Australians least likely to. Queensland farmers were also more likely to be planning to change their farm production to reduce their workload.

Gender: Male farmers were slightly more likely than female farmers to be planning to increase the area they farmed, and to be planning to change their enterprise mix to reduce on-farm workload.

Age: Plans to intensify the farm enterprise did not vary much by age. Younger farmers were much more likely to be planning to increase the area they farmed, with 36% of farmers aged 18-39 planning to expand in the next five years, compared to 21% of those aged 40-54, 14% of 55-64 year olds, and 9% of those aged 65 and older. Younger farmers were also more likely to be planning to change their enterprise mix to reduce on-farm workload, with 25% of those aged under 40 planning to do this in the next five years, compared to 16-20% of those in older age groups. This suggests that reducing on-farm workload is not predominantly associated with ageing, but may be more related to other issues such as needing to balance on- and off-farm workloads.

Farm type: Crop growers (cotton, grain and oilseed) were more likely than others to be planning to change their production to reduce on-farm workload, and wine grape growers least likely to. This is likely to at least in part reflect the flexibility of different agricultural activities: perennial crops established over the long term cannot be adapted as readily as annual cropping cycles. Cotton farmers were more likely to be planning to increase the area they farmed, and fruit and vegetable growers least likely to. Rice growers and sheep farmers were most likely to be planning to intensify their enterprise.

Farm financial performance: Loss-making farmers were less likely than profit-making farmers to be planning to either intensify or expand the area of their farm; and were more likely to be planning to change their production mix in order to reduce on-farm workload.

Farmer wellbeing: Farmers planning to increase the area of land they farmed typically had higher life satisfaction than the average, while those planning to intensify or change production mix reported similar life satisfaction to the national average.
Figure 6.11 Proportion of farmers who were likely to change or grow their farm business in the next five years, by type of farmer.
How do farmers change their management in difficult times?

Most farmers experience difficult times at one point or another, but not every farmer responds to difficult times in the same way. A small sample of farmers – those responding to the survey online – were asked to nominate which of three options would be most or least appealing to them when faced with lower farm income:

- Myself or someone else in my family business increases their off-farm work, or picks up off-farm work
- We stop or cut back on investments in farm improvement or expansion
- We make do with a lower income.

Farmers were asked to nominate only the one which was most appealing and the one which was least appealing; however, many nominated more than one. Almost equal proportions found each option most and least appealing: 46% found increasing off-farm work most appealing, 44% nominated stopping investment in the farm, and 43% would make do with a lower farm income. In contrast, 42% found increasing off-farm work least appealing, compared to 34% for reducing investment in the farm and 39% for making do with lower farm income.

Figures 6.12 shows which groups found different options more or less appealing. While for the most part farmers were similar overall, there were some differences between groups:

- Men were less likely than women to find increasing off-farm work appealing, and more likely than women to believe cutting back farm investment was appealing
- Younger farmers were more likely than older farmers to find increasing off-farm work most appealing, while older farmers were more likely to find making do with a lower income most appealing
- Irrigators were less likely than dryland farmers to find increasing off-farm work most appealing, and more likely to find cutting back on farm investment appealing
- Profitable farmers were slightly less likely than unprofitable farmers to find increasing off-farm work appealing, and slightly more likely to nominate decreasing investment in the farm as appealing
- Farmers with different enterprises varied. Two in particular stood out: dairy farmers were least likely to find increasing off-farm income appealing, and more likely to nominate making do with lower income as their most appealing option; while farmers running sheep in single or mixed enterprises were more likely to find increasing off-farm income appealing, and less likely to nominate making do with lower income.

These results at least in part reflect the work requirements and flexibility of different agricultural enterprises: for example, dairy farmers often have limited flexibility to increase off-farm income compared to sheep graziers who have greater flexibility in the timing of on-farm activities.
Figure 6.12 Most preferred options when faced with lower farm income, by type of farmer
Figure 6.12 Most preferred options when faced with lower farm income, by type of farmer (cont.)
Conclusions

Each year, many farmers decide to buy or sell land, to increase or decrease production, to invest or not, to change their markets, and to shift their balance of on- and off-farm work. Some of these strategies reflect ‘typical’ change; some are triggered by stressful times on the farm; and others by good conditions. Farmers with profitable enterprises were more likely to be buying and leasing new land and investing in farm capital. Farmers experiencing difficult financial times on the farm were more likely to report postponing investment in farm capital, reducing farm production and reducing farm employment and inputs, as well as increasing their hours of work both on and off the farm. They also had, on average, poorer wellbeing. The types of change being made on the farm suggest that this lower wellbeing is associated with the multiple pressures that accompany difficult times on the farm, including not only farm financial stress, but stress associated with longer working hours, and with concern about the future of the farm as inability to invest or expand is likely to further reduce the potential to return to a profitable enterprise in future.

Changing the markets farmers sell into and the production methods used on the farm were common to all kinds of farmers, and were not associated with better or worse times on the farm.

The types of farmers who most commonly reported changing their farms in ways associated with poor farm financial wellbeing, and poor farmer wellbeing, were those living in Queensland, cotton farmers, and wine grape growers: many of these farmers had reduced production, reduced their employees and farm inputs, postponed investment, and increased both their on- and off-farm work. For Queensland farmers and cotton farmers, these changes are often being made as a consequence of experiencing extended drought that is affecting many parts of Queensland, as well as the northern New South Wales areas in which much cotton growing has traditionally occurred. Cotton farmers operating in non-drought affected areas in southern New South Wales did not typically report reducing production, employment or other stressful change, whereas those in northern New South Wales did. For wine grape growers, the changes observed are likely resulting from ongoing challenging market conditions.

Some farmers are changing their farms in a mix of ways, some of which are typically associated with farm financial stress and poorer wellbeing, while others are not. For example, younger farmers often reported increasing on and off farm working hours (often associated with farm financial stress and poorer wellbeing) and also investing in their farms (often associated with higher levels of wellbeing and better farm financial performance). This suggests younger farmers are often under farm financial stress but also investing in ways that enable farm growth and may increase profitability.

Some farmers predominantly reported changes associated with positive farm financial performance and farmer wellbeing. Dairy, rice and intensive livestock farmers were more likely than others to report actions such as investing in farm capital and improving efficiency, which are associated with average or above average wellbeing and farm financial performance.
Chapter 7: Key points

- This chapter examines the barriers that have prevented farmers from developing their farm enterprises the way they wished to in the last five years.
- The most commonly reported barriers were rising inputs costs (reported as a moderate to large barrier by 82% of farmers), falling prices (74%), drought (70%), lack of adequate telecommunications infrastructure (63%), red tape in the form of regulations affecting farm management (62%) and rising electricity costs (62%). Other barriers were reported to have a moderate to large effect by less than 60% of farmers.
- The ‘top five’ barriers were similar for most types of farmers, however there were some exceptions: irrigators were more likely to report rising costs of water entitlements as a barrier to their business developments, wine grape growers were more likely to report a lack of demand for their produce; and male farmers were more likely to report ‘red and green tape’ (bureaucratic and environmental regulations) as barriers.
- Drought topped the list for New South Wales and Queensland farmers, reflecting the extended drought occurring in large parts of these states.
- Farmers who reported experiencing multiple barriers to their farm development also reported much lower than average life satisfaction, while those who reported no or very few barriers reported higher than average wellbeing.

7. Barriers to farm development

Introduction

Farmers were asked if any of a number of barriers had prevented them from developing their farm business the way they wanted to in the last five years. These ranged from difficulties accessing markets and supply chain issues, to climatic events and pest and disease outbreaks, and issues with labour, transport, training and infrastructure. For each issue, farmers were asked to identify whether it was either (i) not a barrier or (ii) a barrier, which they were asked to rate on a scale from 1 (small barrier) to 7 (large barrier). These questions were asked of a subset of farmers randomly selected from Regional Wellbeing Survey participants. As this was a relatively small sample, results in this chapter are unweighted.

The most commonly reported barriers were rising inputs costs (reported as a moderate to large barrier by 82% of farmers), falling prices (74%), drought (70%), lack of adequate telecommunications infrastructure (63%), red tape in the form of regulations affecting farm management (62%) and rising electricity costs (62%). Other barriers were reported to have a moderate to large effect by less than 60% of farmers (Figure 7.1). The ‘top five’ barriers were compared for different types of farmers. Most had a similar top five, with rising input costs, falling prices, drought, lack of telecommunication and red tape being most common for many farmers. However there were some differences between groups (Table 7.1):

- Electricity costs were a larger issue than telecommunications for farmers who were satisfied with their financial performance, those aged 65 and older, and South Australian farmers
- Male farmers were more likely than female farmers to be concerned about both red tape (regulation of farming) and green tape (environmental regulations), whereas women more commonly reported telecommunication and electricity costs than red/green tape as barriers
- Electricity costs were a bigger issue than red tape for younger farmers and those who were making a loss
- For irrigators, the cost of fixed charges on water entitlements was one of the top five barriers, showing the importance of the costs of water for this group
- Wine grape growers had lack of demand as a key barrier in addition to falling prices, the only group to do so.
- Drought topped the list for New South Wales and Queensland farmers, reflecting the extended drought occurring in large parts of each of these states.

**Figure 7.1 Barriers to farm development reported by Australian farmers**

<table>
<thead>
<tr>
<th>Barrier</th>
<th>No/small barrier</th>
<th>Moderate barrier</th>
<th>Large barrier</th>
<th>Very large barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising input costs e.g. fertiliser, fuel (n=1049)</td>
<td>18%</td>
<td>28%</td>
<td>31%</td>
<td>22%</td>
</tr>
<tr>
<td>Falling prices for the goods you produce (n=1035)</td>
<td>26%</td>
<td>26%</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Drought (n=1040)</td>
<td>30%</td>
<td>23%</td>
<td>21%</td>
<td>26%</td>
</tr>
<tr>
<td>Lack of adequate telecommunications infrastructure (n=1030)</td>
<td>37%</td>
<td>23%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Red tape - regulations affecting farm management (n=1022)</td>
<td>38%</td>
<td>29%</td>
<td>21%</td>
<td>12%</td>
</tr>
<tr>
<td>Increased fixed charges on permanent water entitlements (irrigators only) (n=390)</td>
<td>51%</td>
<td>16%</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>Rising electricity costs (n=1041)</td>
<td>38%</td>
<td>31%</td>
<td>19%</td>
<td>12%</td>
</tr>
<tr>
<td>Reduced water allocation for one or more seasons (irrigators only) (n=397)</td>
<td>56%</td>
<td>14%</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Green tape - environmental regulations (n=1021)</td>
<td>41%</td>
<td>30%</td>
<td>17%</td>
<td>11%</td>
</tr>
<tr>
<td>Increases in cost of purchasing temporary water (irrigators only) (n=379)</td>
<td>60%</td>
<td>13%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Difficulty obtaining labour (n=1015)</td>
<td>51%</td>
<td>27%</td>
<td>16%</td>
<td>7%</td>
</tr>
<tr>
<td>Other natural disasters e.g. flood, bushfire, storm damage (n=1006)</td>
<td>54%</td>
<td>24%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Lack of access to markets (n=1025)</td>
<td>45%</td>
<td>33%</td>
<td>15%</td>
<td>7%</td>
</tr>
<tr>
<td>Pest, disease or weed invasion causing substantial damage (n=1022)</td>
<td>49%</td>
<td>31%</td>
<td>14%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of demand for the good you produce (n=1018)</td>
<td>52%</td>
<td>29%</td>
<td>13%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of support from the supply chain, for example from markets / cooperatives (n=1005)</td>
<td>53%</td>
<td>29%</td>
<td>11%</td>
<td>6%</td>
</tr>
<tr>
<td>Difficulty accessing affordable finance (n=1013)</td>
<td>60%</td>
<td>24%</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>Difficulty transporting produce to market (n=1019)</td>
<td>61%</td>
<td>27%</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Difficulty accessing training courses (n=1016)</td>
<td>65%</td>
<td>26%</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>Lack of opportunity to learn about new or innovative ways of farming (n=1018)</td>
<td>63%</td>
<td>29%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>
### Table 7.1 Top five barriers to farm development, by type of farmer

<table>
<thead>
<tr>
<th>Type of farmer</th>
<th>Top 5 most commonly reported barriers to farm development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (most common) 2 3 4 5 (5th most common)</td>
</tr>
<tr>
<td>Most farmers had a similar ‘top 5’ including farmers in Victoria, Western Australia, aged 40 to 64, dryland farmers, sheep beef and cropping farmers, and those breaking even or making a profit.</td>
<td>Rising input costs Falling prices Drought Telecommunications Red tape</td>
</tr>
<tr>
<td>Farmers satisfied with financial performance, and SA farmers</td>
<td>Rising input costs Falling prices Drought Electricity costs Red tape</td>
</tr>
<tr>
<td>Aged 65+</td>
<td>Rising input costs Falling prices Drought Red tape Electricity costs</td>
</tr>
<tr>
<td>Male farmer</td>
<td>Rising input costs Falling prices Drought Red tape Green tape</td>
</tr>
<tr>
<td>Female farmers</td>
<td>Rising input costs Drought Falling prices Telecommunications Electricity costs</td>
</tr>
<tr>
<td>Aged 18 to 39 farmer</td>
<td>Rising input costs Drought Falling prices Telecommunications Electricity costs</td>
</tr>
<tr>
<td>Making a loss/in high financial stress</td>
<td>Rising input costs Drought Falling prices Telecommunications Electricity costs</td>
</tr>
<tr>
<td>Dairy farmers</td>
<td>Rising input costs Falling prices Electricity costs Green tape Water charges</td>
</tr>
<tr>
<td>Irrigator</td>
<td>Rising input costs Falling prices Electricity costs Drought Water charges</td>
</tr>
<tr>
<td>Fruit/vegetable growers</td>
<td>Rising input costs Electricity costs Drought Falling prices Red tape</td>
</tr>
<tr>
<td>Wine grape growers</td>
<td>Falling prices Rising input costs Electricity costs Lack of demand Drought</td>
</tr>
<tr>
<td>NSW farmers</td>
<td>Drought Rising input costs Falling prices Water charges Telecommunications</td>
</tr>
<tr>
<td>QLD farmers</td>
<td>Drought Rising input costs Falling prices Other natural disaster Telecommunications</td>
</tr>
</tbody>
</table>

Barriers to farm development do not occur in isolation: most farmers reported experiencing more than one barrier to farm development in the last five years. To better understand which farmers were experiencing more barriers, farmer’s scores for each barrier were summed to give a score between 0 and 119. As can be seen in Figure 7.2, the farmers most likely to report experiencing a large number of barriers that had a large effect on their farm business were those in Queensland and those experiencing high financial stress. Three other groups reported somewhat higher than average barriers: New South Wales farmers, mixed crop-sheep-beef enterprises, and wine grape growers. Those least likely to report experiencing multiple barriers were farmers who were satisfied with their farm financial performance, fruit and vegetable growers, and farmers living in Victoria.

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4 Irrigators were asked about more barriers than dryland farmers; their scores were adjusted to range from 0 to 119, simplifying the comparison to dryland farmers.
Figure 7.2 Cumulative barriers to farm development, by type of farmer
Farmers who reported experiencing multiple barriers to their farm development also typically reported lower than average life satisfaction. As can be seen in Figure 7.3, those farmers who reported experiencing multiple large barriers to farm development also typically reported much lower than average wellbeing (a score of 64 on average, compared to an average of 74 for all farmers). Those who reported no or very few barriers reported higher than average wellbeing.

![Figure 7.3 Wellbeing of farmers who reported experiencing differing levels of barriers to farm development](image)

**Conclusions**

The barriers to farm development most commonly experienced by farmers related to (i) the financial viability of the farm, such as rising input costs, including electricity, and falling prices; (ii) barriers that can make farm management more time consuming or difficult, or prevent it becoming more efficient, such as lack of telecommunications infrastructure and regulations; and (iii) barriers which have complex and global effects on the farm business and the landscape (drought).

While, at any given point in time, most farmers are experiencing some barriers to farm development, it was when multiple barriers were experienced simultaneously that farmer wellbeing was substantially lower. To better understand how these barriers affect farmer wellbeing there is a need to assess not just whether a farmer reports barriers to farm development, but how these interact with other issues to create a much more substantial set of challenges to the successful operation of the farm.
8. Drought and extreme weather events

Introduction

Experiencing drought and other extreme weather events is common for farmers, but can have a profound effect on both the farm business and the farming household. Farmers were asked if in the last five years they had experienced drought, heatwaves, severe storms, floods, cold snaps, bushfire or cyclone. If they had experienced each of these, they were asked how severely they were affected by them. In total, 75% of farmers had experienced drought, 64% a heatwave lasting several days, 52% a severe storm that caused damage, 46% a flood, 40% an unusual cold snap, 35% a bushfire, and 8% a cyclone. Drought was most commonly reported by farmers in New South Wales (87%) and Queensland (83%) and least commonly by Tasmanian farmers (35%). Heatwaves and cold snaps were most commonly reported by wine grape growers, cotton growers. Cold snaps were also reported by those involved in cropping more commonly than livestock farmers, and heatwaves reported more commonly by South Australian farmers. Floods were most commonly reported by Queensland farmers and cotton farmers. Severe storms were most commonly reported by Western Australian and Tasmanian farmers. Experience of bushfire was more localised geographically. Farmers who experienced these events typically reported slightly lower life satisfaction, but often not significantly so, largely because not all farmers who experienced extreme weather were severely affected by it. 54% who experienced drought in their region said it severely affected them personally, compared to 37% of those who experienced floods, and 24% of those who experienced bushfire. Farmers who reported that drought had a severe effect on their lives also reported poorer than average wellbeing compared to those for whom drought had minimal impact. The same was not true for bushfire or flood, where those who reported differing effects on their lives did not report significantly or consistently differing levels of life satisfaction, likely because many had experienced the event some years previously and largely recovered from it in the intervening period.
Figure 8.1 Proportion of farmers who reported experiencing drought and other extreme weather events in the last 5 years

With the exception of cyclones, which were predominantly reported by farmers in tropical Queensland, extreme weather events were reported by farmers across the country, as shown in Figure 8.2:

- **Drought** was experienced by more than 59% of all farmers with one exception: only 35% of Tasmanian farmers reported experiencing drought. Drought was most commonly reported by farmers in New South Wales (87%) and Queensland (83%), and by farmers located predominantly in these states (for example, 96% of cotton farmers).

- **Heatwaves** were more commonly reported by wine grape growers, cotton growers, and intensive livestock producers than other farmers, and more often by South Australian farmers. They were least commonly reported by Tasmanian farmers.

- **Severe storms** were most commonly reported by Western Australian farmers and Tasmanian farmers.

- **Floods** were most commonly reported by farmers in Queensland, and cotton farmers.

- **Unusual cold snaps** were most commonly reported by cotton, cropping, mixed crop-sheep and wine grape growers, most commonly those in New South Wales.

- **Experience of bushfire** was more localised geographically, with farmers across Australia reporting experiencing bushfire. In general, irrigators (and farmers engaged in activities dependent on irrigation such as rice growing) were less likely to report experiencing bushfire than dryland farmers.
Figure 8.2 Proportion of farmers who experienced drought and other extreme weather events in the last 5 years, by type of farmer
Figure 8.2 Proportion of farmers who experienced drought and other extreme weather events in the last 5 years, by type of farmer (cont.)
Figure 8.2 Proportion of farmers who experienced drought and other extreme weather events in the last 5 years, by type of farmer (cont.)
Not all farmers who experienced these events experienced significant effects on their farm enterprise or their lives more broadly: farmers who experienced these events typically reported slightly lower life satisfaction, but often not significantly so (Figure 8.3). To better understand impacts on wellbeing, it is necessary to identify whether a farmer was personally affected by an extreme weather event, as not all farmers who have experienced these events will have experienced significant impacts as a result. For example, a cold snap may have little impact for some types of livestock farmers but a significant impact on a neighbouring farmers growing a fruit crop.

<table>
<thead>
<tr>
<th>event</th>
<th>severely affected</th>
<th>moderately affected</th>
<th>no or little impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>54%</td>
<td>34%</td>
<td>12%</td>
</tr>
<tr>
<td>Flood</td>
<td>37%</td>
<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td>Bushfire</td>
<td>24%</td>
<td>29%</td>
<td>48%</td>
</tr>
</tbody>
</table>

To better understand how weather events affect farmers, those who had indicated they had experienced flood, bushfire or drought were asked how severely each of these had affected their lives (Figure 8.4):

- Of those who experienced drought, 54% said it severely affected their lives, and 34% that it moderately affected their lives. Only 12% said it no or little impact on their lives.
- 37% of those who experienced floods reported a severe impact, and 31% moderate impact, while 32% said the flood had no or little impact on them.
- 24% of those who experience bushfire said it had a severe impact, 29% a moderate impact, and almost half (48%) said it had no or little impact on them.
Farmers who reported that drought had a severe effect on their lives also reported poorer than average wellbeing compared to those for whom drought had minimal impact (Figure 8.5). The same was not true for bushfire or flood, where those who reported differing effects on their lives did not report significantly or consistently differing levels of life satisfaction. This is likely because farmers who had experienced bushfire or floods some years previously had often (although not always) largely recovered from it in the intervening period, whereas drought had longer lasting effects, partly due to its nature as an event that is, by definition, long lasting.
This suggests that the relationship between experiencing extreme weather events and wellbeing is complex and not easy to understand without a more in-depth analysis: however, drought is more consistently associated with poorer life satisfaction than other extreme weather events. Drought also differs to the other events in that it typically occurs over an extended period of time, whereas other events typically occur in a short period of time (although recovery from their effects can take a very long time, similar to drought).

**Conclusions**

Most farmers have experienced one or more extreme weather events in the last five years that had potential to affect their farm production and their household’s wellbeing. Perhaps unsurprisingly, given how often and how many farmers experience extreme weather events, there is little difference in the wellbeing of farmers who have and haven’t experienced these events in the past five years. Even when the severity of impact was taken into account, there was not always a difference in wellbeing: farmers who have experienced floods and bushfires that severely affected them within the past five years reported similar wellbeing to those who reported no or small effects. Drought, however, was different: farmers who reported not being affected by drought in the last five years had significantly higher wellbeing compared to those who experienced severe effects. This highlights that drought – which by definition occurs for an extended period of time, followed by an often long recovery time for farm production and farm finances - has significant effects on wellbeing. More detailed analysis of differences in the experience of extreme weather events will be conducted using these data in future, to more specifically examine whether the time since a farmer has experienced an extreme weather event, as well as other factors, predict differences in farmer wellbeing.
Chapter 9: Key points

- In 2014, 49% of farmers reported their farm was profitable, 20% that it was breaking even, and 32% that it was making a loss. Poor cash flow was a problem for 34% of farmers. Almost half (47%) were satisfied with their farm financial performance, while 42% reported their farm was in high financial stress.
- Overall, 24% of farmers had reduced their farm debt in the last 12 months, 23% had increased their debt, and 26% were finding it difficult to service their debt.
- Across Australia, 26% of farmers reported applying for a loan in the last year. Of those who had applied for a loan, 9% reported their application had been rejected. The most common collateral farmers used for loans in the last five years were their farming properties, with 40% of farmers using this as collateral. The farmer’s house and farm equipment were also commonly used as collateral, and water entitlements were used by 18% of irrigators.
- Queensland farmers were more likely than others to report making a loss, being in high financial stress, taking on increased debt in the last year, finding it difficult to service debt, and being rejected for a loan in the last year.
- Western Australian farmers reported high debt levels but many were reducing their debt.
- Younger farmers were more likely than older farmers to be making a loss, increasing debt levels, and finding it difficult to service their debt.
- The types of farmers most commonly reporting good financial performance on their farm in 2013-14 were rice, mixed crop-sheep or crop-sheep-beef, dairy, and cotton farmers.
- The types of farmers most commonly reporting making a loss or being in high financial stress on their farm were wine grape growers, beef farmers and sheep farmers.
- 47% of irrigators reported their farm was in high financial stress compared to 40% of dryland farmers.
- Farmers who reported poor financial performance on the farm of any kind, including making a loss, finding it hard to service debt, or having poor cash flow (all of which often occur simultaneously) on average had much lower levels of wellbeing compared to those reporting positive farm financial performance.

9. Farm finances

Introduction

The financial performance of Australia’s farms is often debated. On the one hand, Australian farmers are widely recognised as being globally highly competitive, with Australian farm productivity growing rapidly in recent decades. On the other, concerns about the effects of drought and natural disasters such as floods and fires, high input prices, and until recently the high value of the Australian dollar, are associated with concerns about the financial viability of farms. The reality is that many farms are profitable, and many others are not: the Productivity Commission (2009) found that the poorest performing 25 per cent of broadacre farms had not made a profit in any year from 1988-89 to 2007-08.

Farm financial wellbeing can be measured in many ways. The 2014 Regional Wellbeing Survey included the following measures of how farmers perceived their farm finances:

- Farm financial performance: Three measures of financial performance were used, all subjectively rated by farmers. The first asked farmers to rate the overall profitability of their farm; while the second asked whether their farm was under financial stress, and the third whether they were satisfied with the financial performance of their farm.
Farm debt: Taking on farm debt can be associated with farm growth and increased productivity, but also with financial stress and difficult times. We asked farmers how much farm debt they had. A subset were also asked whether they found it easy or difficult to service that debt, whether debt had increased or decreased in recent years, and about their recent experiences of applying for loans for the farm (data for this subset were not weighted due to the small sample size).

Cash flow: It is common to hear concerns about ‘asset rich, cash poor’ farmers who, despite having properties with a high market value, have little cash to buy basic goods. To better understand this, a subset of farmers were asked about their cash flow (data for this subset were not weighted due to the small sample size).

Farm business value: A subset of farmers was asked what price they believed they would get for their farm business if they sold it at the time they completed the survey, including all assets and stock (data for this subset were not weighted due to the small sample size).

This chapter examines these different aspects of financial performance to understand (i) which types of farms and farmers report better and poorer financial performance, and (ii) whether and when farm financial performance is associated with differences in the wellbeing of farmers.

Farm financial performance

Farmers were asked to rate the financial performance of their farm using three measures:

- Self-rated profitability (Figure 9.1). Farmers were asked to select which of the following best described their farm enterprise at the time they were completing the survey (September to November 2014): Making a large loss, making a moderate loss, making a small loss, breaking even, just making a profit, moderately profitable, or highly profitable.
- Financial stress (Figure 9.2): Farmers were asked how much they agreed or disagreed with the statement ‘My farm enterprise is under a lot of financial stress at the moment’.
- Satisfaction with financial performance (Figure 9.2): Farmers were asked how much they agreed or disagreed with the statement ‘I am satisfied with my farm enterprise performance’.

Overall, 49% of farmers reported their farm was profitable, 20% that it was breaking even, and 32% that it was making a loss. Almost half (47%) of farmers were satisfied with their farm financial performance, however 42% reported their farm was in high financial stress.

State: Farmers living in Queensland were more likely than those in other states to report making a loss on their farm (39% compared to 32% nationwide), while Western Australian farmers were most likely to report making a profit (60% compared to 49% nationwide), followed by Tasmanian farmers (56%). Queensland farmers were much more likely than those in other states to report their farm was in high financial stress, with 55% reporting this, while Victorian and Tasmanian farmers were least likely to report this (although a third of farmers in each of these states did report high farm financial stress).

Gender: Female farmers were more likely to report making a loss (38%) than male farmers (29%), and less likely to report making a profit (30% compared to 52%). There was, however, little difference in levels of financial stress reported by male and female farmers.

Age: Younger farmers were more likely to report making a loss than older farmers, and older farmers more likely to report being profitable: 53% of those aged 65 and older reported having a farm profit in 2013-15 compared to 46% of those aged 18 to 39. Those aged 40 to 54 most commonly reported their farm being in high financial stress.

Farm type: More than 50% of rice, mixed crop-sheep and mixed crop-sheep-beef, dairy and cotton farmers reported making a profit in 2013-14. Less than 50% of all other types of farmers reported being profitable on their farm in 2013-14. Beef farmers, sheep farmers and wine grape growers most
commonly reported making a loss, with 40% of more in each of these groups reporting this. Wine grape growers were much more likely than other farmers to report their farm being in high financial stress (67%), and irrigators in general were more likely to report financial stress than dryland farmers (47% compared to 40%). Mixed crop-sheep, sheep, rice and dairy farmers were least likely to report their farm was in high financial stress, and more likely to report being satisfied with farm financial performance.

Farm financial performance: As expected, many farmers who reported that their farm was in high financial stress also reported making a loss in 2013-14 (48%), while 64% of those who were satisfied with farm financial performance were making a profit. However, 30% of those who were in high financial stress on the farm also reported making a profit, highlighting that financial stress (for example, in the form of difficulty meeting debt repayment obligations due to cash flow problems) is not always or only associated with loss making.

Life satisfaction: Making a profit and being satisfied with farm financial performance were associated with higher than average life satisfaction, and making a loss and experiencing farm financial stress with lower levels of life satisfaction.
Figure 9.1 Self-rated farm profitability in 2013-14, by type of farmer
Figure 9.2 Self-rated farm financial performance, by type of farmer
Farm debt

Farmers borrow money for many reasons, ranging from investing in expanding their business to keeping the business going during times of financial stress. Because of this, the amount of debt owed by a farm business is not in itself a good indicator of farm financial stress, but can be when combined with other measures. Farmers were asked to nominate the amount of debt owed by their farm business, including loans to financial institutions and unpaid or long overdue accounts, as of June 30, 2014. As can be seen in Figure 9.3, in general the amount of debt owed was larger if the farm business size was larger: 70% of farmers who reported a GVAP of $1 million or more also reported owing $1 million or more in debt, while 57% of those who reported negative or nil GVAP in 2013-14 also owed no debt. However, around 30-40% of farmers had a debt that was substantially higher than their annual GVAP in 2013-14; many of these farmers were likely to be experiencing financial stress.

![Figure 9.3 Comparison of GVAP and debt profile of farmers](image)

Figure 9.4 compares the average debt levels reported by different types of farmers. For the most part, it tracks the typical economic size of different types of farms: for example, most cotton farms are large operations, and 65% reported a debt of $1 million or more. It also changed with age: older farmers were much more likely to report having little or no debt, while younger farmers typically reported higher levels of debt. Older farmers are both more likely to own small farms, and that they typically operate the types of enterprises that have lower debt, particularly sheep and beef farms. Farmers in high financial stress and making a loss on the farm on average reported slightly higher debt levels than other farmers, but the differences were not large, reflecting the multiple reasons farmers may take on additional debt.
Figure 9.4 Total farm debt, by type of farmer

To gain a better understanding of whether the debt farmers owed was associated with financial stress, a subset of farmers were asked whether their overall debt level had increased or decreased in the last 12 months, and how easy or difficult it was to service their debt. Figure 9.5 shows the proportion of farmers who (i) had decreased debt, (ii) had increased debt and (iii) reported finding it difficult to service their farm debt. Because not all farmers were asked this question, it was not
possible to report results for the state of Tasmania or for specific types of farmers. Overall, 24% of farmers reported reducing their overall debt in the last 12 months, 23% had increased their debt, and 26% were finding it difficult to service their debt.

Overall, farmers in Queensland, and to a lesser extent those in South Australia, were more likely to have both increased debt in the last year and to be finding it difficult to service debt, indicating higher financial stress. While Western Australian farmers reported similar difficulties with servicing debt to those in Queensland and South Australia, many living in Western Australia had decreased their debt in the last year, indicating a positive change in debt despite the debt servicing stress reported by farmers in the state. Irrigators were slightly more likely than dryland farmers to report finding it difficult to service debt. Younger farmers were more likely to have increased debt and find it difficult to service debt, while older farmers were more likely to be reducing debt and less likely to be finding it difficult to service that debt.

Increasing debt and finding it difficult to service debt were both associated with lower levels of wellbeing, and were more likely to be reported by farmers who also said their farm was in high financial stress and making a loss.

To provide a more immediate measure of financial stress, farmers were asked if they had applied for a loan from a financial institution in the last 12 months, and if so, whether it was approved or rejected. Rejection of loans is an indicator of high financial stress. Across Australia, 26% of farmers reported applying for a loan in the last year. Of those who had applied for a loan, 9% reported their application had been rejected.

As can be seen in Figure 9.6, while Western Australian and South Australian farmers were more likely than others to have applied for a loan, they were no more likely (in South Australia) or only slightly more likely (in Western Australia) to have it rejected than those in other states. In Queensland, however, a higher than average proportion reported being rejected for loans, indicating more farmers were in very high financial stress. Sheep and beef farmers were more likely to report being rejected for a loan than others, and also less likely than many others to have applied for a loan. Conversely, those involved in cropping and dairy farming (who were also often reporting investing in expanding their farm or improving efficiency) were most likely to have applied for a loan, and had mostly low rates of loan rejection. Younger farmers were more likely to apply for loans than older farmers. Those in high farm financial stress more commonly applied for loans than others, and those in high financial stress or making a loss were more commonly rejected for loans than others. Those who applied for a loan reported life satisfaction similar to the farmer average, while those who were rejected reported life satisfaction much lower than average.

Farmers were asked what types of collateral they had used for farm business loans in the last five years, and could identify multiple types (Figure 9.7). The most common form of collateral used was their farming property, with 40% using this. The next most common forms were a farmer’s house and farm equipment. Water entitlements were also used as loan collateral by 18% of irrigators. In general, farmers in higher levels of financial stress were more likely than others to report using multiple types of collateral against loans, reflecting the overall higher debt burden of many of these farmers. Farmers in Queensland and Western Australia, younger farmers (aged under 55), farmers involved in any type of cropping, dairy farmers and irrigators reported using more types of collateral than others.
Figure 9.5 Farm debt changes in last year, and ability to service debt, by type of farmer
Figure 9.6 Accessing finance, by type of farmer
Figure 9.7 Types of farm loan collateral farmers have used in the last five years, by type of farmer
Cash flow

Cash flow is often a challenge for farmers, many of whom are asset rich but cash poor. A subset of farmers were asked how good or poor their cash flow on the farm was at the time of completing the survey (October to November 2014). As can be seen in Figure 9.8, poor cash flow was a problem for 34% of farmers. It was more commonly reported as an issue by Queensland and South Australian farmers, farmers aged under 55, and those in high financial stress or making a loss. Poor cash flow was associated with significantly poorer wellbeing than average, and good cash flow with higher wellbeing than the average for Australian farmers.

Figure 9.8 Farm business cash flow status, by type of farmer
**Farm business value**

A randomly selected subsample of farmers were asked how much they thought the market would pay them if their farm business was sold, assuming it wasn’t a rushed sale. In general, those whose farm was making a loss through they would receive a smaller amount, and those who were profitable a higher amount (Figure 9.9). Smaller farm business value was associated with slightly poorer wellbeing (Figure 9.10), consistent with the earlier finding that farmers with very small GVAP reported slightly but significantly lower levels of wellbeing.

![Figure 9.9 Estimated farm business value and farm profitability](image)

![Figure 9.10 Global life satisfaction and estimated farm business value](image)
Conclusions

Farm financial performance is one of the factors most consistently associated with farmer wellbeing. Farmers who reported poor financial performance of any kind on the farm, including making a loss, finding it difficult to service debt or having poor cash flow, on average had much lower levels of wellbeing compared to those reporting positive farm financial performance. This is concerning given that 32% of farmers reported their farm made a loss in the last financial year, 34% reported having poor cash flow, 42% reported their farm is in high financial stress, and 26% were finding it difficult to service their farm debt. While taking on debt is often a sign of strong investment and a farm business that is performing well, 9% of those who applied for loans in the last 12 month reported being rejected, an indicator of significant financial stress.

Indicators of poor farm financial performance were more commonly reported by farmers living in Queensland, younger farmers, wine grape growers, specialised beef producers, and specialised sheep producers. Overall, irrigators reported more financial stress than dryland farmers. Those who most commonly reported good financial performance were rice farmers, crop-sheep and crop-sheep-beef mixed farmers, dairy farmers, and cotton farmers. However, within any of these groups there was a large amount of variability, with some farmers reporting good financial performance and some poor.
Chapter 10: Key points

- Australian farmers sell into a range of markets, and the price they receive for their produce is determined in different ways depending on the market in question. Concerns are regularly raised about the impact of low or no farmgate price growth (particularly when coupled with rising input costs,) on the financial viability of farms and the wellbeing of farm families.
- Across Australia, 63.6% of farmers felt they had good access to information about their markets, 74.5% that they had no choice in the prices they receive for their produce, and only 31.2% that they were able to negotiate prices with some or all of their buyers.
- 40% or more of intensive livestock farmers, fruit and vegetable growers, and crop growers reported being able to negotiate prices with at least some buyers of their produce.
- Dairy farmers were least likely to report having the ability to negotiate prices, followed by sheep farmers, with 22% or less being able to negotiate prices.
- Cotton, grain and oilseed growers most commonly felt they had some choice in prices received, and dairy farmers and most livestock farmers less commonly reported having choice, as well as wine grape growers.
- Only half of fruit, vegetable and wine grape growers or dairy farmers felt they had good access to market information, compared to more than 70% of intensive livestock farmers, grain and oilseed growers and cotton growers.
- Farmers who reported having no choice in the prices they received, and those who reported poorer access to market information, were more likely than others to report being in financial stress on the farm.
- Farmers who reported making a profit and being satisfied with their farm financial performance were more likely to have good access to market information and to feel they could negotiate prices with their buyers. They also reported higher than average overall wellbeing.
- 84% of wool growers and dairy farmers sold to a single buyer, and 75% of wine grape growers. Sheepmeat and beef growers were more likely to sell to multiple types of buyers, with more than half selling to two or more buyers, while almost half of grain and oilseed growers also sold to multiple types of buyer.
- Most farmers report that prices for their produce were determined using a single price setting mechanism, however grain and oilseed growers commonly used multiple price setting mechanisms including forward selling, spot prices, prices set by buyers, pools and futures markets.

10. Markets and prices

Introduction

Australian farmers sell into a range of markets, and the price they receive for their produce is determined in different ways depending on the market involved. The removal of many market protections and restrictions in recent decades has created opportunity for development of new markets and market pricing mechanisms, and potentially given farmers greater diversity of market opportunities; but has also been criticised for reducing the prices received by some farmers. At the same time, increasing vertical integration of the supply chain in some agricultural industries has been argued to reduce market options for farmers, and hence to result in farmers being price takers with little or no ability to influence prices. Media reports commonly argue that farmers are facing
increasing price pressure from buyers, with farm gate prices holding steady or growing little compared to on-shelf retail prices for farm produce (see for example Neales 2014).

Farmers were asked how much they agreed or disagreed with the following statements about their access to markets and how prices are set:

- I have no choice in the price I receive for my products
- I am able to negotiate prices with some or all of the buyers of my products
- I have good access to information about my key markets.

A subset of farmers was then asked more detailed questions about the types of markets they sell their produce into, and how the prices they receive are determined (these data were not weighted in analysis due to the smaller sample size).

These questions enabled analysis of whether farmers who have better ability to negotiate prices, and have more options for setting prices and accessing markets, also report better farm financial performance and/or wellbeing.

**Do farmers feel they have enough market choices and information?**

While almost two-thirds of Australian farmers (63.6%) feel they have good access to information about their markets, three-quarters (74.5%) feel they have no choice in the prices they receive for their produce, and only 31.2% report they are able to negotiate prices with some or all of their buyers (Figure 10.1).

*State:* There was relatively little variation by state in how farmers felt about their ability to access market information and negotiate prices. Queensland and Tasmanian farmers were slightly less likely than those in other states to report being able to negotiate prices with some of their buyers, likely reflecting the mix of commodities produced in those states.

*Gender:* Female and male farmers were equally likely to report having good access to market information and no choice in the prices they received. Women were slightly less confident in their ability to negotiate prices with buyers, with 29% reporting being confident compared to 33% of men, although the difference was still small.

*Age:* Younger farmers were less likely than older farmers to feel they have good access to market information, but were more likely to feel they had a choice in the prices they received for their produce.

*Farm type:* Intensive livestock farmers, fruit and vegetable growers, and crop growers were more likely than other types of farmers to report being able to negotiate prices with at least some buyers of their produce, with 40% or more of these types of farmers being able to negotiate prices at least some of the time. Dairy farmers were least likely to report having the ability to negotiate prices, followed by sheep farmers, with 22% or less being able to negotiate prices.

Cotton, grain and oilseed growers were less likely to report having no choice in prices received compared to other farmers. Dairy farmers, beef farmers, sheep farmers and intensive livestock farmers most commonly reported having no choice in the prices received for their produce, followed closely by sheep farmers and wine grape growers.

Access to market information was best for grain, oilseed and cotton growers, and poorest for dairy farmers and fruit, vegetable and wine grape growers. Only half of fruit, vegetable and wine grape growers or dairy farmers felt they had good access to market information, compared to more than 70% of intensive livestock farmers, grain and oilseed growers and cotton growers.
Figure 10.1 Market and pricing: do farmers have choices and information?
**Farm financial performance:** Farmers who reported having no choice in the prices they received, and those who reported poorer access to market information, were more likely than others to be managing a farm enterprise that was in high financial stress, making a loss or breaking even. Farmers who reported making a profit and being satisfied with their farm financial performance were more likely to have good access to market information and to feel they could negotiate prices with their buyers.

**Farmer wellbeing:** Farmers who felt they could negotiate prices with buyers or that they had good access to market information reported higher life satisfaction than the average Australian farmer. Those who reported having no choice in the prices they received reported life satisfaction similar to the national average, reflecting that the majority of farmers reported having no choice.

**Selling produce: which farmers are selling to which buyers?**

Just over 1,000 farmers who participated in the survey were asked where their produce was sold when it left their farm, enabling identification of (i) how many types of markets farmers have access to, with greater diversity often indicative of a wider range of options for farmers, and (ii) whether it was sold:

- Direct to consumer, e.g. farmers markets
- Direct to retailer, e.g. supermarkets
- To an abattoir
- To a cooperative
- At auction, including an auction occurring via a broker or agent
- To a broker, trading company or private buyer (without auction involved)
- To a processor under contract
- To a processor, not under contract
- To other farmers
- To other types of buyers.

No weighting was applied to analysis of this dataset, due to the smaller sample who answered these questions.

Most farmers reported selling into a single type of market, although this varied depending on the type of produce. Wool growers and dairy farmers were most likely to sell to a single market, with 84% reporting doing this. Wine grape growers also predominantly sold to one type of buyer, with 73% doing this. Sheepmeat and beef growers were more likely to sell to multiple types of buyers, with more than half selling to two or more buyers, while almost half of grain and oilseed growers also sold to multiple types of buyer (Figure 10.2).
When the types of markets farmers sell produce to were examined (Figure 10.3):

- Grain and oilseed growers most commonly sold to brokers and trading companies (37%), followed by other farmers (24%), cooperatives (18%) and processors under contract (17%).
- Wine grape growers sold to processors under contract (32%), processors without contract (29%), direct to consumers (20%) or direct to retailers (11%).
- Fruit and vegetable growers, many of whom were small producers, sold direct to consumers (47%), with the sample including a large number of smaller growers who sold to farmers markets; to processors (20.3%, with 12.2% under contract); direct to retailer (19.5%); and to brokers (14.6%). Those selling to processors were typically larger fruit and vegetable growing enterprises, and those selling to farmers markets smaller growers.
- Sheepmeat producers most commonly sold at auction (41.7%), directly to abattoirs (37.5%), to brokers (15.9%) or other farmers (14.4%).
- Wool producers most commonly sold to auction (61.3%) or brokers (28.9%).
- Dairy farmers most commonly sold to cooperatives (38.7%), processors with no contract (30.1%) and processors under contract (15.1%).
- Beef cattle producers most commonly sold to auction (53.2%), abattoirs (34.6%) and other farmers (17.2%).
Figure 10.3 Markets and market brokers farmers sell produce to, by type of farmer
Setting prices: How are prices determined for different farm goods?

Just over 1,000 farmers who participated in the survey were asked how prices were set for their produce. Specifically, they were asked if prices were set via:

- **A price they set themselves**: This could occur for example if the farmer sold some of their produce at a farmers market, or had power to influence the price they could ask for their produce from a buyer such as a processor.
- **Spot prices on the market**: The market price at the time the goods are sold.
- **Price set by a buyer**: A price set by a processor, broker or other buyer.
- **Forward selling**: A price fixed ahead of time as part of a contract with the buyer.
- **Pool**: Farmers enter into a pool with other farmers and receive an average price for that pool of produce, often adjusted for quality or other factors.
- **Futures market**: A market in which future trades are made, with farmers selling specific quantities of product at a specified price with delivery to happen at a specified future time.
- **Other**: Farmers could also indicate other mechanisms by which their prices were set; however, very few identified other mechanisms.

These data were not weighted when analysed, due to the smaller size of the sample who answered these questions. The majority of farmers indicated a single price setting mechanism was used for all their produce, with the exception of broadacre crop growers, who typically reported two or more price setting mechanisms. Dairy farmers were most likely to report having a single mechanism by which prices were set (Figure 10.4).

![Figure 10.4 Diversity of price setting mechanisms used by different types of farmers](image-url)
When the types of price setting mechanisms reported by different farmers were examined, price mechanisms were more diverse for crop growers compared to other types of farmers, and least diverse for livestock growers (Figure 10.4):

- *Grain and oilseed growers* used a mix of spot prices, prices set by a buyer, forward selling, pools and futures markets, with most using more than one of these.
- *Wine grape growers* used forward selling, spot prices and a substantial minority reported being able to set their own price.
- *Fruit and vegetable growers* often sold some of their produce using a price they set themselves, with 40% reporting some of their produce was sold this way. However, this is likely for many to be a small proportion of their production. Spot prices, prices set by buyers, and pooled prices were the other price mechanisms reported by fruit and vegetable growers.
- *Sheepmeat, beef cattle and wool producers* all most commonly received spot prices or prices set by a buyer.
- *Dairy farmers* most commonly reported their price being set by their buyer (43.8%), followed by pools, forward selling, futures markets and spot prices.

**Conclusions**

Is a lack of ability to influence prices having a negative impact on farm finances or farmer wellbeing? While concerns are commonly raised about this, our results suggest these links are complex and care is needed when describing them. Australian farmers sell into a diversity of markets, and the price they receive for their produce is determined in different ways depending on the market. Across Australia, 63.6% of farmers feel they have good access to information about their markets, 74.5% that they have no choice in the prices they receive for their produce, and only 31.2% that they are able to negotiate prices with some or all of their buyers. Farmers who reported having no choice in the prices they received, and those who reported poorer access to market information, were more likely than others to report being in financial stress on the farm. Farmers who reported making a profit and being satisfied with their farm financial performance were more likely to have good access to market information and to feel they could negotiate prices with their buyers. They also reported higher than average overall wellbeing. This supports a strong association between how markets and pricing operate, and the financial and social wellbeing of farmers. However, our results also show that some of the most profitable farmers report having no choice in their prices: dairy farmers, for example, typically reported having no choice in the prices they received, but had better than average financial performance. This highlights the need to examine more specifically how prices are set in different agricultural sectors, and the decision making processes involved.
Figure 10.5 Price setting mechanisms for farm produce, by type of farmer
Chapter 11: Key points

- Irrigators who took part in the Regional Wellbeing Survey were asked questions about their irrigation systems and practices, and water trade.

- Across Australia, 61% of irrigators reported they had improved their on-farm irrigation infrastructure in the last five years, particularly in Tasmania (75%) and New South Wales (68%). Of those who had invested, 78% self-funded the work, 23% received a government grant, and 19% used a bank loan to cover part or all of the costs.

- Farmers who had improved on-farm water infrastructure in the past five years reported better farm financial performance compared to those who had not.

- Of the 127 irrigators who had received a government grant to improve on-farm water infrastructure, 77% found the grant very useful, 20% moderately useful, and 3% not useful.

- Most irrigators are confident to trade water, find doing so easy, and can access the information they need to trade. This confidence grew between 2013 and 2014.

- There was lower confidence in the security of water rights and fairness of the water market: just over half of irrigators felt that their rights to access water (when it is available) were secure; 40% that the water trade market is fair for all users; and 35% that changes to water trading rules in recent years had increased their confidence in the water market.

- New South Wales and Queensland irrigators, and cotton and rice farmers, were less confident in the security of their water rights than those in other states, and Tasmanian irrigators more confident.

- In total, 38% of irrigators had increased their use of water allocation trade in the last five years. Irrigators in New South Wales and Victoria, younger irrigators, profitable irrigators, and rice, dairy and cotton farmers had most commonly done this.

- In the 12 months to October 2014, just over half of irrigators carried water over to the next water year; 26% bought allocation, 21% sold allocation, and 10% bought entitlements while 9% sold entitlements to the government and 6.5% sold entitlements to private water users. Irrigators in New South Wales and South Australia, rice farmers and cotton farmers, women and younger farmers most commonly engaged in water trade.

- The most common reasons for selling or transferring entitlements were high fixed entitlement water charges (41% of irrigators), higher relative return from selling (35%), having surplus water (31%), low farm returns (27.5%), needing to reduce debt (27%), and transferring to access water infrastructure grants (20%).

- A majority of those who engaged in trading water entitlements and water allocation reported that the trade – whether it involved buying or selling – was positive for their farm business, and was easy to do. Just over half of those who bought entitlements agreed that it was ‘more expensive than planned’.

- Irrigators who were unable to engage in water trade in times of stress typically also reported poorer wellbeing: those who wanted to sell either entitlement or allocation and had been unable to reported lower life satisfaction compared to other irrigators.
11. Irrigation and water trade

Introduction

Irrigated farms produce 28% of Australia’s agricultural production (by value of production) from less than 1% of Australia’s agricultural land (ABS 2007). Irrigated farms operate differently to rain fed farms: they are typically more intensive, smaller in area, produce different commodities, and by their nature are clustered in specific regions in which irrigation schemes have been established. The majority of irrigators are located in the Murray-Darling Basin, but multiple irrigation schemes are also located outside the Basin. Across Australia, irrigation scheme expansion has not typically occurred in recent years, with the exception of Tasmania where investment in new irrigation schemes was in 2014 resulting in expansion of irrigated agricultural land. In recent decades, many Australian irrigators have experienced substantial changes in how their water rights operate and their ability to trade the water they use for their farm enterprise: in particular, water entitlements and water allocation have become more readily tradeable in many (but not all) parts of Australia. Irrigators who completed the Regional Wellbeing Survey were asked questions about their irrigation systems and practices, and water trade.

Irrigation infrastructure

Irrigated agriculture in Australia is diverse. Different irrigators use different types of irrigation system, produce a wide range of commodities, and have different opportunities for engaging in water trade. One thing, however, is common: all irrigators have irrigation infrastructure on their property that delivers the water they rely on, and the level of farm profitability at least partly depends on how well that infrastructure is used and how readily they can access irrigation water. Irrigators were asked what types of irrigation infrastructure they used, and could identify multiple types if they had more than one watering system on their farm (Figure 10.1). Flood/furrow irrigation was most common, used by 50% of farmers, followed by travelling irrigators (31%), surface drop or trickle systems (26%), low throw sprinklers (13%), overhead sprinklers (7%), moveable spray lines (6%), microsystems (5%) and subsurface drip/trickle systems (3%). This varied substantially depending on the type of produce being grown: livestock irrigators typically used either flood/furrow or travelling irrigators. Rice, grain, cotton and oilseed growers predominantly used flood/furrow systems. Fruit and vegetable growers, including wine grape growers, more commonly used surface drip/trickle systems, or low throw sprinklers.

Investing in upgrading irrigation infrastructure can help increase water use efficiency, decreasing the costs of production on irrigation farms by reducing water use. However, investing in infrastructure can also be expensive. Some government grants have been made available in the Murray-Darling Basin in recent years to assist investment in infrastructure improvements that increase water use efficiency, as part of the Sustainable Rural Water Use and Infrastructure Program (SRWUIP). To access a grant irrigators have typically been required to transfer some of their water entitlements to the government, and contribute a proportion of the costs of the upgrade (Department of the Environment, n.d.).
Irrigators were asked if they had invested in improving their on-farm irrigation infrastructure in the last five years, and if they had, what funding sources they had used. Across Australia, 61% of irrigators reported doing this, particularly in Tasmania where 75% have improved infrastructure, and New South Wales where 68% have (Figure 11.2). Of those who have invested, 78% reported self-funding the upgrade, 23% had received a government grant, 19% had applied for a bank loan to cover part or all of the costs, and a small proportion (3%) reported using other sources of funding (Figure 11.3).
Those who had accessed a government grant were asked to rate how useful the grant or funding they had received to improve their on-farm water infrastructure was, on a scale from 1 (not at all useful) to 7 (very useful). Of the 127 irrigators who had received a government grant, 77% rated it as very useful, 20% as moderately useful, and 3% as not useful; further analysis is needed over time to identify whether the usefulness of a grant is rated differently by farmers depending on how long it has been since they (i) received the grant and (ii) the works were completed.
Farmers who had invested in upgrading infrastructure reported, on average, very similar life satisfaction to those who had not (a score of 73 for those who had not compared to 74 who had). They did, however, report better financial performance, as shown in Figure 11.5: 37% of those who had not improved on-farm infrastructure reported making a loss in 2013-14, compared to only 26% of those who had upgraded on-farm infrastructure in that period. The causes of this relationship need further investigation: it is equally possible that the improved infrastructure is assisting farm financial performance, and that farmers doing better financially more commonly have the resources needed to invest in upgrading water infrastructure on their farm. Additionally, it is likely there is a timelag before any change in financial performance occurs, as it can take some time to complete works after receiving a grant, and then a further period of time before changes in farm financial performance can be observed.

Figure 11.5 Profitability of irrigators who had and had not improved on-farm water infrastructure in the last five years
Water trade and water rights

Irrigators were asked their views about the security and tradability of their water rights, and the process of engaging in water trade (Figure 11.6). In total, 35% of irrigators reported increasing their use of water allocation trade in the last five years. Most irrigators felt it was easy to trade temporary water (allocation) or permanent water (entitlements) if they wanted to; that it didn’t take too long to process temporary water trades, was easy to access information needed to make trading decisions, and that the number of options they had for water trading had grown in the last five years. Unsurprisingly, most also reported that they felt confident to use water trading.

There was lower confidence in the security of water rights and fairness of the water market: just over half felt that their rights to access water (when it is available) were secure. Less than half agreed that the water trade market is fair for all users (40%), or that changes to water trading rules in recent years had increased their confidence in the water market (35%). It is possible both that many irrigators did not reported increased confidence because their confidence was already high, or because changes did not positively alter their low or moderate level of confidence.

![Figure 11.6 Views of irrigators and water trading processes and markets](image)

Two of the items shown in Figure 11.6 were also asked in the 2013 Regional Wellbeing Survey, enabling change in perceptions to be tracked over time, shown in Figure 11.7. For both items, confidence of irrigators had improved between 2013 and 2014, with an increase of 9% in the proportion of irrigators who felt their options for water trading had grown in the last five years, while the proportion who found it easy to access information needed for water trading grew by 11%. There is an increase in those with positive perceptions even after taking into account potential variation due to sampling variability, suggesting an overall positive change in views of these aspects of water trading.
Views about these issues varied depending on the type of irrigator, however.

**Security and fairness of water access:** As shown in Figure 11.8. New South Wales and Queensland irrigators were less confident in their security of water rights than those in other states, and Tasmanian irrigators more confident. Queensland farmers were less likely to feel the water trade market was fair for all compared to those in other states. Cotton and rice farmers were less confident than wine grape growers, fruit and vegetable growers and dairy farmers that their rights were secure, although views about fairness of water trade were similar across different types of farmers. Male irrigators were more likely to be confident in the security of their access rights and fairness of the water market than women, as were older farmers. Farmers reporting lower levels of wellbeing, in high financial stress and making a loss were less likely to feel their water rights were secure or that water trade was fair.

**Ease of water trade, access to information and confidence to trade:** As shown in Figure 11.9, most irrigators found it easy to trade both temporary water (water allocation) and permanent water (water entitlements); while Figure 11.10 shows most found it easy to access information, felt water trade options had grown, and were confident to trade – but only a minority felt that recent changes to rules had improved their confidence to trade water. Those who were less confident in being able to easily trade water and with lower confidence in trading included Queensland and Tasmanian irrigators (who have fewer options for trade); cotton farmers and fruit and vegetable growers; younger farmers; and to a lesser extent those making a loss on their farm. Those who felt it was not easy to trade water also typically reported lower than average life satisfaction.
The reasons for these differences vary, and are often likely to be related to the specific trading rules and history of assignment of water rights in different states and regions. For example, trading of water entitlements has historically been much more difficult and limited in Queensland compared to New South Wales, and water trade has a shorter history in Queensland (see for example Reeve et al. 2009).

Figure 11.8 Security of water access rights and fairness of water trade: views of irrigators
Figure 11.9 How easy is it to trade water? Views of irrigators
Engagement in water trade

In total, 38% of irrigators said they had increased their use of water allocation trade in the last five years (Figure 11.11). This was particularly the case for New South Wales and Victorian irrigators, while Queensland and Tasmanian farmers less commonly reported this: these results likely reflect lower levels of opportunity to engage in water trade in the latter states, rather than lack of interest from irrigators in participating in trade. Rice, dairy and cotton farmers most commonly reported increasing their use of water trade, and fruit and vegetable growers were less likely to have. Younger farmers and those making a profit were more likely than older farmers and those making a loss to have increased use of water allocation trade.
Irrigators were asked a series of questions about both their intentions to engage in water trade, and their actual water trade activities, during the 12 months prior to completing the survey. Their answers covered the period November 2013 to October 2014.

Figure 11.12 shows the proportion of irrigators who reported carrying over water, trading or planning to trade water allocation, and trading or planning to trade water entitlements, in the 12 months prior to completing the survey. Just over half of all irrigators reported carrying water over to the next water year. A quarter engaged in water allocation trade, 26% reported buying allocation, and 21% selling allocation. A further 9% had wanted to buy allocation but did not end up buying, while 7% had wanted to sell but did not end up selling.
When trade in entitlements was examined, 10% of irrigators reported buying entitlements, while another 14% reported that they wanted to buy entitlements in the past 12 months but did not end up buying. Sales/transfers of water entitlements to governments were more commonly reported than sale of entitlements to private water users, with 9% reporting selling entitlements to the government in the past 12 months, and 6.5% selling to private water users. A further 7% had planned to sell entitlements, but did not end up doing so.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bought water allocation e.g. temporary water for a season</td>
<td>26%</td>
</tr>
<tr>
<td>Sold water allocation (selling water for a season but not selling your entitlement)</td>
<td>21%</td>
</tr>
<tr>
<td>Planned to buy permanent water but didn’t end up buying any</td>
<td>14%</td>
</tr>
<tr>
<td>Bought permanent water entitlements (n=882)</td>
<td>10%</td>
</tr>
<tr>
<td>Sold or transferred permanent water entitlements to the government (buyback) (n=875)</td>
<td>9%</td>
</tr>
<tr>
<td>Planned to buy water allocation but didn’t end up buying any</td>
<td>9%</td>
</tr>
<tr>
<td>Planned to sell water allocation but didn’t end up selling any</td>
<td>7%</td>
</tr>
<tr>
<td>Planned to sell some or all of my water entitlements but didn’t end up selling any (n=865)</td>
<td>7%</td>
</tr>
<tr>
<td>Sold or transferred permanent water entitlements to private water users (non-government sale) (n=875)</td>
<td>7%</td>
</tr>
</tbody>
</table>

Figure 11.12 Water trade and carrying over during the 12 months to October 2014

Figure 11.13 shows engagement in water entitlement trade, including actually buying and selling, and planning to buy or sell. Taller columns indicate overall greater engagement in water trade, and shorter bars less engagement. Engagement in water trade was greatest in New South Wales and South Australia, for rice farmers and cotton farmers, for women and younger farmers. Overall levels of water trade were similar irrespective of farm financial performance, however those making a loss were more likely to be selling water, and those making a profit more likely to be buying.

Water allocation trade (Figure 11.14) was somewhat similar, but engagement in allocation trade was highest in New South Wales (and not as high in South Australia, unlike entitlement trade), and by rice and cotton farmers; younger farmers were more likely to trade, and those in financial stress on the farm were more likely to have sold and profitable farmers more likely to have bought water allocation in the last 12 months.

When wellbeing was examined, the life satisfaction of irrigators engaging in most types of water trade was very similar, with two exceptions: those who had wanted to sell either entitlement or allocation and been unable to reported lower life satisfaction compared to others; and to a lesser extent, those who sold allocation reported slightly lower satisfaction compared to those who bought. This indicates that being unable to engage in trade in times of stress may contribute to poorer wellbeing, as those who were able to sell when they wished to reported better overall wellbeing.
Figure 11.13 Water entitlement trade in 12 months to October 2014, by type of irrigator
Figure 11.14 Water allocation trade in 12 months to October 2014, by type of irrigator

**Water entitlement trade**

Irrigators who had bought and sold entitlements in the last 12 months were asked how much water they had sold:

- The volume of water bought ranged from under 10 megalitres (ML) to over 7000ML, with a mean of 449ML sold and a median of 150ML (n=154)
- The volume of water sold ranged from under 10 megalitres (ML) to 7000ML, with a mean of 280ML sold and a median of 100ML (n=153)
- The proportion of entitlements sold ranged from 1% to 100%, with a mean of 38% sold, and a median of 30% (n=139).
Irrigators who had sold or transferred entitlements, or who had wanted to sell but not done so, were asked why they wanted to sell entitlements (Figure 11.15). They could select more than one reason for wanting to sell. The most common reasons were financial: high fixed entitlement charges (41%), and a higher relative return being achieved by selling water versus using water on their own property (35%). This was followed by having opportunity in the form of surplus water (31%). Financial necessity was a driver of many sales, particularly low return from the farm business (27.5%), and needing to reduce debt (27%). Others were selling entitlements to fund other farm investments (27%). Less commonly, irrigators were transferred entitlements as part of requirements to access infrastructure upgrade programs (20%). Least common was selling as part of downsizing the farm enterprise (14%) or planning to exit farming (9%), although this sample does not include those irrigators who sold and subsequently exited.

Figure 11.15 Reasons for selling or wanting to sell water entitlements

Those who indicated they wanted to sell entitlements but didn’t were asked why they hadn’t sold. All 63 reported that market prices were too low, indicating this was the principle reason for not selling; 56% also reported that there weren’t interested buyers; and 35% indicated they had other reasons for not selling.

The principle reasons irrigators wanted to buy water entitlements were necessity (Figure 11.16): 71% reported they wanted to buy because their existing entitlements were sufficient to meet the production needs of their farm business, while 61% said low rainfall in their area was a key driver. Fewer wanted to buy to invest in expanding their business (37%) or because there was opportunity due to good prices for their produce that made additional water affordable (21%).
Figure 11.1 Reasons for buying or wanting to buy water entitlements

Those who wanted to buy entitlements but didn’t end up buying were asked what had stopped them from purchasing entitlements. The most common reason was price: 80% reported the price of entitlements was too high (n=118). A further 34% reported there weren’t enough entitlements on the market, while 29% said they ended up not needing the additional water, and 40% that they had other reasons for not buying.

A majority of those who engaged in trading water entitlements reported that the trade – whether it involved buying or selling – was positive for their farm business, and was easy to do. Just over half of those who bought entitlements agreed that it was ‘more expensive than planned’ (Figure 11.17).

Figure 11.17 Was selling entitlements good for the farm?

Water allocation trade

A small number of irrigators were asked questions about their water allocation trade, however these were only a subset of those who had engaged in allocation trade, due to restricted space to include
additional questions on the survey form. Those who were asked to answer these questions may not be a representative sample due to the small number of irrigators. Of this small number of irrigators:

- The volume of allocation bought ranged from 10ML to more than 5000ML, with a mean of 706ML and a median of 250ML (n=45)
- The volume of allocation sold ranged from 1ML to more than 3000ML, with a mean of 496ML and a median of 100ML (n=36).

The most common reasons for buying allocation were needing additional water to meet farm business (72%), and low rainfall (71%) (Figure 11.18). Just over a quarter of those who reported buying allocation did so because they were using a business model in which they had sold all entitlements and instead obtained water by buying it on the temporary market (26%). As the representativeness of respondents to these questions is not known there is a large potential margin of error for these findings.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>My water allocation was too low to meet the needs of my farm business</td>
<td>72.2%</td>
</tr>
<tr>
<td>Low rainfall in my area</td>
<td>70.8%</td>
</tr>
<tr>
<td>Good prices for the crops / products I produce meant I could afford the water</td>
<td>31.3%</td>
</tr>
<tr>
<td>I have sold some / all of my entitlements and now buy my water on the temporary market instead</td>
<td>26.3%</td>
</tr>
<tr>
<td>Other</td>
<td>15.8%</td>
</tr>
</tbody>
</table>

Figure 11.18 Reasons for buying or wanting to buy water allocation

Of the small number of irrigators who were asked about the outcomes of water allocation trade, most reported a positive experience and that it was easy to trade, although 62% reported that buying allocation was more expensive than they had planned (Figure 11.19).

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying water allocation was difficult due to water trading restrictions</td>
<td>64%</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>Buying water allocation was easy to do</td>
<td>13%</td>
<td>9%</td>
<td>79%</td>
</tr>
<tr>
<td>Buying water allocation was positive for my farm business</td>
<td>9%</td>
<td>4%</td>
<td>88%</td>
</tr>
<tr>
<td>Buying water allocation was more expensive than planned</td>
<td>27%</td>
<td>11%</td>
<td>63%</td>
</tr>
</tbody>
</table>

Figure 11.19 Was buying water allocation good for the farm?
Conclusions

Most irrigators are actively engaged in improving their on-farm water infrastructure, many using their own funds to do so, and in water trade of some kind. Those who have improved water infrastructure are doing better on their farm financially: this is likely to reflect both that farmers who are more profitable are more likely to be able to invest in improving infrastructure, and that improved infrastructure can help improve farm financial wellbeing through things like improved water efficiency.

Most irrigators feel confident to participate in water trade, can access the information they need to do so, and feel their water trade options are growing, all things that can increase the number of farm management options available to irrigators. Irrigators are using water trade strategically to support their business as a result, with many selling water in difficult times and purchasing in good times, and most report that their engagement in water trade, whether it involved buying or selling entitlements or allocation, was positive for their farm business.

There are some signs of stress, however: in particular, the high proportion of irrigators (41%) who are selling entitlements due to the cost of fixed charges on these entitlements suggests challenges related to costs of maintaining entitlements that have potential to shift how irrigation operates in future. This is also partly reflected in the growing use of water allocation trade, with 38% of irrigators increasing their use of allocation trade in the last five years.

Not all irrigators are confident in their security of water rights or fairness of the market: only 40% agree that the water trade market is fair to all, for example. This will be tracked over time in the Regional Wellbeing Survey, to better understand how confidence is changing over time and why. More detailed analyses will also be undertaken, comparing confidence in areas with differing water trade opportunities, rules and regulations.

The utility of water trade to the wellbeing of irrigators is illustrated by the strong association between being unable to sell water and poorer wellbeing: irrigators who wanted to sell water but were unable to had substantially poorer wellbeing than those who were able to sell, indicating that being able to sell is providing a means of support for the farm business that in turn is likely to help support wellbeing.
Chapter 12: Key points

- Most Australian farmers engage in natural resource management (NRM) activities intended to reduce problems such as weed and pest invasion, to protect water quality, and promote natural vegetation growth on parts of their farm.

- Increasingly, many are changing their farming systems to incorporate regenerative principles (also called amongst other things holistic or natural sequence farming).

- This chapter examines which farmers are engaging in NRM and regenerative farming practices, and their wellbeing.

- Across Australia, 40% of farmers were engaged in NRM at the time of doing the survey, and only 6% had never undertaken NRM-related activities on their farm.

- Eighty nine per cent of farmers reported having at some point undertaken NRM with no assistance, 68% with the help of locals with good knowledge; 51% with help from a government grant; 43% with assistance from an expert; 48% as part of a landcare or NRM group, and 49% had participated in an NRM course or workshop.

- Some NRM activities were more common than others: in the last five years, more than 60% of farmers planted trees for shade and shelter or environmental purposes, worked with others to reduce feral animals, or changed grazing practices to improve ground cover. Between 50% and 60% encouraged regeneration of native vegetation on their property or worked with others to reduce invasive weeds in their district. Between 30% and 46% encouraged regeneration of native pasture, reduced use of fuel, chemical or fertiliser, or fenced riparian areas.

- There was very little difference in the life satisfaction of farmers who engaged in different NRM activities, with the average being similar to that for all farmers.

- Regenerative farmers were identified based on the extent to which they reported having a plan for NRM (46% of farmers) and actively monitoring NRM outcomes (34%); and to which they prioritised maintaining groundcover (77%), and increasing the diversity of plants and organisms on their farm (55%). In total, 18% of Australian farmers had no regenerative farming characteristics, 17% had many, and the remaining 65% had some regenerative farming characteristics.

- Regenerative farmers (those managing their farm according to all regenerative farming characteristics measured) were more commonly female, older, dryland farmers running a sheep or beef enterprise. They were less likely to be male, younger, an irrigator, and running a cropping enterprise.

- The life satisfaction of farmers who engaged in more regenerative farming practices was significantly higher than those who engaged in fewer. This was the case for farmers overall, and also for those who had experienced severe drought, supporting the argument that regenerative farming is associated with improved farmer wellbeing, and with better wellbeing outcomes after experiencing drought. Regenerative farmers were also significantly more likely to report being satisfied with their farm financial performance than others, but just as likely to report experiencing financial stress on the farm.
12. Natural resource management & regenerative farming

Introduction

Natural resource management (NRM) is an everyday part of farm management for many Australian farmers, who regularly engage in activities intended to reduce problems such as weed and pest invasion, to protect water quality, or to promote natural vegetation growth on parts of their farm. NRM comes in many forms. Traditionally, the term has been used to refer to farmers engaging in specific activities such as tree planting, riparian fencing, weed and pest control, regenerating native pastures, low or no till cropping, or improving groundcover in order to reduce erosion, amongst many others. Some of these activities improve farm productivity as well as addressing environmental problems; others may improve environmental health, but at the cost of reducing farm production on an area of land. Many forms of NRM are argued to have not just environmental benefits, but also social and economic benefits for farmers (Schirmer et al. 2013).

In recent years, there has been increasing support for more systemic changes to farming practices that involve farmers changing their overall farming system and approach to farming, in order to better support a healthy landscape. Multiple names are used to refer to farming systems such as these, including holistic farming, natural sequence farming, and regenerative farming. In this chapter, the term regenerative farming is used as an umbrella term. These systems are often characterised by a focus on maintaining groundcover on the farm, active monitoring of environmental outcomes through farm management plans, and actions such as destocking early in times of drought to prevent loss of groundcover and erosion on the farm, amongst other things. Overall, the regenerative approach can be described as ‘the application of techniques which seek to restore landscape function and deliver outcomes that include sustainable production, an improved natural resource base, healthy nutrient cycling, increased biodiversity and enhanced resilience.’ (Soils for Life 2015). Regenerative farming is argued by proponents to benefit farmers, and the communities they live in, environmentally, socially and economically (Soils for Life 2015).

This chapter examines the wellbeing of farmers who engage in NRM and regenerative farming practices. The data analysed in this chapter were not weighted, and may over-represent participation in NRM as a result, as several NRM groups encouraged their members to take part in the survey.

Participation in natural resource management

Farmers were asked if they engage in NRM activities: across Australia, 40% of farmers who participated in the survey were engaged in NRM at the time of doing the survey, 41% had undertaken NRM in the last five years but weren’t doing it at the time of the survey, and 26% had undertaken NRM at some point prior to the last five years. Only 6% had never done NRM on their farm (Figure 12.1). This 6% reported slightly lower life satisfaction than those who had done NRM, but the small numbers of farmers who had never undertaken NRM mean that the difference was not significant.
Figure 12.1 Which types of farmers are engaging in natural resource management activities on their farm?

Farmers living in Queensland and Western Australia were slightly more likely than those in other states to report currently engaging in NRM, and female farmers slightly more likely than men, although differences were relatively small. Younger farmers were much more likely to currently be...
engaging in NRM than older farmers. Sheep farmers, wine grape growers, rice farmers and cotton farmers were less likely than other farmers to be currently engaging in NRM, although many cotton farmers had undertaken NRM in the last five years. Grain and oilseed farmers, dairy farmers, and mixed crop-sheep-beef farmers were most likely to be currently engaged in NRM. Farm financial performance was not a good predictor of engagement in NRM: there were similar levels of engagement of farmers making a loss and farmers making a profit in NRM activities.

NRM is often undertaken with assistance: multiple government programs provide funding and expert advice to assist farmers in undertaking NRM. To better understand which farmers are accessing support to undertake NRM, they were asked if they had done NRM on their own or with any of various forms of formal or informal assistance, and were able to select multiple options. By far the most common was doing NRM with no assistance: 39% were currently doing this, and 50% had done it at some point in the past. Informal assistance from other locals was the next most common, with 68% having done NRM with the help of locals with good knowledge at some point. Just over half (51%) had used a government grant to do NRM at some point, although only 10% were doing this currently. A total of 43% had used expert advice such as an extension professional, 48% had at some point undertaken NRM as part of a landscape or NRM group, and 49% had used a course or workshop to help undertake NRM (Figure 12.2).

Figure 12.2 What types of supports are farmers accessing when doing natural resource management?

Some NRM activities were more common than others: in the last five years, more than 60% of farmers planted trees for shade and shelter or for environmental purposes, worked with others to reduce feral animals, or changed grazing practices to improve ground cover. Between 50% and 60% encouraged regeneration of native vegetation on their property or worked with others to reduce invasive weeds in their district. Between 30% and 46% encouraged regeneration of native pasture, reduced use of fuel, chemical or fertiliser, or fenced riparian areas (Figure 12.3).
### Figure 12.3 What types of NRM activities are farmers engaging in?

Each of these NRM activities was more common in some regions, and for some types of farmers, than others:

- **Planting trees and encouraging regeneration of native vegetation** was more often done by Victorian and South Australian farmers, by intensive livestock, crop-sheep and dairy farmers, and slightly more often by dryland and older farmers compared to irrigators and younger farmers, and by those in good farm financial health compared to those making a loss or in financial stress. It was least commonly done by Queensland farmers, cotton farmers, fruit and vegetation growers, and cropping farmers (Figure 12.4).

- **Encouraging regeneration of native pastures** was more often done by New South Wales, Queensland and South Australian farmers, by women, dryland farmers, by intensive livestock, mixed crop-sheep-beef, and rice farmers (many rice farmers also ran some livestock), and by those in farm financial stress or making a loss. It was least commonly done in Victoria, by men, and by dairy, cropping, wine grape and fruit and vegetable growers and those making a profit (Figure 12.5).

- **Changing grazing practices to improve ground cover** was most commonly done in Western Australia and New South Wales, by women, farmers aged under 65, and graziers of all types; and least commonly by South Australian and Victorian farmers, and those involved in pure cropping enterprises (excepting rice growing) and fruit and vegetable growing (including wine grapes)(Figure 12.5).

- **Fencing riparian areas** was most commonly done in Western Australia and Tasmania, by older farmers and by sheep and beef graziers; and least commonly by fruit and vegetable growers and wine grape growers, cotton farmers and grain and oilseed growers (Figure 12.5).
• Reducing use of fuel, chemicals or fertilisers, and specifically inorganic fertilisers, is something not always associated with NRM: it may be done to reduce on-farm costs or that accompanies falling farm production. Use of new technology to reduce use of fuel, chemicals or fertilisers was most common in New South Wales, Queensland and South Australia, by men, by younger farmers, mixed crop-livestock, cotton, rice, dairy and fruit and vegetable growers. Reducing use of inorganic fertiliser was more common for older farmers, those in farm financial stress, fruit/vegetable growers, wine grape growers, intensive livestock and beef and sheep graziers, and in Tasmania (Figure 12.6).

• Working with others to collectively address feral animals was most common in Queensland, Western Australia and New South Wales, younger farmers, cropped and mixed crop-livestock enterprises. Working to collectively address invasive weed issues was most common for cropping and mixed crop-livestock enterprises, and otherwise had similar rates of participation across most types of farmers (Figure 12.7).

There was very little difference in the life satisfaction of farmers who engaged in these various activities, with the average being similar to that for farmers as a whole. This reflects the high level of participation of farmers in these types of NRM activities across the country. This means that while it is possible that engaging in NRM supports wellbeing, as is commonly argued (see for example Schirmer et al. 2013), the high participation rates of Australian farmers in NRM mean more specific analyses are needed to identify the presence of such linkages.
Figure 12.4 Which farmers are revegetating land by planting or regenerating vegetation?
Figure 12.5 Which farmers are changing farming practices to achieve environmental outcomes?
Figure 12.6 Which farmers are changing their use of fertiliser on the farm?
Figure 12.7 Which farmers are engaging in NRM to address weed and pest problems?
Farmers were asked if they had received an NRM grant or water infrastructure grant in the last three years, or if they had participated in a landcare group in this time. Across Australia, 36% had participated in a landcare group, 30% reported receiving or benefiting from an NRM grant of some kind, and 20% reported receiving a water infrastructure grant (Figure 12.8). The proportion who participated in a landcare group (36%) was higher than the proportion who had carried out NRM activities with the support of a landcare group, potentially reflecting that many landcare groups have important social and non-NRM roles, as well as engaging in NRM.

Landcare and grant participation varied substantially between states: water infrastructure grants were more common in New South Wales and Queensland, and landcare participation more common in Victoria and Western Australia, while receiving an NRM grant was more commonly reported in Western Australia and Tasmania. Younger farmers were more likely to have received a grant for NRM or water infrastructure than older farmers – but less likely to participate in a landcare group. Dryland farmers more commonly participated in landcare and received NRM grants than irrigators, while irrigators much more commonly received water infrastructure grants. Landcare participation was highest for graziers running sheep and beef enterprises, and lowest for those running pure cropping enterprises.

NRM grants had been received by a higher proportion of sheep, beef, and mixed cropping-livestock enterprises, and less commonly by those engaged in cropping without also grazing livestock (rice farmers, cropping and cotton farmers). Water infrastructure grants were most commonly received by rice farmers and cotton farmers, followed by wine grape growers, fruit and vegetable growers, dairy farmers, and mixed crop-sheep-beef farmers (many of these enterprises are irrigated).

There was little difference in farm financial performance or life satisfaction of those who received support in the form of a landcare group, NRM grant or water infrastructure grant, although all three groups had slightly higher than average life satisfaction than the national farmer average.
Figure 12.8 Use of natural resource management and water related assistance in last three years, by type of farmer
Regenerative farming

Regenerative farming can be defined in many ways. Discussions with members of the Alliance for Regenerative Landscapes and Social Health identified that while some argue that regenerative farming can be defined by the use of specific practices such as biodynamic or organic farming, many others argue that it is better defined by whether farmers follow a philosophy of farming consistent with regenerative principles. A set of questions was designed to examine this, asking farmers whether they undertook a number of farm management practices consistent with regenerative farming, shown in Figure 12.9. While many of these practices are not exclusive to regenerative farmers, many are more common to regenerative farmers, and the combination of them is a useful indicator of the extent to which a farmer is a ‘regenerative farmer’ (even if the farmer would not label themselves as such). While most farmers agreed that maintaining good groundcover is a priority in their farm management, that they had a farm plan with business objectives they actively monitor, and that they aimed to increase the diversity of plants and organisms on their farm, not all did. Almost half did not have a business plan with clear objectives; only 46% had a farm plan with specific natural resource management objectives, and 34% actively monitored whether they were achieving environmental objectives on the farm.

![ Figure 12.9 Farming using regenerative farming principles ]

A ‘regenerative farming’ scale was developed based on how strongly different farmers identified with four key regenerative farming principles: their responses from strongly disagree (1) to strongly agree (7) were summed across four statements:

- I have a farm plan that includes natural resource management objectives
- Ensuring I keep good groundcover is a priority in my farm management
- I aim to increase the diversity of plants and organisms on my farm as part of my farm management
- I actively monitor whether I am achieving my environmental objectives on the farm, for example by taking photos or other documentation of change
Four groups of farmers were then identified, based on their cumulative score between 4 and 28:

- No regenerative farming characteristics: Those who disagreed with all or most statements and had a score of 12 or less (18% of Australian farmers).
- Few regenerative farming characteristics: Those who agreed slightly with one or two statements, score of 13 to 17 (29% of Australian farmers).
- Moderate regenerative farming characteristics: Those who agreed with three or more statements, score of 18 to 23 (36% of Australian farmers).
- Many regenerative farming characteristics: Those who strongly agreed with most statements and agreed with all, score of 24 to 28 (17% of farmers).

A similar proportion of farmers reported no regenerative farming characteristics (17%) and many regenerative farming characteristics (18%). The characteristics of these two groups were compared, shown in Figure 12.10. As no weighting was applied to this analysis, results by geographic location are not included. When compared to our sample of farmers as a whole, regenerative farmers were:

- More commonly female than male
- More likely to be older and less likely to be younger
- Slightly more likely to be a dryland farmer than an irrigator
- Much more likely to be a sheep or beef grazier, including intensive graziers, and less likely to be involved in pure cropping enterprises or fruit and vegetable growing.

Many regenerative farmers argue that regenerative farming supports improved wellbeing for the farmer, improved financial outcomes on the farm, and assists in coping with drought (see for example Soils for Life, n.d.). The survey results are consistent with the contention that regenerative farmers have higher levels of wellbeing compared to non-regenerative farmers (Figure 12.11): the average life satisfaction of those with some or many regenerative farming characteristics was significantly higher than that of farmers with no or few regenerative farming characteristics. The reasons for this may include both that those with higher levels of wellbeing are more likely to take on regenerative farming practices, and that engaging in regenerative farming is supportive of wellbeing. Longer term research is needed to better identify the causes of the higher wellbeing of regenerative farmers.

Regenerative farmers were just as likely as other farmers to report being in high financial stress on the farm (Figure 12.12). However, they were significantly more likely to report being satisfied with their farm financial performance, suggesting a need to better understand what is different about the financial performance of regenerative versus other farmers.
Figure 12.10 Farm planning for natural resource management, by type of farmer
Regenerative farmers were more likely than others to report experiencing drought in the last five years, with 75% of those with high regenerative farming characteristics reporting this compared to 63% of those with no regenerative farming characteristics (n=2270). They were also slightly more likely to report drought had significantly impacted their lives, with 58% of farmers who had many regenerative characteristics and experienced drought reporting that they were severely impacted by drought, compared to 53% of farmers who had no regenerative characteristics (n=2249). However, regenerative farmers who experienced severe droughts (meaning drought that had very large impacts on them) reported significantly higher levels of wellbeing than non-regenerative farmers.
who experienced severe drought, as shown in Figure 12.13. This suggests that it is possible engaging in regenerative farming enables farmers to cope with severe drought with fewer impacts on their wellbeing, although further research is needed to better establish the cause of the strong association between improved wellbeing and regenerative farming even when the presence of drought is taken into account.

![Figure 12.13 Average global life satisfaction of farmers with differing levels of regenerative farming characteristics who reported being severely affected by drought in the last five years](image)

**Conclusions**

Natural resource management is a key part of farming for most Australian farmers: our data show that engaging in many ‘traditional’ NRM activities is common for most farmers, with 40% of farmers currently engaged in some form of NRM on their farm, and only 6% having never done any NRM activities. In their farming careers, 40-50% of farmers have received a government grant, help from experts, been part of a landcare or NRM group or completed a course of workshop on some form of NRM. Perhaps not surprisingly, given the widespread participation of farmers in NRM, participating in specific NRM activities (such as tree planting or changing grazing practices to increase ground cover) is not in and of itself associated with higher levels of life satisfaction, or in most cases with better farm financial performance.

Increasingly, many farmers are going beyond traditional NRM activities, and are changing their farming systems as a whole to incorporate regenerative principles (also called amongst other things holistic or natural sequence farming). Regenerative farming is a more systemic change than many NRM activities, and involves integrating principles such as maintaining groundcover, increasing plant diversity, and the monitoring of environmental outcomes into all aspects of farm management and planning. While regenerative farmers often anecdotally report experiencing better wellbeing, and coping better with drought, there has been little empirical data to support this claim. Our data show that engaging in regenerative farming is associated with higher levels of wellbeing, even for those who have experienced drought that severely affected their farm in the last five years. This is consistent with the contention that regenerative farming may have wellbeing benefits, however further work is needed to better understand how and why this is the case, and under what circumstances.
Governments place a high priority on farmers and rural communities being self-reliant and prepared for periods of financial difficulty. Typically, preparedness is understood as the ability of farmers and farm businesses to develop strategies that enable them to prepare for, manage, and recover from, drought and other natural extremes. This includes building a strong capital base in terms of the farm’s financial, infrastructure, and natural resources in order to be able to withstand poor years, as well as enhancing the farmer’s skills. Self-reliance refers to the ability of farmers to be responsible for the commercial performance of their farm, and for farming in an environmentally, socially and economically responsible manner. A common element of both self-reliance and preparedness is the ability to prepare for and manage risk (Botterill 2013, Stone 2014). Farming risks can arise on several fronts — shifts in farmers’ terms of trade, the increasing efficiency of competitors, climate variability and natural disasters, to name just a few. These risks are inherent in to the business of farming and

13. Accessing grants, support and services

Many government policies and programs seek to help farmers to better prepare for difficult times, and to support them when they are experiencing severe financial stress on the farm.

This chapter examines the use by farmers of grants, support, and services intended to support farmers in difficult times or to support preparedness and self-reliance in the longer term.

39% of farmers reported that in the last three years they had used farm management deposits (FMDs), particularly Western Australian farmers, male farmers, and farmers aged under 65. Use of FMDs was associated with better farm financial performance and higher levels of farmer wellbeing.

15% had used the Rural Financial Counselling Service (RFCS), particularly farmers in New South Wales and Queensland, those aged under 65, wine grape growers, fruit and vegetable growers, sheep farmers, dairy farmers, and those experiencing financial stress on their farm. RFCS participants reported significantly poorer wellbeing than other farmers, reflecting the level of stress farmers are typically experiencing when they access the service.

10% reported accessing assistance from Centrelink in the last three years, while 6% had accessed the Exceptional Circumstances Interest Rate Subsidy, 5% the Exceptional Circumstances Household Relief Support; 3% had accessed the Transitional Farm Family Payment and Farm Household Allowance or their interim equivalents. Accessing any of these was associated with poorer wellbeing.

5% had received support from non-government organisations in difficult times, or had accessed online or phone support such as Lifeline or Beyond Blue; these farmers also reported poorer than average wellbeing.

All forms of support were considered useful by most of the farmers who had accessed them.

Services that farmers access proactively to prepare for future risks (e.g. FMDs) were associated with higher levels of wellbeing, while services offered in response to tough times on the farm, such as the interim farm household allowance, were associated with poorer wellbeing.

This supports the contention that assistance that promotes preparedness and self-reliance in difficult times can support wellbeing, as it is likely to help prevent or delay some of the circumstances often associated with poorer farmer wellbeing. However, the services that provide support in times when preparedness and other strategies have not been enough are also critical: they provide essential support to those whose wellbeing is very poor, and who are consequently at higher risk of a range of negative health outcomes.

Chapter 13 key points

- Many government policies and programs seek to help farmers to better prepare for difficult times, and to support them when they are experiencing severe financial stress on the farm.
- This chapter examines the use by farmers of grants, support, and services intended to support farmers in difficult times or to support preparedness and self-reliance in the longer term.
- 39% of farmers reported that in the last three years they had used farm management deposits (FMDs), particularly Western Australian farmers, male farmers, and farmers aged under 65. Use of FMDs was associated with better farm financial performance and higher levels of farmer wellbeing.
- 15% had used the Rural Financial Counselling Service (RFCS), particularly farmers in New South Wales and Queensland, those aged under 65, wine grape growers, fruit and vegetable growers, sheep farmers, dairy farmers, and those experiencing financial stress on their farm. RFCS participants reported significantly poorer wellbeing than other farmers, reflecting the level of stress farmers are typically exeriencing when they access the service.
- 10% reported accessing assistance from Centrelink in the last three years, while 6% had accessed the Exceptional Circumstances Interest Rate Subsidy, 5% the Exceptional Circumstances Household Relief Support; 3% had accessed the Transitional Farm Family Payment and Farm Household Allowance or their interim equivalents. Accessing any of these was associated with poorer wellbeing.
- 5% had received support from non-government organisations in difficult times, or had accessed online or phone support such as Lifeline or Beyond Blue; these farmers also reported poorer than average wellbeing.
- All forms of support were considered useful by most of the farmers who had accessed them.
- Services that farmers access proactively to prepare for future risks (e.g. FMDs) were associated with higher levels of wellbeing, while services offered in response to tough times on the farm, such as the interim farm household allowance, were associated with poorer wellbeing.
- This supports the contention that assistance that promotes preparedness and self-reliance in difficult times can support wellbeing, as it is likely to help prevent or delay some of the circumstances often associated with poorer farmer wellbeing. However, the services that provide support in times when preparedness and other strategies have not been enough are also critical: they provide essential support to those whose wellbeing is very poor, and who are consequently at higher risk of a range of negative health outcomes.
risk management is a systematic process of identifying and evaluating these risks, determining what can be done to prevent them, and planning how to address them if they arise. Improving risk management strategies can enhance the capability of farm businesses to withstand adverse shocks, thereby increasing self-reliance.

Several parts of this report focus on areas of farm management in which farmers manage risk and their farm enterprise in ways that improve preparedness and/or enable them to be more self-reliant. For example, having sources of off-farm income can act as a preparedness strategy by increasing the diversity of income available to the farm household, and in times of stress can increase self-reliance as there is additional income to fall back on if farm income falls.

There has been considerable discussion of how best to support farmers to prepare for events such as drought, how to support those experiencing significant impacts due to drought or other extreme events, and how to increase the capacity of farmers to be self-reliant in these circumstances. In particular, the role of the government in assisting farmers to improve preparedness, and to help mitigate impacts, is commonly debated. Many government policies and programs intended to help farmers to better cope with challenging times have been implemented over several decades. These have ranged from relief payments and interest rate subsidies for those experiencing drought, to assistance to exit farming, professional advice and planning grants, farm management deposits, and grants to improve farm management practices. These programs have been implemented in many areas of government policy, including drought policy, water reform, climate change, natural resource management, taxation, innovation, social welfare, and regional development, to name a few.

This chapter examines the use by farmers of grants, support, and services, including some intended to support farmers in difficult times, and others intended to support preparedness and self-reliance in the longer term. It examines which farmers have accessed different types of support, how useful they found that support, and how this is linked to their wellbeing and farm business outcomes.

As can be seen in Figure 13.1, 39% of farmers reported that in the last three years they have used farm management deposits, which provide a risk management tool to help farmers cope with uneven income in different years, and is a key preparedness and self-reliance strategy for coping with difficult financial times. Fifteen per cent had accessed the Rural Financial Counselling Service (RFCS), which provides free financial counselling to those farmers experiencing financial hardship and unable to access other financial advice. When access to grants and payments used to provide assistance to farmers experiencing difficult times were examined, 10% reported accessing assistance from Centrelink in the last three years, while 6% had accessed the Exceptional Circumstances Interest Rate Subsidy (now closed), 5% the Exceptional Circumstances Household Relief Support (now closed), and 5% had received support from non-government organisations in difficult times, or had accessed online or phone support such as Lifeline or Beyond Blue. A total of 3% had accessed the Transitional Farm Family Payment and Farm Household Allowance or their interim equivalents; these schemes were introduced recently.

The three types of support most commonly accessed were analysed by type of farmer, shown in Figure 13.2. Farm management deposits were used more commonly by Western Australian farmers, male farmers, farmers aged under 65, mixed crop-sheep, dairy, cropping, intensive livestock and rice farmers, and by those making a profit on their farm and satisfied with their financial performance. Centrelink was most commonly used by those experiencing farm financial stress, younger farmers, Tasmanian farmers, and by intensive livestock and fruit and vegetable growers. The RFCS was accessed by a higher proportion of New South Wales and Queensland farmers, female farmers, farmers aged under 65, wine grape growers, fruit and vegetable growers, sheep farmers, and dairy farmers; and those experiencing financial stress on their farm. The use of farm management deposits was associated with slightly better than average life satisfaction, and the RFCS with much lower levels of wellbeing than the average.
Those farmers who had accessed each type of support were asked how useful they found it. A majority reported all types being useful, particularly Exceptional Circumstances support, Farm management deposits, support from non-government organisations, and the Farm Household Allowance. Three quarters found the support provided by the RFCS and Centrelink useful. Fewer, although still a small majority, found the Transitional Farm Family Payment or phone and online support services such as Lifeline and BeyondBlue useful.

<table>
<thead>
<tr>
<th>Service</th>
<th>% Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm management deposits (n=1798)</td>
<td>39%</td>
</tr>
<tr>
<td>Rural financial counselling service (n=1798)</td>
<td>15%</td>
</tr>
<tr>
<td>Centrelink (other than payments listed in this figure) (n=1798)</td>
<td>10%</td>
</tr>
<tr>
<td>Exceptional Circumstances Interest Rate Subsidy (n=1798)</td>
<td>6%</td>
</tr>
<tr>
<td>Online or phone support services such as Lifeline, BeyondBlue, or similar (n=1797)</td>
<td>5%</td>
</tr>
<tr>
<td>Support from non-government organisations to help you through difficult times on the Farm (n=1798)</td>
<td>5%</td>
</tr>
<tr>
<td>Exceptional Circumstances Household Relief Support (n=1798)</td>
<td>5%</td>
</tr>
<tr>
<td>Transitional Farm Family Payment/Transitional Income Support (n=1798)</td>
<td>3%</td>
</tr>
<tr>
<td>Interim Farm Household Allowance/Farm Household Allowance useful (n=2807)</td>
<td>3%</td>
</tr>
</tbody>
</table>

% farmers who used, received or participated in this in the last three years

Figure 13.1: Types of government and non-government programs and assistance used by farmers in the last three years
Figure 13.2 Use of assistance related to farm finances in the last three years, by type of farmer
Figure 13.3 Usefulness of different government and non-government programs, rated by farmers who had accessed them within the last three years

The overall life satisfaction of farmers who accessed different types of support was compared to those who had not accessed the support. In general, it was expected that accessing proactive preparedness tools such as farm management deposits would be associated with higher levels of wellbeing, and reactive tools that provide support when farmers are already in high levels of financial stress or other distress would be associated with lower levels of wellbeing. This was the case, as can be seen in Figure 13.4: while use of farm management deposits was associated with slightly better than average levels of wellbeing, others were associated with poorer wellbeing. This was particularly the case for forms of support that are targeted to farmers in the highest levels of distress or farm financial stress, including phone and online counselling services, Farm Household Allowance and the RFCS. Exceptional Circumstances support was not associated with substantially poorer wellbeing, but this likely reflects that these schemes have ceased, and many farmers who accessed them may have experienced financial recovery on their farm since accessing them.
Conclusions

Many government policies and programs seek to help farmers to better prepare for difficult times, and to support them when they are experiencing severe financial stress on the farm. This chapter briefly examined farmers’ experiences with accessing some of the grants and services that have been provided to farmers in recent years. Our results are consistent with the argument that supporting farmers to improve preparedness is likely to be better for farmer wellbeing compared to providing reactive support once farmers have been experiencing severe stress on the farm for some time: use of farm management deposits was associated with higher levels of wellbeing, while use of services and grants provided to farmers in times of severe distress was associated with lower levels of wellbeing. Our results also support the use of both types of support: most farmers found the support provided to them in times of difficulty useful, suggesting this is an important form of support for farmers at times when their wellbeing is lower than average.

The data collected in the survey on use of different supports will continue to be collected over time. This will enable more in-depth and detailed analysis of farmer wellbeing before, during and after difficult times on the farm, and better examination of the effectiveness of different approaches to supporting preparedness and self-reliance, and of providing support during times of stress.
Chapter 14: Key points

- The number of farmers in Australia has declined substantially in recent decades, and this decline appears to be continuing.
- Very little is known about the wellbeing of farmers who are planning to leave farming, or of what happens to farmers after they leave farming.
- Of the farmers who participated in the 2014 Regional Wellbeing Survey, 27% reported being likely or very likely to leave farming in the next five years, and 65% unlikely or very unlikely.
- Wine grape growers were more likely than any other type of farmer to be planning to exit farming in the next five years, followed by fruit and vegetable growers and rice growers. Those least likely to be planning to exit were intensive livestock producers, those engaged in mixed crop-sheep-beef farming, and cotton growers.
- Getting older was the most common reason for intending to leave farming (75% of farmers), followed by difficulty maintaining a financially viable farm business (50%).
- Intending to exit farming within the next five years is associated with substantially lower life satisfaction, even for older farmers.
- All Regional Wellbeing Survey participants were asked if they used to own or manage a farm but did not any more. A total of 625 survey participants indicated they were former farmers, and these participants were asked questions about their experiences of leaving farming.
- Retirement and financial difficulties were the most common reasons former farmers gave for leaving farming. However, male ex-farmers had more often left for health reasons than women, while women more often reported relationship breakdown and the health of others as reasons influencing the decision to leave farming.
- Immediately after leaving farming, 45% of former farmers worked for a salary/wages, 30% retired, and 11% founded or bought a non-farm business.
- 83% of ex-farmers felt that leaving farming was a positive thing. Only 19% wished they hadn’t left farming, and 51% found leaving farming was stressful.
- Generally, ex-farmers were about as satisfied with their lives as current farmers.

14. Leaving the farm

In the five years from 2006 to 2011 the number of farmers in Australia declined from 176,700 to 157,000, a drop of 19,700 (Australian Bureau of Statistics, 2012). This decline in numbers followed on from ongoing decline in farmer numbers for several decades that has happened for a range of reasons, particularly increasing efficiency of production that means fewer people are needed to produce the same amount of food and fibre. Some farmers have left to retire, while others have left a farm because it became financially unviable, or for other reasons. Very little is known about the wellbeing of farmers who are planning to leave farming, or of what happens to farmers after they leave farming.

To contribute to knowledge in this area, farmers were asked how likely they were to leave farming in the next five years. Additionally, all survey participants were asked if they used to be farmers but were not any more, and those who indicated they used to be farmers were then asked a series of questions about their experiences pre- and post-exit. This chapter examines the experiences of both farmers considering exit in the near future, and those who have left farming at some time in the past.
Who is considering exit?

Farmers were asked to indicate how likely they were to leave farming in the next five years on a seven-point scale, from 1 (very unlikely) to 7 (very likely). Almost 50% of farmers felt they were very unlikely to exit farming within the next five years (Figure 14.1). Only 14% felt they were very likely to exit.

![Figure 14.1 Distribution of perceived likelihood of leaving farming within the next five years](image)

Figure 14.2 shows the mean exit intentions of different types of farmers. There was little difference between farmers in most states, with the exception of Tasmania, where farmers were less likely to be intending to exit. Male and female farmers had a similar average likelihood of exit. Older farmers were much more likely to be considering leaving farming. Wine grape growers were more likely than any other type of farmer to be planning to exit farming in the next five years. Fruit and vegetable growers and rice growers were the second and third most likely to be considering exit, although small sample sizes mean that there are wide confidence intervals for these groups and the results should be treated with caution. Those least likely to be planning to exit were intensive livestock producers, those engaged in mixed crop-sheep-beef farming, and cotton growers.

The life satisfaction scores of farmers who were more likely to exit were lower than those of farmers who were less likely to exit, indicating that a higher likelihood of exit is associated with poorer wellbeing. This is the case even for farmers aged over 65, indicating that intending to exit within the next five years is associated with substantially lower life satisfaction for many older farmers as well as younger farmers.
Figure 14.2 Exit likelihood, life satisfaction, and reasons for exiting farming
Why are farmers considering exit?

Farmers who indicated they were likely to leave farming in the next five years (defined as those who selected 5, 6 or 7 in the scale shown in Figure 14.1), were asked whether they were planning to exit because they were getting older, because they were finding it difficult to maintain a viable farm business, or because they wanted to shift to a new location. The most common reason was that people were getting older, with 75% of farmers who intended to exit selecting this as a reason for planning to leave (Figure 14.3), while 50% said that difficulty maintaining a financially viable business was a factor, and 20% that wanting to shift to a new location was a factor.

Of those respondents who believed they were likely to leave farming, but for whom age was not a factor, 85% indicated that they were finding it difficult to maintain a viable farm business, suggesting that financial stress is a major driver of non-retirement farm exits. Figure 13.2 showed that farmers were much more likely to be considering exiting farming if their farm was making a loss or in high levels of financial distress, and less likely to be considering exit if their farm was profitable, further demonstrating the importance of farm financial pressures as a major driver of exit from farming.

Ex-farmers and their experiences of exit

A total of 625 survey participants indicated they used to own or manage a farm but did not any more. These ex-farmers had left farming anything from one to fifty years previously, and were asked about their experiences of exit. These data were not weighted when analysed, due to lack of a benchmark population against which to weight the sample of ex-farmers achieved.

Figure 14.4 shows the reasons exited farmers gave for leaving farming (respondents could select more than one option) and differences between genders. Retirement was the most common response, with over 30% of ex-farmers indicating that they had left for this reason. The second, third, and fourth most common reasons for leaving were all economic: financial difficulties on the farm, a desire for a more reliable income, and the ability to earn more working off the farm.
While retirement and financial difficulties on the farm were the most common reasons for leaving given by both male and female ex-farmers, there were some notable differences between genders. Female ex-farmers were much more likely than male farmers to have left farming because of a relationship breakdown or because of the health of others. Male ex-farmers were much more likely than female ex-farmers to have left farming because of their own health. Women were also much more likely than men to have entered farming because they married into a farming family, with 94 of
the 99 people who did this being female. This suggests that women may be more likely to both enter and exit farming because they enter or exit a relationship with a male farmer, and that they may be more likely to leave farming to support that male partner.

**What happens to farmers after they leave farming?**

Ex-farmers were asked what they did in the year immediately after they left farming. Working for a salary or wages was by far the most common response, with 45% of former farmers indicating that they did this (Figure 14.5), followed by retirement at 30%. 11% of former farmers founded or bought a non-farm business, and 10% studied. A small proportion took time off or were unemployed.

![Figure 14.5 Activities of former farmers in the year immediately after leaving farming](image)

Ex-farmers were asked the extent to which they agreed or disagreed with the following statements:

- On balance, and with the benefit of hindsight, leaving farming was a positive thing
- I wish I hadn’t left farming
- Leaving farming was stressful.

Most ex-farmers felt that leaving farming was a positive thing, with 83% in total agreeing with this statement. Only 19% said they wished they hadn’t left farming, while 51% agreed that leaving farming was stressful (Figure 14.6). The level of perceived stress did not vary greatly by the number of years since exit, suggesting that a person’s recollection of the stress experienced at the time of leaving farming was stable over time. Overall, the responses to these three statements suggest that while many farmers did have a stressful experience when leaving farming, it was nevertheless perceived as an overall positive change.
Figure 14.6 Experiences of exit: was leaving positive, a good thing, and/or stressful?

Figure 14.7 shows the average life satisfaction of ex-farmers by time since exit. While the sample size is small and the confidence intervals are wide, it shows that life satisfaction is within the normal range, suggesting that the time since leaving farming is not a good predictor of the wellbeing of ex-farmers. Figure 14.8 shows the wellbeing of current and ex-farmers by age groups. It shows that while current farmers have slightly higher life satisfaction scores, the differences are small and the confidence intervals overlap. This suggests that being an exited farmer is not a strong predictor of life satisfaction, and that, generally, ex-farmers are about as satisfied with their lives as current farmers are.

Figure 14.7 Global life satisfaction of ex-farmers by time since exit
Figure 14.8 Global life satisfaction of current and ex-farmers by age groups

Conclusions

Just over a quarter of farmers (27%) feel they are likely or very likely to leave farming in the next five years, with retirement and financial stress both important reasons for considering exiting farming. Farmers considering leaving farmers on average reported poorer wellbeing compared to those who were not considering leaving.

Farmers leave farming for a range of reasons, but the two most commonly cited by farmers who had left farming were retirement and financial difficulties with the farm business. After leaving farming farmers engaged in a range of activities: a third retired, almost half worked for a salary or wages, and about 10% founded a non-farm business or studied. There were also small numbers who were unemployed or took time off work.

While considering exiting farming in the near future was associated with poorer wellbeing for current farmers, former farmers tended to view their exit from farming as a positive thing and most did not regret leaving, despite around half finding the experience stressful. The average wellbeing of exited farmers was comparable to that of current farmers, which suggest it is possible that declines in (former) farmer wellbeing associated with leaving farming tend to occur before, rather than after, the farmer exits. However, just under 20% of farmers did not agree that leaving was a positive thing, highlighting that the experience of exit is not positive for all.
15. Understanding the wellbeing of Australian farmers

This report has examined many aspects of farming, farmers and agriculture in Australia in 2014. This chapter considers what the findings of the 2014 Regional Wellbeing Survey say about the wellbeing of farmers, farm financial performance, and the different stresses and opportunities being experienced by farmers of different genders and ages, engaged in different farming activities, and living in different places.

Because this report presents data for only a single point in time, it is not possible to definitively identify what is causing poorer or higher farmer wellbeing. For example, in many cases, we do not know if having higher wellbeing is assisting farmers to achieve particular outcomes on the farm, or if it is the presence of these outcomes (such as better farm financial performance) that is supporting wellbeing. In reality, it is likely that both are true: good conditions on the farm are likely to support better wellbeing, which in turn supports better outcomes on the farm, and so on. Despite the limitations of data measured only at a single point in time, the strong associations identified in this report between the wellbeing of farmers and what is happening on and off the farm suggest a number of key areas where there is potential to support farmer wellbeing.

Wellbeing of farmers

Supporting the wellbeing of Australian farmers requires understanding not only their level of wellbeing at a particular point in time, but also the many factors likely to be contributing to that level of wellbeing. Understanding these factors enables identification of potential interventions to support wellbeing. Box 15.1 summarises the key areas where an association was identified between the wellbeing of Australian farmers and the things happening on or off the farm, providing a picture of what is typically happening in the life of a farmer who has high versus low levels of wellbeing.

Box 15.1 Key findings – life satisfaction

| Which farmers have better than average life satisfaction? | Older farmers, Tasmanian farmers, dairy farmers, those with good farm financial performance. |
| Which farmers have poorer than average life satisfaction? | Cotton farmers, fruit and vegetable growers, wine grape growers, those with poor farm financial performance. |
| What changes on the farm were associated with better than average life satisfaction? | Buying land, increasing area farmed, experiencing few barriers to farm development, decreasing debt, good cash flow, feeling water rights are secure and water markets are fair, increasing use of water allocation trade, having many regenerative farming characteristics, using farm management deposits. |
| What changes on the farm were associated with poorer than average life satisfaction? | Planning to sell land, postponing planned investment, reducing employees, increasing on-farm work hours, increasing off-farm income, reducing use of inputs, reducing production/area irrigated, experiencing many barriers to farm development, experiencing drought, increasing farm debt, difficulty servicing farm debt, having a loan application rejected, poor farm cash flow, having no regenerative farming characteristics, accessing rural financial counselling, accessing Centrelink, and being likely to exit farming in the next five years. |
| What changes on the farm weren’t associated with differences in life satisfaction? | Selling land, leasing land, investing in farm, changing markets, changing type of production, reducing on-farm work, sharing expenses with other farmers, increasing irrigation efficiency or area, planning to intensify enterprise, changing production to reduce workload, applying for a farm loan, market/price negotiating ability and information access; engagement in natural resource management. |

The overall life satisfaction of farmers followed many similar patterns to that of the general population: in particular, farmers who were older, and who had better access to various resources such as financial, physical and social capital, reported higher life satisfaction.

Our findings show that farmers report poor access to several of the resources that are often argued to support wellbeing. In particular, farmers are more likely than non-farmers to have high levels of
psychological distress, a finding that is consistent with past studies (see for example Brumby et al. 2011), and which supports the large existing body of literature that argues for a need to increase the access of farmers to mental health support services. Many organisations around Australia are working to improve the mental health of farmers, and continued support for these organisations and their work is essential to addressing this critical issue.

In addition to providing direct support to farmers experiencing psychological distress, indirect support can be provided by addressing some of the many factors likely to be directly and indirectly contributing to higher incidence of distress amongst farmers. Many of these have been established in previous studies: in addition to lacking access to health services, farmers often experience geographic and social isolation, have a culture of stoicism that reduces help-seeking, and are exposed to stressful changes on the farm due to changing markets and climate (Schirmer et al. 2013). Our results are consistent with the argument that these factors are likely to contribute to poorer wellbeing amongst farmers. In particular, farmers often reported poor access to services and infrastructure (including telecommunications), poor conditions in their local economy, and poor household finances, all of which were associated with lower levels of wellbeing.

Poor farm financial performance in particular was strongly associated with poorer wellbeing of farmers, and vice versa, and there is a cycle of action that is likely to reinforce these links over time: in general, farmers with higher wellbeing were more likely to be buying land, investing in their farm, improving their farm financial performance, and farming using regenerative principles, all things likely to in turn improve wellbeing. Those with poorer wellbeing were engaged in activities associated with financial difficulties on the farm, including working longer hours, laying off workers, increasing debt, and considering selling land and exiting farming; these were actions likely to further compromise wellbeing. These results highlight that long term financial distress in the household and on the farm, and the conditions often associated with this distress such as lack of economic opportunities in local areas and lack of infrastructure to support economic diversification and innovation, are likely to be contributing to poorer wellbeing for many farmers. Poor wellbeing in turn is also likely to reduce a farmer’s ability to successfully manage their farm.

Given the predominant and strong association between financial difficulty on the farm and poor wellbeing, action that supports farmers to address financial stress and to prevent it occurring is a key area for intervention. Existing services that provide this type of support are viewed positively by most farmers who access them, including rural financial counselling and farm management deposits, although each of these operates in very different ways to address farm financial stress.

In addition to these forms of direct support to farmers, working to address the factors that reduce farmer’s economic activity and access to infrastructure and services can support farmer wellbeing. In particular, improving telecommunication access in rural areas has potential to improve economic opportunities both on and off the farm, and to provide improved remote access to education, health and other services.

Our results suggest potential to explore further options for helping farmers address financial stress beyond those already suggested. These include supporting farmers to diversify economic activities both on and off the farm, rather than focusing solely on the farm. Many farmers with high wellbeing combine on and off-farm activities successfully, and supporting farmers to find a mix of activities that best suits them may better support wellbeing than a ‘one size fits all’ approach that either implicitly or explicitly encourages farmers to either stay full-time on the farm or to exit farming completely. Additionally, supporting farmers more effectively through the process of leaving farming has potential to support farmer wellbeing. For some farmers, the solution to financial stress and poor wellbeing is to leave farming. Our findings show that, in the longer term, leaving farming is positive for many of those who have done it, but suggest that the period in which farmers are considering exit is associated with poorer wellbeing and greater stress on the farm. This suggests a
need to design support for farmers specifically targeted to the period prior to exit, and which provides support through what is often a highly stressful process.

Farm financial performance and wellbeing

Farm financial performance and a farmer’s wellbeing are strongly associated with each other. Box 15.2 summarises the factors most commonly associated with good versus poor farm financial performance. First and foremost, good farm financial performance is associated with positive wellbeing and better household financial wellbeing. Farmers doing well on the farm (in the form of being profitable and satisfied with their farm financial performance) are typically able to reduce farm debt, have good cash flow and other positive farm financial characteristics. They report having better ability to negotiate prices with buyers, and better access to market information, are more likely to use farm management deposits, to share expenses with other farmers, and often (but not always) have a larger farm in terms of economic size compared to those reporting poor farm financial performance. If they are irrigators, they often engage in water trade. Poor farm financial performance, meanwhile, is associated with actions that may often reinforce financial stress, such as increasing debt, postponing investment in the farm, and reducing production. It is also associated with increased work hours on and off the farm, and reduced time spent with friends and family, which can have a negative effect on wellbeing. Thus for many farmers experiencing farm financial stress, there is a reinforcing cycle of actions that make it hard to improve either farm finances or farmer wellbeing.

Box 15.2 Key findings – farm financial performance

What is associated with better farm financial performance? Higher life satisfaction, larger GVAP, a lower proportion of income earned off-farm, better household financial wellbeing, better community economic wellbeing, lower psychological distress, buying land, sharing expenses with other farmers, reducing farm debt, good farm cash flow, being able to negotiate prices with some buyers of agricultural produce, good access to market information, having secure water access rights, feeling water trade market is fair, increasing use of water allocation traded, finding it easy to trade water, using farm management deposits, lower likelihood of leaving farming in next five years.

What is associated with poorer farm financial performance? Poorer life satisfaction, lower GVAP, a higher proportion of income earned off-farm, poorer household financial wellbeing, poorer community economic wellbeing, higher psychological distress, less time spent with friends and family and in community activities, poorer access to services and infrastructure, poorer sense of safety in local community, poorer perceived environmental health, planning to sell land in near future, postponing farm investment, reducing production, reducing on-farm workers, increasing own on-farm and off-farm work, reducing use of inputs (including water), experiencing many barriers to farm development, increasing debt, finding it difficult to service debt, having loan application rejected, having poor farm cash flow, having no choice in price received for produce, accessing rural financial counselling or Centrelink, planning to leave farming in next five years.

What things weren’t associated with differences in farm financial performance? Living on or off the farm, farmer’s general health, confidence on skills and education, ability to have a say and be heard in local community, perceived equity and inclusiveness of local community, selling and leasing land, finding new markets, changing what is produced on the farm, reducing on-farm work, increasing irrigation efficiency or area. In addition, access to telecommunications was not strongly associated with differing performance: however, this is largely because almost every farmers rated their access as poor, suggesting improved access is important to all farmers.

As described above, reducing farm financial stress is likely to support farmer wellbeing. Addressing the many sources of financial stress on Australian farmers, though, is challenging. Our result suggest that one key entry point is investing in addressing the factors that act as barriers to farm development for many farmers: rising input costs (including water entitlement costs for irrigators), falling prices, drought, lack of telecommunications, red tape and rising electricity costs. Interventions that address these barriers – for example, research that reduces input use or identifies cheaper inputs; investment in improved telecommunications in rural areas; or investment in simplifying
regulatory systems to reduce the time required to navigate them - are likely to support farm financial performance and, via this, to support farmer wellbeing.

Age, gender and wellbeing on the farm

The experience of farming is different for farmers of different ages, and for male and female farmers. While substantially more work is needed to understand differences between these groups, and more in-depth analysis of Regional Wellbeing Survey data is planned to examine these groups, the results presented in this report indicate some key areas of difference important to the wellbeing of younger, older, female and male farmers.

Younger farmers report better general health and confidence in skills and education compared to older farmers, and typically work on larger farms (in terms of economic size). Similar to younger people in rural and regional Australia more generally, they are less likely to report getting involved in community activities, feeling their community is equitable, inclusive or safe, feeling a sense of belonging to their community, enjoying their local landscape, or having good access to telecommunications. On their farms, they are more likely than older farmers to be in high financial stress, making a loss, have poor cash flow and to be increasing a debt they find difficult to service; but also more likely to be satisfied with their farm financial performance, to be buying land, and increasing both on- and off-farm work. They lack confidence in security of water rights and the fairness of the water market compared to older farmers.

Supporting young farmers to stay in farming and maintain positive wellbeing requires addressing many of the same issues identified as linked to out-migration of young people in general from rural communities, such as improving their sense of inclusion, belonging and safety in their community (see Schirmer et al. 2015). Ideally, it also involves supporting innovative models of farming that reduce the financial stress often experienced by young farmers as they work to expand and invest in their farm. This financial stress is likely to be a key factor driving the high levels of both on- and off-farm work reported by young farmers, which when combined with high farm debt and poor cash flow leave them highly vulnerable to stresses on the farm, while also being likely to reduce their engagement in local community activities. Finding ways of supporting the financial security of younger farmers can also assist in further encouraging the strong levels of investment in farm development and expansion by this group.

Older farmers, similar to older rural and regional Australians more broadly, were more likely than younger farmers to have higher levels of life satisfaction, spend more time with friends and family, be involved in community activities, to be satisfied with their access to services and infrastructure (including telecommunications) and to have lower levels of concern about environmental health. From the age of 55 onwards, farmers often reported poorer general health, but were more likely to be satisfied with their farm financial performance, more likely to be reducing their debt levels, and to be considering leaving farming. This is associated with a greater likelihood of selling or leasing out land, reducing on- and off-farm work, and reduced investment in the farm. They were also more likely to be graziers, managing a small farm, and engaging in regenerative farming practices. However, not all older farmers report high levels of wellbeing. In particular, planning to exit farming is associated with poorer wellbeing even for older farmers. Actions likely to support the wellbeing of many older farmers include providing support or advice during the period in which they are planning to leave farming.

Because they represented the majority of farmers, male farmers were similar to the ‘average’ farmer, and thus had similar wellbeing challenges and opportunities identified earlier. Female farmers were more likely than male farmers to earn off-farm income and to be planning to increase this off-farm income and to change production to reduce workload in the near future. They were also more likely to have reduced farm production in the last year, report making a loss on the farm,
and have accessed rural financial counselling in the last three years. They were more likely to be involved in local community activities, concerned about poor local environmental health, and to be a regenerative farmer. Further work is needed to identify strategies for specifically supporting the health of female farmers. Given their high off-farm work participation, and lower self-reported farm profitability, addressing workload issues and farm financial challenges, are likely to be some areas that can support wellbeing. The 2014 survey did not include a large number of questions examining gender-specific issues related to farming, and future surveys are likely to explore this in more depth, enabling a better understanding of the different experiences of female and male farmers.

**Wellbeing on different types of farms**

In any given year, there will be high demand and prices for some agricultural commodities, and low demand and prices for others; some types of farmers will be facing a difficult year due to drought or pest or disease outbreak, while others will be experiencing good weather conditions. These various factors mean that the wellbeing of farmers engaged in different types of farming often varied substantially. In fact, the wellbeing of farmers engaged in different types of farming activity were often larger than the differences based on age, gender, or where a farmer lives.

In 2014, dairy farmers were more likely to report high levels of wellbeing than others, while cotton growers, wine grape growers, and fruit and vegetable growers other than wine grape growers, more commonly reported low levels of wellbeing. For each of these groups, it is possible to identify multiple factors likely to be contributing to differences in wellbeing: compared to other farmers, fewer dairy farmers had experienced drought in recent years, and more had experienced good farm profitability, while wine grape growers were more likely than others to report experiencing poor market conditions, drought and poor financial wellbeing.

These findings highlight the importance of understanding the different conditions being experienced by different types of farmers. For example, weather events such as cold snaps affect different farmers in very different ways depending on what they are producing: an unseasonal frost may have little impact on a beef grazier, but result in loss of a crop for their neighbour. One farmer may be experiencing sustained and ongoing market downturn that has reduced their financial capacity to cope when a flood washes away some farm infrastructure, while their neighbour is easily able to replace the same infrastructure because they are in a good financial position after several years of good markets. These conditions will change over time, making it important to track how wellbeing is changing for different farmers.

The sections below summarise key findings on the wellbeing of farmers engaged in different types of agricultural production, focusing on three groups: irrigators, graziers and crop growers.

**Irrigators**

As a whole, irrigators often reported higher GVAP and numbers of farm employees comparing to those managing rain fed farms. While in most respects irrigators were no more or less likely than dryland farmers to report experiencing good or poor farm conditions, they were different in some respects. Irrigators were more likely than dryland farmers to be planning to sell land in the next five years, to have postponed farm investment in the last 12 months, reduced their on-farm workforce and inputs (but not production), and increased their own on-farm work hours. They were less likely to be planning to expand the area they farmed in the next five years, and more likely to report
experiencing barriers to farm development. Irrigators were also more likely to report that their farm was in high financial stress than other farmers – but not less likely to report being profitable. They were less likely to be using farm management deposits than dryland farmers, but were more likely to report having accessed rural financial counselling or Centrelink in the last three years.

The wellbeing of irrigators varied substantially, depending on the specific goods they produced. Dairy farmers and rice farmers reported better than average wellbeing and farm financial performance in 2014; wine grape and fruit and vegetable growers reported poorer than average finances and wellbeing; and cotton growers had a mix of characteristics.

**Cotton growers:** Cotton growers were younger than the average Australian farmer, more likely to live off the farm, to have a farm of large economic size, and less likely to earn off-farm income than most other farmers. They reported better than average household financial wellbeing, but poorer local economic conditions, poorer health, and were more likely to have moderate or high levels of psychological distress. Reflecting both their younger average age and the location of many cotton farms in more remote areas with low population, cotton farmers reported poorer access to services and infrastructure and telecommunications than most other farmers; they were also less likely to feel safe where they lived. There were two distinct groups of cotton farmers: those in northern areas of New South Wales and in Queensland were more likely to have postponed investment, reduced production, irrigation and employment and increased off-farm work in recent years, and to be experiencing drought. Those in southern areas, where cotton production is expanding, were more likely to have bought land in the last 12 months and to be planning future expansion. Cotton farmers as a whole had often increased their on-farm workload in the last year, increased use of water allocation trade in recent years, felt they had good access to market information and were more likely to feel able to negotiate prices with buyers of their produce than other farmers. They were less likely to be engaged in natural resource management activities or regenerative farming than other farmers.

**Dairy farmers** were often (although not always) irrigators. Dairy farmers were younger than the average Australian farmer, and as a group had higher levels of life satisfaction, larger farms in terms of economic size, and less off-farm income than other Australian farmers. Dairy farmers were more likely than other farmers to report living in a community with good economic conditions, and with good access to services and infrastructure. They also reported less involvement in community activities, and a lower sense of belonging to their community than others, likely reflecting the work structure of dairy farming and associated limitations the work involved in dairy farming places on getting involved in some community activities. Dairy farmers were more likely to be buying and leasing new land, increasing the area irrigated, increasing their use of water trade, increasing their irrigation efficiency and investing in their farm than others; less likely to be reducing production, finding new markets or changing what they produce; less likely to have experienced drought in recent years; and more likely to report good local environmental health. Dairy farmers reported better farm financial health than most other farmers, and were more likely to have applied for a loan in the last year and to use farm management deposits, although they were also more likely to have accessed financial counselling or Centrelink in recent years. While many engaged in NRM activities, few had regenerative farming characteristics.

**Fruit and vegetable growers** were a very diverse group, and the ‘average’ characteristics reported here mask the often wide range of differing conditions experienced by growers of different types of fruit and vegetables. As a whole, fruit and vegetable growers reported lower than average life satisfaction and higher rates of psychological distress, had lower GVAP and higher levels of off-farm work than average. Fruit and vegetable growers were less likely to feel included in their local community or to feel it was inclusive, and more likely to report feeling unsafe than most other farmers. They reported better access to telecommunications than many others, reflecting the
location of many (but not all) fruit and vegetable growing operations near larger regional centres. Fruit and vegetable growers were more likely than other farmers to be planning to sell land in the next five years, and to have reduced production in the last 12 months; they were also more likely to have found new markets or changed what they produce in the last 12 months. The diversity of this group is reflected in the finding that they were both more likely to have increased and reduced the area irrigated in the last 12 months, with a larger than average proportion doing each of these things. They had experienced fewer barriers to farm development than other farmers and reported average farm financial performance, but were more likely to be planning to exit farming (despite not being older than average), and to have accessed rural financial counselling in recent years. Despite reporting poorer than average access to market information, this group was more likely to feel able to negotiate prices with some of their buyers, particularly smaller growers who sell part of their produce at farmers markets or other outlets where they have some influence over price. Larger growers reported less ability to negotiate prices. Fewer than average found it easy to trade water or had increased use of water trade in recent years.

**Rice growers** were older on average than other Australian farmers (excepting sheep and beef graziers and wine grape growers), and more likely to be male. They typically managed farms with a large GVAP, and reported better farm financial performance than most other Australian farmers. They also reported lower than average psychological distress, better household financial wellbeing, and were more confident in their local community in terms of its economy, inclusiveness, safety, and feeling a sense of belonging. While mostly reporting better access to services and infrastructure than other farmers, rice growers did have poorer than average access to telecommunications. Rice farmers were more likely than other farmers to be investing in their farm, increasing the area irrigated, increasing their use of water trade and improving irrigation efficiency, planning to intensify their enterprise in the next five years, and finding new markets (often for the other crops many produce in addition to rice). Reflecting their older average age, they were more likely than average to be planning to leave farming in the next five years.

**Wine grape growers** were more likely to be male and older than other Australian farmers. As a group, they reported lower life satisfaction and higher psychological distress than the average for all farmers. One of the few areas where wine grape growers reported better outcomes was in access to telecommunications, services and infrastructure: in most other respects, wine grape growers were more likely to report experiencing difficult times on their farms than other types of farmers. Farm financial performance was poorer than average, and wine grape growers more commonly reported selling land, reducing use of inputs, postponing farm investment, reducing on-farm employment, and increasing their own on- and off-farm work in the last year, as well as accessing rural financial counselling. They were less likely to have increased the area irrigated in the last 12 months, and more likely to report experiencing barriers to farm development, including drought, heatwaves and cold snaps. When compared to other Australian farmers, fewer wine grape growers felt they had access to good market information or choice in the prices they received. Wine grape growers were much more likely than others to be considering leaving farming in the next five years.

**Graziers**

While many Australian farmers combine growing crop and grazing livestock, there are a large number who specialise in grazing sheep, beef cattle or a combination of both, predominantly on rain fed farms (although some are on irrigated farms). These specialised livestock graziers are often older than the average farmer, typically have a smaller farm turnover than those involved in other types of farming, are more likely to earn a substantial proportion of their income off farm than other farmers, and are typically less focused on farm investment expansion, and more likely to be engaged in regenerative farming and NRM activity, than other farmers.

**Beef farmers:** On average, farmers specialising in non-intensive beef production were older than the average Australian farmer and slightly more likely to be female. The average beef producer
reported a smaller GVAP than other Australian farmers, earned a substantial proportion of their household income off-farm, and had few employees on the farm. They also had higher confidence in their skills and education than many other farmers. They were less likely to have bought land in the last 12 months, changed production or markets or invested in the farm, and less likely to have increased their on-farm workload. They were more likely than other farmers to be making a loss on the farm, and to have had a loan application rejected in the last 12 months (although fewer had applied for loans than was typical across all Australian farmers). They were more likely than other farmers to feel they had no choice in prices received for products. Specialised beef producers were also more likely than the average Australian farmers to be engaging in regenerative farming.

**Intensive livestock farmers** were more likely than others to have many farm workers, to earn a high proportion of income off-farm, and less likely to live off the farm. They were less satisfied with their access to telecommunications, but felt safer in their communities than other farmers. They were more likely to have both bought and sold land in the last 12 months, and to have postponed farm investment and reduced farm production and input use while increasing their own on-farm work. Many reported finding new markets and changing what they produced in the last 12 months. They were more likely to report being in high financial stress and accessing rural financial counselling or Centrelink in recent years than other farmers, but also more likely to be satisfied with their financial performance, reflecting that this is a diverse group of farmers experiencing a wide range of conditions. They were more likely to be regenerative farmers than other Australian farmers.

**Sheep farmers:** On average, farmers specialising in sheepmeat and/or wool production were older than the average Australian farmer. The typical sheep grazier reported a smaller GVAP than other Australian farmers, earned a substantial proportion of their household income off-farm, and had few employees on the farm. They were more likely than others to have sold land in the last 12 months, and to be planning to sell land in the near future. They were less likely to have changed production or markets or invested in the farm in the last 12 months, and less likely to have increased their on-farm workload. They were more likely than other farmers to be planning to increase their off-farm income, to be making a loss on the farm, and to have had a loan application rejected in the last 12 months, although fewer than average reported being in high farm financial stress. They were more likely than other farmers to feel they had no choice in prices received for products. Sheep producers were also more likely than the average Australian farmers to be engaging in regenerative farming.

**Broadacre cropping**

Broadacre cropping refers to large-scale dryland farms involved in grain and oilseed cropping, often in conjunction with livestock grazing. While some grain and oilseed growers are irrigators, the majority were dryland farmers. Grain and oilseed growers typically have less off-farm work than graziers, and operate farms of larger economic size. While more likely to be expanding their farm, having good market information and reporting reasonable farm profitability, many do report high financial stress on the farm.

**Grain and oilseed growers** (cropping farmers), defined as those growing grain or oilseeds without also grazing livestock, were more likely to be younger and live off the farm, and less likely to earn off-farm income than most Australian farmers, likely at least in part because they lived in communities in which they reported local economic conditions were poor. They were more likely to be experiencing moderate to high psychological distress than other farmers, and were less likely to take part in community activities than most other farmers. Grain and oilseed growers were less likely than other farmers to have reduced production or use of inputs, laid off farm workers, or increased their own on-farm work in the last 12 months. Many were planning to increase their off-farm income in the next five years. While reporting similar levels of profitability to other farmers, and having high use of farm management deposits, they were also more likely to report being in high financial stress. Access to market information and ability to negotiate prices was better than for other farmers.
While often engaging in NRM activities, crop growers were less likely than graziers to be regenerative farmers.

**Mixed crop-sheep farmers** were, similar to others engaged in crop growing, less likely to have off-farm income than other farmers, had poorer than average access to services and infrastructure, and were more likely to report good farm financial health, to be buying land or increasing the area farmed, to be sharing expenses with other farmers and applying for loans, and less likely to be reducing production. They were more concerned about environmental health than the average Australian farmer, and more likely to be engaged in regenerative farming.

**Farmers in different states**

As well as the type of farming engaged in, where a farmer lives can matter for their wellbeing, as whether a farmer is affected by drought or other climatic events depends on where they live, and the types of farming engaged in differ depending on soils, rainfall and other geographically dependent characteristics.

While in many respects farmers did not vary substantially between states, there were some differences. In particular, farmers in Queensland were more likely to report high levels of psychological distress and poor farm financial outcomes.

**New South Wales** farmers were less satisfied with their access to telecommunications than most other farmers (with the exception of Western Australia). They were more likely to be buying land, but also more likely to be planning to sell land in the near future. They were much more likely to report experiencing drought and multiple barriers to farm development than those in any other state, and to have accessed rural financial counselling or Centrelink, except Queensland. Irrigators were more likely than those in other states to find it easy to trade water, and to be increasing their use of trade, but less likely to feel their water access rights were secure.

**Victorian** farmers were less likely than others to be postponing investment in the farm or reducing farm production or employment, and reported better farm financial performance than those in most other states, with the exception of those living in areas experiencing drought. Together with New South Wales, Victorian irrigators were more likely than most other irrigators to have increased their use of water allocation trade in recent years.

**Queensland** farmers were more likely than those in any other state to report moderate to high levels of psychological distress, and poor economic conditions in their local community. They were more likely than farmers in any other state to report experiencing financial stress on the farm, increasing farm debt, finding it difficult to service debt, having a loan application rejected in the last 12 months, and having poor farm cash flow. On the farm, they were more likely to have postponed investment in the last 12 months as well as reduce production, to be increasing on- and off-farm work, and to be planning to sell land in coming years. They were much more likely to report experiencing drought, flood, and multiple barriers to farm development than those in any other state, and to have accessed rural financial counselling or Centrelink, except New South Wales. Irrigators were more likely than those in other states to find it difficult to trade water and disagree that the water trade market is fair for all users.

**South Australian** farmers reported poorer general health, and were more likely than those in other states to have reduced use of inputs and (for irrigators) the area they irrigated in the last 12 months, and to have experienced heatwaves in recent years. They were more likely than those in most other states to be finding it difficult to service their debt and have poor cash flow.

**Western Australian** farmers were typically operating farms of large economic size and less likely to have off-farm work than those in other states. They reported on average better farm financial performance than those in other states, and were more likely to be decreasing farm debt (although still often finding it hard to service their debt). They were less satisfied with their access to...
telecommunications than most other farmers (with the exception of those in New South Wales), and reported more environmental problems in their local region than those in other states. They were more likely to be buying land and planning to increase the area they farmed in coming years, and less likely than those in other states to be reducing production. Fewer reported experiencing drought in recent years compared to most other states.

_Tasmanian_ farmers reported higher life satisfaction, more off-farm income, lower psychological distress, better access to telecommunications, and were less likely to report poor environmental health in their local region than other farmers. They were less likely to be reducing farm production of employment, and less likely than those in other states to be planning to leave farming in the next five years. Fewer reported experiencing drought in recent years compared to most other states. Irrigators were more likely to feel their water access rights were secure compared to other states.
Conclusions

Understanding the wellbeing of farmers, and how it is influenced by what happens on their farms, is complex and nuanced. This report provides a snapshot of Australian farmers in 2014, their wellbeing, and the things going well and poorly on their farms. It is not a comprehensive analysis of wellbeing, but does point to many important areas in which there is potential to support farmer wellbeing.

The report highlights that many farmers are experiencing positive wellbeing and are in good financial health on the farm. However, farmers are almost twice as likely as non-farmers to be experiencing moderate to high levels of psychological distress, and a substantial proportion are experiencing financial difficulties on the farm.

In particular our findings highlight the strong association between poor farm financial performance and poor wellbeing: farmers experiencing farm financial stress typically have much lower levels of life satisfaction, and higher levels of psychological distress. These are likely to reinforce each other: financial stress places pressure on wellbeing, and a person with poorer wellbeing has less capacity to successfully manage their farm back to a position of financial security.

In 2014, some farmers were experiencing poorer personal wellbeing and had farms in a poorer financial position than others: in particular, wine grape growers, fruit and vegetable growers, and farmers in drought affected areas of Queensland and New South Wales. While these were not the only farmers experiencing difficult times on the farm, a much larger proportion of these types of farmers were experiencing difficulty than was typical across all farmers. Other farmers were more commonly experiencing positive personal and farm financial wellbeing, particularly dairy and rice farmers. Others – in particular sheep and beef graziers - reported their farm was not performing particularly well financially, but did not have poorer wellbeing associated with this, something often associated with having greater reliance on off-farm work, and a smaller farm. This highlights that farmers support their wellbeing using a diversity of strategies: growing farm size is one strategy, but operating a small farm while working off the farm can also be an effective way of maintaining a life on the land and positive wellbeing for many.

Our results strongly support the calls of many organisations to improve delivery of mental health support services to Australian farmers. They also suggest that these strategies are likely to be most effective if they are accompanied by support that focuses on the financial wellbeing of farmers, such as farm financial counselling and planning, or programs that help farmers diversify economic opportunity both on and off the farm. For those farmers considering leaving farming – whether for retirement or due to financial stress - providing support through the period prior to and during exit may help address the poorer wellbeing often experienced during this time.

This report presents a snapshot in time. The Regional Wellbeing Survey is conducted annually, and future reports will track change in the wellbeing of Australian farmers over time, giving a more comprehensive understanding of how Australian agriculture is changing.
References


