Agricultural Competitiveness White Paper Submission - IP380
CQUniversity Australia
Submitted 17 April 2014

**Agricultural Competitiveness Issues White Paper**

**CQUniversity Australia Submission to the Agricultural Competitiveness Taskforce**

**Preamble**

CQUniversity Australia welcomes the release of the Agricultural Competitiveness White Paper and the opportunity to respond and provide comments on the paper. There is no doubt that the Agriculture Sector has a key role in the sustainability of rural and regional Australia, and Australia generally, as recognised by the government with Agriculture being one of the five pillars of the economy. There is also no doubt that this sector is under considerable pressure from the impact of climate extremes, overseas market competition and the need to provide food security for a growing global population within an environmentally-sustainable framework.

CQUniversity Australia has an important stake in the outcome of the taskforce since our region is one of the most significant and diverse agricultural production regions in the country. Within the CQUniversity footprint are found the Wide Bay/Burnett, Emerald and Bowen horticultural crop production areas, Bundaberg, Mackay and Southern Burdekin sugarcane production region, the Central Queensland beef production region and the Central Queensland grain and cotton production areas. Recognising the importance of agriculture to our region, CQUniversity is investing in its agricultural capability by appointing more agricultural researchers, forming partnerships with government and industry, introducing new educational programs in Agribusiness and Agriculture and Food Security, and funding research infrastructure development at our Central Queensland Innovation and Research Precinct (CQIRP). CQUniversity has been engaged in Agriculture-based research since it became a University and this is reflected in our 2012 Excellence in Research Australia (ERA) ranking of 5 (well above world class) in Agriculture. We aim to build on that research strength, supporting the agricultural industries by focussing our teaching on job-ready graduates, training future research scientists by working on industry-applicable and regionally-significant projects, and delivering research that meets the needs of our agricultural community. Our university is located in the heart of regional Australia which gives us the power of place in working with the Agriculture sector to find solutions to the challenges that face primary producers.

**CQUniversity Response**

Our key messages in response to the Agricultural Competitiveness White Paper are:

- The major challenge in improving the competitiveness of the agriculture sector is to increase rates of productivity growth. Analysis of productivity trends in agriculture show that rates of growth are trending lower. For example, Professor John Rolfe from CQUniversity has demonstrated this with the beef industry in Northern Australia, as well as identifying that there is substantial variation in productivity within the sector. While there are a number of complex factors that influence productivity growth, critical ones for agriculture in light of declining labour inputs and a fixed land resource are improvements in technology and management, and the search for innovation breakthroughs. Research, education and training are essential to the longer term growth of productivity in agriculture.

- There are a number of factors and constraints that influence the competitiveness of different sectors and regions of agriculture. However there is a structural imbalance between the regional areas where the problems exist and the urban centres that generate research and policy advice. Agriculture in regional Australia is poorly serviced in terms of linking issues that constrain

productivity and competitiveness to research and policy development; this makes it difficult to provide analysis and evidence to address policy questions.

- There is substantial potential for growth in agricultural production, profitability and competitiveness. Much of this growth can occur from the existing base, as well as opportunities for major developments and innovation that lie more in northern rather than southern Australia. As the growth pressures in dealing with the resources boom fades, more attention should be given to providing the underpinning infrastructure, skills and knowledge required for agriculture to develop.

- Regional Universities should play a central role in supporting agricultural production. Improved competitiveness at the farm gate requires strong engagement with rural producers. With State Governments decreasing funding supporting regional agricultural Research, Development and Extension (RD&E) capacity, regional Universities provide an effective alternative for regional RD&E delivery. In particular, the role of university researchers who are part of the regional community in translation/adaptation of research findings to practical on-farm strategies and promoting adoption of improved on-farm practices needs to be supported. For example, Regional universities can play a role in the establishment of industry associations and support industry groups in regulation issues for creating or increasing market capacity e.g. Professor David Midmore from CQUniversity was instrumental in the establishment of the Australian Commercial Bamboo Corporation and the Asian Vegetables group, and played a key role in the successful application to FSANZ (Food Safety) for the approval of human use of stevia/stevioside intense sweetners, now available in a range of products in Australia. Also in the development (patented) and application of technology e.g. Professor Kerry Walsh has played a key role in the development of technology for non-invasive sorting of fruit commercialised into in-line packing and in-field handheld operations; this work continues, extending now to the detection of defect fruit (e.g. diffuse browning in apples).

- Research and Development (R&D) funding for agriculture is a driver of industry innovation and productivity. Increased public R&D funding announced during the election is welcomed, but note that overall funding levels remain low compared to our competitors. As regionally-based RD&E providers we are increasingly reliant upon direct industry funding and internal investment to maintain local capability; the capacity to leverage off government support is essential.

- Significant Government-funded initiatives for training centres/R&D are almost exclusively delivered to metropolitan-based universities and research institutes. For example, funding scheme rules are often biased towards large, established centres, making it difficult for regional-based institutions to build critical mass. If improvements in competitiveness are to be made at the farm gate level, research and training needs to occur in regional areas.

- The decline or levelling off in productivity across agricultural production systems is in part linked to a growing disconnect between research, development and extension. The uptake of innovation by the agricultural industries relies on close interplay between researcher activity and industry end-users. The increasing centralisation of the State and Federal agricultural research agencies (e.g., the Ecoscience precinct in Boggo Road in Brisbane) has exacerbated the disconnect. Regional Universities can play an important role in facilitating greater engagement with agricultural communities. The US Land-Grant Universities deliver research, teaching and more importantly extension. The US model, that includes an extension role alongside traditional teaching and research, could be used to kick-start greater Agricultural innovation in Australia. There is an opportunity for regional Universities to utilise their regional outreach and make a connection between innovation and extension. If this role formed part of a Government-funded

push to lift overall agricultural productivity through more engaged research, it could help lift the competitiveness of Australian agriculture. There is a growing role for delivery of extension through participatory digital technologies. The strong focus of regional Universities on infrastructure to support distance education could be deployed to support an expanded role for Agricultural extension.

- Australia won its agricultural competitiveness on the basis of practical capacity and advances. Maintaining that capacity is critical, so care should be taken to avoid a formal training system that is strong on theory but not practice. Continuing education of practitioners is also critical, in this age where the number of primary producers has decreased, but the spread of tasks required has multiplied. A set of formal training suites is recommended. Tours of farmer groups led by university researchers, is but one example. Popular programs like ABC-Landline are excellent, and could be further developed as a continuing educational resource.

- Our world is now one of documented skills. Many in the agriculture and food area transition between sectors poorly as their skills are not certified. Opportunities to train for credited skills in different groups, from graziers to retail fruit shop staff should be explored. This is highly relevant to CQUniversity with our vocational education offerings and ongoing links to agricultural colleges.

- Building a stronger and more agriculturally-minded nation by strengthening agricultural education as baseline training for a wider set of careers. Agricultural education is focussed on developing a broad suite of skills and the holistic nature of the training could underpin a range of industries that extend beyond direct agricultural work. Indeed, agricultural training has been recognised in the past as providing one of the most sought-after sets of graduate experience. Extending the number of agricultural training places and making direct links to other industries would enable a greater national pool of agricultural intellect that could help the Nation grow its innovation in agricultural competitiveness.

- Australia's urban population is disconnected from the country. A country kid will have visited many cities and is mentally prepared for a shift to the city if required. A city kid is unprepared for a country shift - it is a foreign land. There should be national programs that foster work experiences in the country. The 'green army' concept is a step in the right direction.

- The proposed $20M for a Biosecurity Flying Squad is appropriate, to be ready for the inevitable Biosecurity issues. This could be a form of 'army reserve' with entomologists, pathologists etc that are employed elsewhere until called. It also needs to be backed up by training. Our university had mooted a Graduate Certificate in this area.

- The proposed $2M for teacher education recognises an issue, although these funds may fall on unproductive ground. The issue of public perception of agriculture is much broader, and much more attention is required to the issue of the perception of agriculture with the public in general, and children/young adults in particular. A program of gap years/work experiences should be supported to give city children knowledge of life outside the city (and in so doing foster national identity).

- The rural Research and Development Corporations (RDCs) represent a great asset to the nation's agricultural competitiveness, with the flexibility of both levy and venture capital funding valued. Their scope, however, is largely on farm, not covering associated processing or equipment supply. Given that Australia's past advantage in agriculture has, in some measure, been associated with technical advances this imbalance deserves consideration. Manufacturing is covered by AusIndustry, but RDC involvement would be beneficial. We note the proposed $100M in

additional funding to RDCs as welcome recognition of their role in supporting the Agriculture sector.

- State Governments have been devolving agriculture research capabilities to the University sector, however, this has been occurring in a rather ad hoc fashion. University drivers (to engage in behaviours that are rewarded by Commonwealth Research Block Grant funding) are not well aligned to agricultural industry RD&E needs, while a reliance on research grant mechanisms makes it difficult to build longer term capacity in regional institutions. Left to 'evolve' by themselves, these investments will trend towards 'blue sky' and 'academic' research rather than industry-relevant work. As noted earlier, a form of the USA Land Grant universities is therefore recommended, with Universities contracted to deliver a set of R&D programs and extension activities.

- The Seasonal Worker program has foreign aid benefits. In this sense it could be expanded to other countries Australia wishes to support, tied to the training activity of these people. Conversely, greater efforts should also be made to engage Australian labour. As noted earlier country work is outside the mental horizon of many city youth, so more organised support around the 'Harvest Trail' is worth considering.

- Mechanisms to foster value-add activities should be supported, working under the principle that Australia will be the ‘smorgasboard of other countries', not the 'supermarket' (given, as the issues paper notes, we have capacity to feed only 60M people). Projects related to such activity could receive extra weighting in R&D assessment schemes or AusIndustry support. However, such activity should not be technical only, rather, it must have a strong market assessment component. Encouragement of a few commercial players in this space should be considered (e.g. the success of the Tasmanian opiates group). Examples include bromelain from pineapple and anthocyanin from sweet potato.

- Expansion of agriculture in Northern Australia needs integrated consideration of the resource base (soils, water), the infrastructure base (roads, services), clear mapping of markets, and agronomic/animal husbandry development for identified products/markets.