

FROM AUSTRALIA TO THE WORLD: Growing our knowledge and the world's farmers

The vital importance of increased investment in agricultural research, development and extension to both Australia and the world is discussed by **Matt Linnegar**, chief executive officer of the National Farmers' Federation, Australia's peak body representing farmers and the agricultural sector.

In coming years, the world's population is set to dramatically increase. By 2050, the current population of seven billion is projected to expand to more than nine billion—an increase of two billion people in less than 40 years.

While there are many uncertainties in global trends affecting Australia's future, we can be certain that there will be more mouths to feed, leading to an increased demand for food to match.

At present, Australian farmers export approximately 60% of what they produce, contributing significantly to the food and fibre needs abroad.

As the world population grows and the market changes to reflect this, it is appropriate for Australia to seek to understand these trends and develop strategies to address them in the best interests of not only Australian consumers, but also Australian farmers.

That must include strategies to help Australian farmers better use their valuable resources—land, water and labour—to grow more food and fibre to help feed the growing world population.

Farmers already grow more food on less land than at any time in the world's history. But for farmers to continue to produce more with less, increased investment in innovation, research, development and extension (RD&E) in agriculture is crucial.

This is reflected in the Blueprint for Australian Agriculture, which was developed with the input of almost 4,000 farmers, transporters, retailers, consultants, rural businesses, agribusinesses, educators, governments, rural communities, community groups and consumers and was led by the National Farmers' Federation (NFF). It identified innovation and RD&E as a key priority

for the agricultural sector to ensure it is able to meet future challenges and food demand.

The timing on this is critical. There has been little real growth in public investment in the RD&E needed to drive innovation in the sector since the 1970s and now Australia's agricultural sector is feeling the impact.

That is why the NFF has called for an increase in total national expenditure in agricultural RD&E, including both public and private investment, of 1% by 2015—an increase of \$281 million over the next two years—and we have welcomed recent policy commitments that go some way to achieving this.

A ROLE FOR ACIAR

ACIAR's work in international RD&E contributes significantly to Australia's international aid priorities, helping to develop more sustainable agriculture systems specifically for developing countries in the five regions covered by its mandate.

Providing training and greater information and development opportunities for farmers in developing countries can have important flow-on effects for both the international and Australian agriculture sectors.

Assisting with agricultural development in developing countries helps boost the economies of these nations, lifting many people in rural areas out of poverty, and can at the same time provide potential positive benefits for Australian exporters in the long term.

Key to the continuing success of ACIAR is ensuring that a balance is achieved between investing in international RD&E and working with Australia's domestic agricultural RD&E system.

While Australian farmers generally support ongoing investment in improving sustainable

agricultural production in developing countries, the challenge for the Australian Government and agricultural community is to maximise opportunities and realise dual benefits for both developing countries and Australian primary producers from this investment.

The research undertaken by ACIAR in developing countries does provide benefits to Australia through capacity building for Australian researchers and scientists, access to broader information and research on pests and weeds that could affect Australian agriculture, the ability to learn from agricultural practices in other countries, and even direct economic benefits.

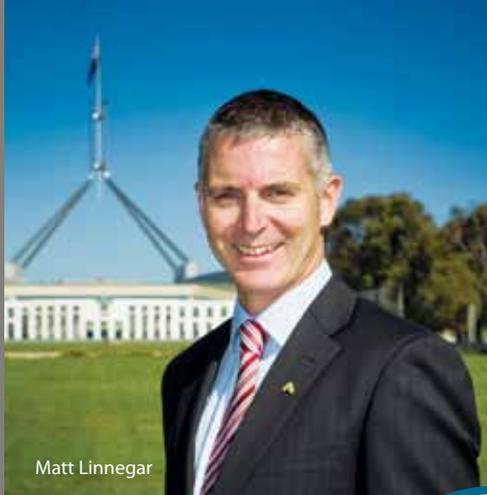
For example, an ACIAR-funded project was run from 1990 to 1995 titled 'Development of heat-treatment systems for quarantine disinfestation in tropical fruit', which sought to develop heat-based fruit fly disinfestation treatments for fruit and vegetables. In turn, this built capacity for such produce to meet the strict quarantine restrictions of several South-East Asian export markets.

One particularly lucrative market that was effectively barred to Australian exporters due to quarantine regulations was the Japanese mango market.

The ACIAR research project linked the Queensland Department of Primary Industries with various agencies in Thailand and the Philippines to develop mango-disinfestation treatment schedules that worked with rigorous quarantine systems.

As part of the project, market access for Australian mangoes into Japan was negotiated for the season of 1994–95 and continued to remain in place. Subsequently, mango trade with Japan continued to steadily increase, with the total gross benefit of the project to Australia estimated at \$4.4 million.

PHOTO: HILARY WARDHAUGH PHOTOGRAPHY



Matt Linnegar

Government figures show that Australian farmers feed about 60 million people around the world: 20 million domestically and 40 million overseas. But as Professor Ian Chubb AC, Australia's chief scientist, recently said, through knowledge and research, Australia contributes to the diets of 400 million people worldwide.

This shows Australia's potential to play a vital role in developing international food security through RD&E, even more so than through the export of food.

ACIAR already does incredibly important work in this space, with research into potential pests and diseases ranging from stem rust to avian influenza, contributing to improved biosecurity outcomes across Australia and the world.

An example of this is the work underway between ACIAR, CSIRO, the Australian Grains Research and Development

Corporation (GRDC) and other research bodies, including those based in India, on Ug99—a disease-causing fungus strain that attacks wheat crops.

Ug99 is one of the biggest threats to wheat production worldwide and ACIAR's investment in research and researchers has helped to identify one disease-resistance gene, *Sr33*, that protects wheat crops from all stem rust disease races, including Ug99. This is an excellent outcome for agriculture worldwide, with very positive implications for Australian farmers.

More projects like this, which build collaborative partnerships between Australian research bodies and global partners, are becoming increasingly important to address the many other critical issues affecting agriculture in Australia today.

Some other areas that require attention and could be better addressed through a collaborative international approach include:

- developing and adopting new plant varieties and technologies for tropical, arid and semi-arid regions
- sustainably integrating agriculture with the natural environment
- improving fertiliser, energy and water use efficiency
- reducing food wastage during harvest, marketing and transportation
- developing transparent and competitive commodity markets
- developing agricultural policy and governance arrangements
- improving effective farming practices and risk management strategies for seasonal and climatic variability, including recovery from natural disasters
- preserving soil fertility and nutrients.

Not only is RD&E investment in these areas critical for the continued growth and sustainability of Australian agriculture, but funding of such programs also provides opportunities for the development of international networks, improved communication and wider knowledge exchange.

As we continue working towards increasing the capacity of the Australian agricultural sector, the agricultural community welcomes the chance to work with ACIAR in developing closer linkages between domestic RD&E priorities and the valuable work that is being undertaken in developing countries.

With a unified approach and a focus on developing domestic opportunities of dual benefit, we believe that both the international and domestic agriculture sectors will continue to benefit from ACIAR's important work. ■

More information: www.nff.org.au

This is a direct benefit to Australian farmers from an ACIAR-funded project, and one that demonstrates the potential benefits that research undertaken overseas can have for the Australian agricultural sector.

The NFF is of the view that greater linkages between Australia's primary producers, RD&E experts and developing countries would lead to increased benefits for all parties involved, particularly in terms of encouraging new and fresh perspectives on issues being tackled on the Australian home front.

Linking domestic RD&E priorities with ACIAR's work in developing countries is critical to ensuring that Australian agriculture continues to benefit from investment in international RD&E.

It is also important that Australia's international work assists in building the number of agricultural scientists at home, to ensure that Australian farmers still have access to the latest information and advice while Australia is providing our depth of knowledge to developing countries.

FOOD SECURITY

One area that would benefit from greater linkages between Australian agriculture and RD&E in developing countries is food security—an issue that will increase in importance as the population continues to grow.

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