



PIEFA Submission to the Inquiry to Growing Australian Agriculture – From where will the skilled people come?

Terms of Reference;

‘..the Committee will inquire into and report on, the opportunities and impediments to the primary production sectors realising their ambition to achieve a combined \$100 billion value of production by 2030’

The Primary Industries Education Foundation Australia (PIEFA) is a national not for profit company, limited by guarantee and governed by a skills-based board of directors. It has a tripartite membership base drawn from the industry, education and, until recently, the government sectors.

Its vision is to see that the value of Australian food and fibre production is embedded in the national psyche.

Its mission is to engage Australian schools and community through education of food and fibre production and careers.

The Primary Industries Education Foundation Australia (PIEFA) wishes to bring to the attention of the committee what we consider to be the biggest issues missing from the conversation thus far in relation to growing the industry from \$60bn in value to \$100bn: community trust and future workforce.

Put simply will the Australian public support an expanded industry and from where will the people come to support a 66% increase in the sector?

To date the future is bleak. The Australian Council of Deans of Agriculture suggest that there are four jobs for every single Australian agricultural graduate. PIEFAs now well-known survey completed in 2011 suggests that;

- 75% of year 6 students thought cotton socks are an animal product
- 27% of year 6 students thought yoghurt is a plant product
- 45% of students could not identify that bread, cheese and bananas were farmed products
- 40% of students felt that farming damaged the environment
- 43% of students did not link science to farming

- 55% of students did not link innovation or IT to primary production¹

PIEFA, with the support of our industry members and until 2018 the Australian Government, has made some great inroads into turning this around. For example;

- 20,000 teachers have participated in professional learning related to food and fibre education
- 26,000 unique visitors accessed PIEFAs resource web portal www.primezone.edu.au in the 2018/19
- Approximately 300,000 resources were viewed on Primezone in the 2018/19 year.
- Approximately 1,000 schools nationally access either Primezone and/or the PIEFA newsletter on a monthly basis
- Over the last three years there have been an increase in enrolments in Agriculture and Agriculture related undergraduate degrees

PIEFA in conjunction with its members has worked hard to ensure that not only is there adequate scope within the curriculum for students to have the opportunity to be taught about food and fibre production, but that what is taught adequately reflects the modern industry. Initial drafts of the Australian curriculum had only two mentions of food and fibre across its entirety. Today there are 168 examples, with a focus on the critical areas of science, technology and geography. PIEFA continues to engage with the Australian Curriculum Assessment and Reporting Authority and state-based counterparts to assist in its implementation.

Unfortunately, despite PIEFAs best efforts, food and fibre production as a context remains absent from the Australian Government's 'National STEM Agenda'.

PIEFA is currently undertaking an updated survey of students and teachers nationally in the latter part of 2019 to provide an update into the level of awareness of the food and fibre production to inform its future strategic direction.

Numerous studies have indicated that a student's broad concept of careers is determined far earlier than previously envisaged. Research by both the Australian Council of Educational Research and the University of Queensland both suggest that approximately 60% of undergraduates determined their career choice by year 6.²³

This is further supported by Nobel economic laureate, James Heckman, who has developed an economic model that clearly illustrates the benefits of investing in the school aged years to gain long-run economic benefit. In fact, according to the model,

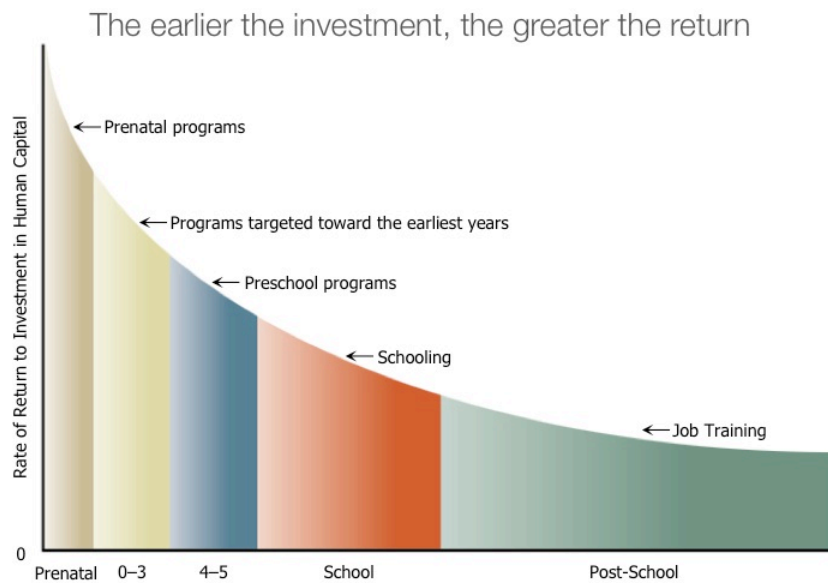
¹ 'Food, Fibre and the Future', Hillman and Buckley, ACER, 2011

² 'Career motivations and attitudes towards agriculture of first year science students at The University of Queensland', Allen, Miller, Kleinschmidt, 2012

³ 'Australasian Survey of Student Engagement Report', ACER, 2010

initiatives that commence in the early years of education and continue through the entirety of schooling have a 10-fold increase in benefit compared to those started in late or post schooling alone. ⁴

EARLY CHILDHOOD DEVELOPMENT IS A SMART INVESTMENT



Source: James Heckman, Nobel Laureate in Economics

In its discussion paper entitled 'Talking 2030-Growing Agriculture into a \$100 Billion Industry', the National Farmers Federation acknowledges both the future skills and social license issues, but only suggests a specific agriculture visa as the solution to fill the need. Is this the future the industry wants? An overseas workforce running Australian farms.

Despite the clear and obvious benefits in investing in education to gain social license, increase community understanding and to drive a greater number and diversity of Australian school students into a career within the sector, there has been a very low level of investment by industry and government relative to other interventions and the size of the problem.

For example, PIEFA operates on an annual budget of less than \$400,000 a year to service a national audience of 9,477 schools, 288,583 teachers and 3,893,834 students. It is only through an extremely efficient and cost-effective model that PIEFA has been

⁴ <https://heckmanequation.org> , Accessed 14th October 14, 2019

able to achieve the outputs it has to date. This funding is derived from annual, individual membership agreements with some of the Rural Research and Development Corporations to communicate the outcomes of research and development in a way that is accessible to a school-based audience.

Further, in 2017 the decision was made by the federal Department of Agriculture to cease its annual membership contribution of \$75,000. As a result, PIEFA has had to reduce its small workforce by 1 FTE. Although the Department has engaged PIEFA to undertake project work, the funding for these are tied to specific deliverables and do not support additional capacity to expand its reach and operations.

If Australia wants an industry valued at \$100 billion within a decade then serious investment in education and career attraction is required. Piecemeal and scattergun approaches will not work.

Not only will an appropriate investment in education address the key issues of social license and careers attraction for the sector, it will produce the scientists, the technology and the solutions to sustainable agriculture. Indeed, there are not many issues the industry faces that cannot be in some way alleviated through appropriate school education.

PIEFA estimates that to reach our target audience an annual investment of \$5 million is immediately required.

To put that into perspective it is 0.008% of current industry output or 0.00005% of the 2030 target.

Now is the time to be making this investment and to make this investment in an organisation such as PIEFA, that has the network, strategy and relationships to make an immediate impact. Without this investment we are likely to be once again facing the same issues as we are in 2030. The Australian food and fibre production sector cannot afford to wait.

Ben Stockwin, CEO
Primary Industries Education Foundation Australia

14th October 2019