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Skills for the future of food and agriculture.

Discussion Paper

EXECUTIVE SUMMARY

Modern agriculture and food businesses are at the cutting edge of technology. They no longer rely on an unskilled itinerant workforce but are increasingly employing qualified individuals who use the latest technology and innovation in production, handling, processing and marketing. They are exciting places to work with clear opportunities for personal development and progression.

For Queensland's primary industries to achieve economic growth there is an absolute necessity to have an industry-based workforce of highly skilled and technology literate individuals. The sector has repeatedly identified a shortage of skilled labour as a major impediment to growth. The effectiveness of DPI&F's R& D and agribusiness services relies on the Queensland primary industry sector's capacity to innovate through the adoption of improved technologies and practices. The success of much of DPI&F's core business is therefore interwoven with the development and enhancement of skills in the agribusiness sector.

DPI&F intends to create new collaborative partnerships with the Queensland university sector and vocational education providers such as the Australian Agricultural College Corporation (AACC) to provide a more integrated model to address training and skills development.

DPI&F will be about maximising the capacity of training delivery organisations to meet the defined needs of industry and the challenges of the global agri-business market place. It involves collaboration with partners (universities, Registered Training Organisations (RTOs), TAFEs, schools and the community) at critical points to address the concerns of the primary industry sector, both now and into the future. This new arrangement would provide new, more efficient and effective services by taking advantage of existing and developing technologies.

It will allow for DPI&F's currently non-accredited training and extensions activities to be progressively undertaken through AACC enabling industry to provide greater recognition of acquired competences. AACC and DPI&F joint appointments will expand the range of vocational training opportunities for Queensland's primary industries. The AACC will be linked to DPI&F's international R&D program creating new opportunities for Queensland in the agri-knowledge exports and increasing industries accessibility to vocational training opportunities through future delivery at new locations. The proposed linkage between AACC campuses and university DPI&F centres of excellence will provide a more integrated vocational training platform.

DPI&F's vision for an integrated agri-innovation platform involves creating new collaborative partnerships with the Queensland university sector and vocational education providers such as the Australian Agricultural College Corporation.

BACKGROUND

“The Queensland Government is undertaking major improvements to rural education services to create learning pathways and training suitable for the needs of industries and communities in rural Queensland”. (*Blueprint for the Bush – Building a Sustainable, liveable and prosperous rural Queensland, 2006:p28*)

Primary industries is increasingly becoming a technology-based sector in response to agricultural productivity demands and greater consumer expectations for environmental sustainability. Today’s food and agriculture businesses require levels of ICT and computer literacy, environmental legislative understanding and business acumen which would have been unimaginable even a decade ago.

In a more globally competitive market, Queensland primary industries need to out-think and out-innovate to retain market share. In this new world of agricultural technology, Queensland’s agricultural education system needs to ensure it not only keeps pace with this innovation, but is provided in more flexible, timely and more accessible ways.

In Queensland, there is an agricultural educational crisis which is eroding the long-term competitive advantage of many sectors of the industry. Declining agricultural training (tertiary and vocational) mirrors similar experiences nationally and internationally. The current agricultural training sector based around numerous competing regional university and vocational training programs, is unsustainable in light of limited enrolment demand.

What is required is a more integrated and holistic approach to agricultural training, which better aligns with industry’s current and future skill demands, providing potential students with new ways to undertake specialist training, enable skills upgrades and is more relevant to modern agriculture and the business demands of affiliated agri-industries. DPI&F invests in a broad range of industry support, including “discovery science”, “technology application” and “skills and capacity improvement”.

A partnership with AACC will enhance the DPI&F’s capacity to bring technology outcomes to industry by ensuring the new-generation workforce in the industry is aware and is suitably literate in new and emerging technologies and systems. The aim is to create a world-class agricultural science and training network across Queensland with a system of facilities that works hand-in-hand with educational institutions. This network would include secondary schools through Gateway Schools for Agribusiness, and would utilise AACC as a hub.

DPI&F is the largest provider of innovation services to Queensland’s primary industries and, in the absence of a strong local private sector innovation capability (compared to the United States and Europe), will continue to be a major source of new ideas and technologies for Queensland farmers. This new focus on skills and training in partnership with AACC will enable DPI&F to build on its innovation strength to provide targeted, adaptive and flexible services that use best practice, and go beyond current approaches.

THE MODEL

The proposed partnership between the AACC, which delivers training to the agricultural sector (both accredited and non-accredited), and DPI&F, which is a world leader in subtropical and tropical research, development and extension within agricultural industries, would result in a dynamic relationship to deliver services linking world class RD&E with the training sector.

The model will focus on maximising the capacity of both organisations to meet the defined needs of industry and the challenges of the global agri-business market place. It will expand its reach through collaboration with other training services (Universities, Registered Training Organisations (RTOs), TAFEs, schools and the community) at critical points to address the concerns of the primary industry sector both now and into the future. These new arrangements will provide new, more efficient and effective services by taking advantage of existing, emerging and anticipated new technologies

Expected outcomes:

- accredited training delivery linked to DPI&F's broadened RD&E activities
- research demonstrations to the customer through informal capacity building activities such as workshops or short courses
- rural skilling solutions that are relevant to industry workers and students
- flexible delivery options that meet industry needs (both accredited and non accredited training)
- DPI&F training that garners industry confidence in the quality of trainers within both accredited and non-accredited formats
- target migrant work visa holders for training to attract and retain skilled workers within regional Queensland and to enhance their skills to maximise their input along the supply chain
- link short courses to accredited training through Recognised Prior Learning to increase the numbers achieving accredited training outcomes thus creating future pathways and industry confidence
- use AACC and DPI&F facilities to deliver training that is relevant to rural communities in partnership not only with DPI&F but also with TAFE, schools (Gateway Schools, The Queensland Academy for Science, Mathematics and Technology (QASMT)) and the Higher Education sector.
- provide opportunities for better integration of training, demonstration and research that will result in best practice models of agribusiness skills development.
- better promotion of agribusiness careers so industry can attract the best candidates
- provision of programs for university entry resulting in a seamless career pathway from schools to tertiary education with multiple entry and departure points.

Co-location of DPI&F and AACC staff and agricultural students

The knowledge and skills of DPI&F staff are complementary to those of AACC vocational trainers and their co-location at a particular site will provide significant synergies in the application of agricultural science and training. Adding students to this mix would bring both educational and operational benefits, such as:

- enhanced professional development of AACC and DPI&F staff

- AACC systems may afford opportunities for DPI&F to integrate new approaches and strategies to its skills and capacity development based on expertise within AACC.
- facilitation of higher level vocational and higher education outcomes (delivery and/or assessment and articulation including RPL)
- broadening of AACC role into the facilitation of graduate and post graduate education for producers, domestic and international researchers and students
- provision of accredited in house training of DPI&F staff and also for other government organisations – EPA, NRM TAFE, schools.

Centres of co-location such as at Longreach, Emerald and in the Burdekin would become a focus for the industry and regions they serve.

Emerald

This centre would become the lead for applied field crops and training centre, linked to activities conducted at other DPI&F sites.

The Central Highlands is recognized as an area where significant growth of agricultural industries has occurred as a result of irrigation water and land development. The potential for future growth is also significant. Industries are diversifying and the partnerships established between DPI&F and other public sector service agencies, industry and private sector service providers are achieving significant advances in farming systems productivity. Central Queensland University has also indicated its intention to establish research laboratories, capability and capacity at this centre.

The position of the Emerald AACC campus is ideal: it is located on the banks of the Nogoa river, its soils are typical of the surrounding irrigation area and it has the infrastructure necessary to support RD&E activities. The mix of enterprises the centre can support include beef with a feedlot and cattle yards on site, horticulture and cropping. The teaching facilities are also ideal for use in extension based activities.

Dalby

Dalby is ideally situated to develop as a centre of excellence for the integration of research activities at UQ/USQ, DPI&F RD&E and applied agribusiness training for the more intensive mixed farming systems and value adding industries specific to southern inland Queensland.

The more reliable climate of this region has developed unique, more intensive farming systems which in turn have spawned a rapidly growing number of intensive (value adding) industries which make a significant economic contribution to the region.

The resources exist at Dalby to develop a broader range of skills training and agribusiness apprenticeship training to address the skills shortages/opportunities of the region.

Dalby is ideally positioned to integrate applied research and training to service the rapid changes occurring on-farm, within the value adding industries and secondary industries complementing the agribusiness industries of the region.

Longreach

The Longreach campus of AACC would become the hub for grazing production systems in the Rangelands. This centre would be developed to specialise in animal sciences and positioned to be the lead centre in applied animal science and training for the state, providing a strategic linkage to the opportunities created through the Centre for Advanced Animal Science (CAAS) and other facilities. Complimenting this further is the opportunity to draw on the resources of other adjoining facilities and agencies, specifically the School of Distance Education, NR&W and EPA.

Burdekin

The Burdekin would be developed as a lead centre in “applied tropical agriculture”. This centre would support the further development of tropical agriculture in north Queensland and could provide strategic support for the proposed Tropical Biosecurity Centre being established in Townsville.

The Burdekin centre is well position to become a key strategic Government facility to support the Government’s planned significant investment in infrastructure in the Northern Economic Triangle (NET). The centre could provide training to support an increase in and diversification of agricultural production that could be achieved through infrastructure investments such as the water pipeline for Bowen.

Further opportunities

In addition to the sites listed above, there is also an opportunity to develop a range of similar sites across Queensland. These sites for consideration to be development could include areas such the Atherton Tablelands and the Darling Downs. Also, to further diffuse training and development opportunities across the state, consideration could be given to the use of DPI&F offices to provide training in other areas such as Bundaberg.

The new collocated facilities presents an opportunity to provide additional training and support for industries beyond agriculture. Such industries could include mining and tourism, which could be supported through training programs and qualifications such as machinery operation or automotive.

INDUSTRY BENEFITS

Given DPI&F’s extensive industry networks and relationships, it would be reasonable to expect that integration with the Department will afford AACC closer ties with industry.

As many of DPI&F investments are whole-of-industry capacity building in nature, a partnership with DPI&F will allow AACC to better identify emerging training opportunities and skill requirements.

Through linkages with DPI&F’s, RD&E, the education sector will have access to additional resources providing an ability to attract students interested in a broad range of food and agricultural qualifications.

DPI&F would make AACC a more attractive proposition for students by demonstrating the opportunities to be involved in cutting edge RD&E in partnership with industry. The combined RD&E and training capacity will also offers am increased potential to attract and secure international aid business.

DPI&F's applied research processes offer an opportunity to develop more flexible and attractive learning opportunities for students that may provide a direct pathway to higher education. Co-development of this capacity with AACC will create new opportunities to expand AACC training delivery reach. Given remote and distance education capacities have been recently enhanced in most universities, there are obvious opportunities to partner with the University sector to achieve this outcome.

There is a long tradition of adult learning in agricultural extension. The emphasis on a learner centred curriculum and learning by doing in group situations recognises the ability of the participants to contribute to the learning experience of the group and provides for more responsive and targeted education and training to meet industry needs.

WHOLE OF GOVERNMENT BENEFITS

The integration of services by DPI&F and AACC will substantially improve departmental services to Queensland food and agriculture businesses and increase the flow of skilled workers into the sector.

There would also be significant savings and greater efficiencies in service provision, and it would enable the government to better respond to emerging industry issues, such as:

- A broader regional vocational training capacity created by access to expertise within DPI&F
- A more sustainable regional vocational training program based on new business opportunities
- New knowledge export opportunities created through linkages with DPI&F's international R & D business
- climate variability (drought, floods, cyclones)
- farm environmental management systems
- industry development opportunities.

Our co-location with the AACC will attract young people with better skills in agribusiness and be part of a modern agricultural science organisation with new ideas, new skills and a renewed enthusiasm.

CONSULTATION

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