Submission to Australian Government Regional Telecommunications Review

July 2015

Overview

Grain Growers Limited (GrainGrowers) welcomes the opportunity to provide input to the Australian Government's Regional Telecommunications Review. We support the Government's objective to ensure that people who live in regional, rural and remote Australia have equitable access to telecommunications services.

GrainGrowers is Australia's only national, independent, member-based, financially sustainable, technically resourced, grain grower organisation. Our aim is to develop and promote a more efficient, sustainable and profitable industry for all grain farming businesses across Australia.

GrainGrowers has over 18,500 members nationally, and is driven by a member elected Board consisting of six grower and two non-grower members. GrainGrowers work in collaboration with our grain growing members, other farmer representative bodies, and experts in Australia's grains industry to deliver industry improving submissions and policies, education and events, and products and services.

Our policy development process is driven by our National Policy Group, which is made up of 15 elected grower representatives from the three major grain growing regions in Australia. GrainGrowers' National Policy Group convenes regularly to debate the important issues for grain growing businesses as they arise.

The Australian Grains Industry is Australia's foremost commodity sector delivering annual farm production of $15 billion, generating employment for more than 179,000 people across Australia and providing grains to Australia's domestic grain processing and livestock sectors. Australian grain growers sustainably manage over 24 million hectares to produce an average of 40 million tonnes of grain each year across Australia. Australian grain growers rely on international markets with 65 per cent of production exported, which valued at $12 billion per annum makes it Australia's largest export market.

Introduction

Rural and regional Australians depend upon, and deserve equitable telecommunications services and service quality. At present, the vast majority of Australian farmers feel they are yet to experience the benefits of the NBN, while they also believe mobile coverage is inadequate to operate a modern business.

GrainGrowers believes an opportunity exists to invest in practical ways to deliver the benefits of faster and more reliable broadband and mobile services to farmers and related agribusinesses. It will also help to increase participation, engagement and investment in the digital economy, create sustainable jobs in regional Australia and increase the connectivity and liveability of these communities.

Figures indicate the agricultural industry has been, and remains the most volatile sector of the Australian economy over the past four decades. Furthermore, the value of output from the agricultural sector has been almost two and a half times more volatile than the average for the major sectors of the economy. Within the Australian agricultural industry, the grains industry is clearly the most volatile of all the major agricultural commodities.

Grain farming businesses have adjusted both the business and agronomic sides of their enterprises to cope with the financial pressures attributed to this high level of volatility and low margins. Growers constantly strive to increase production, profitability and farm sustainability. This is driving the ever increasing emphasis on technologic developments through precision farming technology and more informed decision making tools such as GrainGrowers' ProductionWise (https://www.productionwise.com.au/). However, these changes will only accrue benefits for the grains industry, regional communities and Australia's economy if underpinned by adequate telecommunications infrastructure.

Telecommunications services are a critical part of doing business in Australia. GrainGrowers seeks to ensure that delivery of the NBN and mobile infrastructure is used to its potential to realise productivity gains and diversify regional economies. The use of modern information technology in rural Australia has lagged behind urban Australia, and strategies to realise the efficiency and productivity gains in agricultural industries are required. Modern farming practices are increasingly reliant on information technologies for production, risk management and marketing activities.

Technology and Smart Farming

"Smart farm technology will help farmers to make daily management decisions that improve farm productivity, and help create new opportunities for our agricultural products and expertise" (CSIRO Smart Farming White Paper 2013)

Information is critical to a farmer's decision making and consequently to a farm's profitability. The ability to monitor and evaluate a farm's operation in real-time can provide huge productivity benefits. Access to fast broadband connectivity and having the digital skills to use this technology can allow farmers to make management decisions using a wealth of information and data about crops, pastures, livestock, machinery and environmental conditions on the farm.

An example of this rise in productivity is from the National Committee on Soil and Terrain which predicts improvements in soil management resulting from access to up to date user-friendly soil data could generate benefits to Australia worth at least $2 billion a year by 2020[1].

Education opportunities, information exchange and improved efficiencies on farm are some of the immediate benefits of improved access by the agricultural sector to the digital economy. These types of technological innovation are crucial to driving the changes that are needed to underpin the long-term future of Australian agriculture.

Computing technologies have been used in the agricultural sector for the past two decades, but adoption has been uneven and its full potential unrealized. According to the CSIRO's 'Smart Farming White Paper' the NBN could support a number of developments that will help drive innovation and transform the way digital services are used. These developments include[2]:

- Through the NBN the potential creation of broadband hotspots on all Australian farms;

- Sensor technology that is low cost and ubiquitous will be able to monitor crops, livestock, water, weather and equipment;

- Local wireless systems that make it easier to connect to broadband technologies;

- Smart personal devices and apps that make accessing information on the move easier;

- Cloud computing technology that simplifies access to and sharing of information;

- Analytic capabilities of diverse information sources, and

- Increasing ease of use of video-conferencing systems, making it easier to bring remote veterinary and other agricultural advisory services onto the farm.

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[1] DAFF (2014) The National Soil Research, Development and Extension Strategy. 'Securing Australia's Soil- For profitable industries and healthy landscapes

[2] CSIRO (2013) White Paper. 'Smart Farming: leveraging the impact of broadband the digital economy'.

Current use and barriers to adoption

The '2011-12 Regional Telecommunications Review' confirmed (Finding 5.12) that although areas of the farming sector are already fully exploiting the opportunities of the digital economy, there are many enterprises that could better engage in the digital economy.

Recent surveys conducted by GrainGrowers have highlighted that farmers are keen to embrace the opportunities of the digital economy. In certain sectors of the industry there is already strong engagement with broadband technologies. For example, our recent survey showed that around 44% of respondents used their tablet or smartphone more than 10 times per day.

This being said there are multiple barriers, perceived and actual, that are hampering the spread of technological advances in agriculture. GrainGrowers recent technology survey (which is included in this submission as an attachment) outlined some key findings:

- 55% of growers surveyed regarded their mobile speed and coverage as marginal, poop or non-existent
- 83% of those surveyed said the NBN scheme hadn't benefitted them in any way
- 75% said a lack of quality telecommunications services were impeding their business operations and,
- Cost and internet connectivity were the two major limitations to adapting new technology on the farm.

Whilst GrainGrowers welcome the new investment from the Government, Telstra and Vodafone through the Mobile Black Spot Programme, the proposed new mobile towers are largely not located in the grain belts of Australia. Apart from Western Australia (where 58% of new towers are located in the grain belt) and Victoria other states' major agricultural areas have not benefited to the extent of other sectors.

There are also serious limitations with the current speed, reliability and price of the internet in regional Australia. Many farming businesses are solely reliant on the purchase of Smart Antenna's for mobile and internet coverage, which are unfortunately affected by heavy rain, cloud and storms. As an example of some of the recent issues with this technology, many growers have bought 3G Smart Antennas over the past 12 months to improve connectivity however a new 4G Smart Antenna has now been brought on the market (with no warning to growers that purchased the 3G antenna a few months ago). The cost to growers to update to the new 4G antennas has been an additional $960 on top of the $1750 they have already paid.

For those who are able to access broadband in regional areas there are sometimes no useful "bundles" to purchase and the standard plan estimates to be double the cost with a fraction of the data download.

Below is an example comparison between a popular rural phone package and internet service with the similar call options bundle with internet included.

Telstra Cost Comparison		
	Urban Bundle L	**Telstra Rural**
Unlimited local calls to fixed lines	**Yes**	**Yes**
Unlimited national calls to fixed lines	**Yes**	**Yes**
Unlimited calls to standard Australian mobiles	**Yes**	**Yes**
T- Box	**Yes**	**Not available at any cost**
Telstra Gateway Max	**Yes**	**Not available at any cost**
6 months Presto	**Yes**	**Not available at any cost**
500 GB of Broadband	**Yes**	**Not available at any cost**
25 GB broadband		**Yes**
Total Cost	**$ 119.00**	**$ 250.00**

For an extra cost of $131 per month (which is an additional 52%) rural subscribers receive 475GB less. The experience of GrainGrowers members would suggest that any claims of national pricing of telecommunication are unfounded in practice.

Anecdotal evidence around restricted monthly download quotas has revealed that IT advisors are suggesting growers wait to update their tablets, phones and laptops until they travel to a major centre and access free Wi-Fi at McDonalds or town libraries.

This lack of network capacity on farms is also impacting commercial and government service delivery. Many growers are reluctant to give out their email address; this is a direct result of the inadequate internet service. Growers sometimes have to make a very conscious effort to keep their incoming emails at a minimum because for most their internet service is so slow that opening emails, particularly those with attachments and photos is a very slow, frustrating and a drawn out process. The load time for emails is excessive and generally slows down the whole system. Farmers are often thought of as technophobes that are unwilling to keep up with technology, when in fact the opposite is true, most growers go to extraordinary lengths just to try and maintain a basic level of connectivity.

These limitations are exacerbated by extremely poor service, backup and technical support by telecommunications companies. GrainGrowers members have been left without landline, internet and mobile coverage for weeks at a time which not only restricts their family, business and farming operations but creates a Workplace Health and Safety concern for these farmers (especially during fire season).

There is also an absence of competition within the mobile and broadband market in regional Australia. Previous governments have failed to create opportunities and incentives for other telecommunications providers to enter the market. More market competitors would potentially result in reduced costs and improved services to consumers.

Overcoming barriers to adoption

There are many in the industry that has not yet been able to realise the benefits of mobile and broadband technologies. The CSIRO 'Smart Farming' White Paper, released in 2013, identifies a number of existing barriers to adoption. Current adoption has been variable due to a number of factors including lack of universal availability, cost, capability and lack of maturity and reliability of the services being offered[3].

The 'Smart Farming: White Paper' also highlighted a number of challenges that still need to be addressed before the potential for digital services to assist the rural sector can be realised. These include[4]:

- Extending telecommunications connectivity from the NBN premise based connections and mobile phone coverage to reach across farms and the natural environment through the use of local wireless networks.

- Making the provision of low-cost plug and play sensor systems for farmers simple to install and maintain.

- Adoption of open standards for sensor networks and data services making it easier to manage.

- Support for open data policies and practices by both governments and private enterprises to encourage sharing of data.

- Greater understanding of how decision support tools will be adopted and how they can enhance the capabilities of farmers and other users to be more productive.

- Developing greater maturity and scale for Australia's software and services industry for agricultural Applications.

- Detailed cost-benefit analysis of the benefits of smart farming specific to each agricultural sector at both farm and industry level, as well as understating broader benefits related to other industry sectors, environmental sustainability and quality of life for Australia's rural communities.

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[3] CSIRO (2013) White Paper. 'Smart Farming: leveraging the impact of broadband the digital economy'.
[4] CSIRO (2013) White Paper. 'Smart Farming: leveraging the impact of broadband the digital economy'.

Where to from here?

GrainGrowers asks the Regional Telecommunications Independent Review Committee to examine the following recommendations:

- That Round Two of the Government's Mobile Black Spot Programme's guidelines be amended to focus on productivity gains and improved connectivity in agricultural regions, especially key grain growing regions.

- That the Government continue the co-location conditions of the Mobile Black Spot Programme to encourage competition in regional Australia.

- Examine ways of securing additional funding and support for telecommunications investments, such as additional private sector involvement, councils, not-for-profits etc.

- That the Government consult with agricultural bodies, including GrainGrowers, to create an Agricultural Digital Strategy which includes opportunities to leverage investment in black spot areas and broadband connectivity in agricultural regions.

- Encourage the use, production and support of Big Data in agriculture. Big Data is a crucial part of making Australian farms more profitable and productive.