
Department of Foreign Affairs and Trade - New International Development Policy

Submission from the Crawford Fund Ltd.

The Hon. John Anderson AO (Chair) and Dr Colin Chartres (CEO)

Whilst we are acutely aware that agriculture¹, food and nutrition are only part of Australia's overseas development aid, we argue that getting these aspects of development right provides the underpinning foundations for improving the livelihoods of the poor, environmental sustainability, public health and national economic benefits. Bill Gates, Chair of the Bill and Melinda Gates Foundation, commented a few years ago, ***"It's been proven that of all the interventions designed to reduce poverty, improving agricultural productivity is the best."***

The Crawford Fund has, since 1987, promoted and contributed to Australia's overseas development aid with a focus on training in agricultural research and development. We have helped train over 12,000 individuals from approximately 50 countries. It is arguable that through our association with ACIAR (Australian Centre for International Agricultural Research), we make a considerably greater impact on international agricultural development now than we did a decade ago on a budget much the same as in 2010. We harness the intellectual capacity of numerous eminent Australians, many retired, and who contribute *pro bono*, with the enthusiasm of young researchers to deliver significant outcomes.

Our current philosophy follows findings of the World Bank and others that the provision of agricultural training and research support for local scientists in poorer developing countries is the best way to lift individual livelihoods and prosperity for millions of small farmers and contributes significantly to national GDP and to contribute to global food security. In this submission, we provide evidence that validates the above statement, indicates some critical risks to food security in neighbouring countries and emphasises how bolstering international agricultural development also benefits Australian farms and our economy and could provide global leadership in the fight against the impacts of climate change.

We conclude that:

- Continued investment in agricultural development aid not only significantly boosts Australia's international reputation, but also significantly contributes to recipient nutrition and health outcomes, helps us prepare for threats arising from pests and diseases and climate change impacts.
- Funding of international agricultural development makes a high return on investment: the work undertaken by ACIAR and complemented by the Crawford Fund has demonstrated

¹ Throughout this submission agriculture is used to refer to cropping, grazing, horticulture, forestry, fisheries and their production, processing and market chains and associated natural resource management.

both positive returns on investment and a wide range of benefits relating to access for Australia to new plant varieties developed by the CGIAR (Consortium for International Agricultural Research), soft diplomacy, trade and biosecurity partnerships.

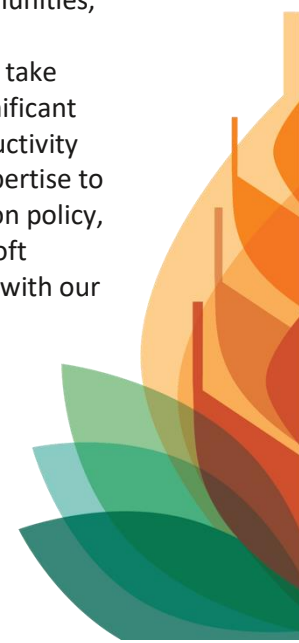
- Involvement in international agricultural R&D accelerates the creation of new knowledge and methods which we can use in Australia to improve productivity, profitability, nutrition and sustainability in an ever-changing world.
- Australia has much to contribute globally with respect to agriculture and carbon sequestration and this can be done via existing linkages between ACIAR and the CGIAR.
- It would be highly remiss of the government to diminish overseas development aid to agriculture in the face of an emerging perfect storm in which climate change and population growth are combining to impact global food security, which are likely to grow the number of climate refugees.

Why agriculture matters with respect to development aid

In our view, food security, associated under and over-nutrition and rural poverty are major threats to development across most developing countries. Increasing populations in much of Asia and Africa and the threat of increasingly variable climates exacerbated by climate change mean that food production systems are relatively insecure. Failure of the monsoon, for example, could have a catastrophic impact on the Indian sub-continent. At more local levels, rising sea levels and saline water incursion, increased flooding, higher temperatures, poor biosecurity protocols and increasing competition for irrigation water are presenting more challenges to agricultural production. In 2012 the lead author of this submission, who was then Director General of the International Water Management Institute said *“If we can’t deal with these issues of food security, we’re going to see increased civil commotion, uncertainty and disturbances. Sometimes these may lead to government changes which are not for the best. And as we’ve seen elsewhere, that has led to mass out-migration from some of these countries putting great stress on our borders. There is a national imperative here, that as a wealthy western country, we should be investing money in food security because benefits are both ways.”*

There are still over 815 million people undernourished globally, whilst poor diets and over-nutrition are leading to epidemics of life-style diseases. These problems are manifest in the Indo-Pacific region and of major concern in Africa. Whilst surpluses in more developed agricultural countries can often be used to avert famine, helping our neighbours develop diversified and sustainable food production systems in their countries pays off in terms of social security, public health and environmental quality, and economic development in general.

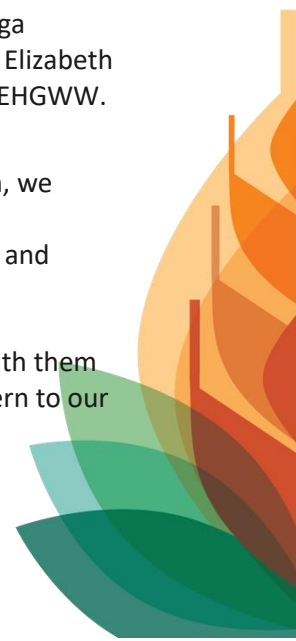
Australia has an enviable record in terms of developing farming systems that have been profitable in relatively marginal lands. These systems have been built on the hard work of farming communities, supported by public and private sector R&D and appropriate infrastructure and marketing mechanisms. Modern agriculture is the basis of quite complex supply and value chains that take produce from the farm via markets and processors to the consumer. Australia has very significant experience in how these chains can be established and supported in terms of on farm productivity improvement, food quality, phytosanitary and environmental protection. Providing this expertise to developing countries such as R&D, technical training and governance support that focuses on policy, institutional and related issues, including gender equity and social inclusion, does provide soft diplomacy outcomes and potential trade opportunities arising from improved relationships with our neighbours. Importantly, the resultant improved skills and expertise in countries assisted, significantly improves agricultural production, health and nutrition, and poverty alleviation.



Currently, ACIAR provides very significant R&D support to many of our neighbouring countries that use this Australian expertise to assist with a wide range of agricultural development issues. The ACIAR model works well as it harnesses expertise in our universities and institutions to develop partnerships with overseas scientific agencies and scientists. Recently, ACIAR has significantly reorganised and developed a new strategic plan that clearly focuses on emerging problems in the Indo-Pacific region. ACIAR is also the vehicle through which the Australian Government invests in the multilaterally funded CGIAR systems. Involvement in the CGIAR, has given us access to many new plant cultivars, knowledge and expertise about emerging pests and diseases and networks of scientists across the globe. The Crawford Fund, who receive about 2/3 of our funding through ACIAR, complements these critical ACIAR programs via delivery of training programs, master classes, provision of mentors to work overseas and encouraging current and potential students to work in agricultural careers here and overseas. A few key recent examples of our support for ACIAR and other agricultural research agencies have included:

- Training over 100 mid-career research leaders from over 20 countries in research leadership and management through our Master Class Program (2016-2019).
- Mentoring and training members of the African Biosecurity and Pacific Biosecurity networks (2015-19).
- The establishment of our Nextgen Program to encourage Australian students to enter agriculture and food science training and support of the RAID program (Researchers in Agriculture for International Development) and its 800 members to build scientific relationships with overseas countries.
- Development of specialist training in biosecurity for Indonesia via two Master Classes in 2018 and 2019.
- Supporting approximately 50 scholars per year from throughout Australia to attend our annual Parliamentary Conference and specialist mentoring sessions over the last decade to skill them in a career with a world view.
- Travel and living allowance support for approximately 15 mentors to work with scientists in developing countries (e.g. plant pathology in Laos, rice value chain and markets in Cambodia, forestry in Vietnam, Fiji and Samoa).
- The annual award of the Sir John Crawford Medal to a prominent Australian researcher in recognition of significant contributions to international food security and show case their achievements to other researchers.
- The award of the Derek Tribe Award for senior international researchers which includes an opportunity to visit Australia and key specialist institutions to build international cooperation.
- Numerous state and territory run training events and small student awards to assist with undergraduate and postgraduate study involving overseas work.
- Stimulation of interaction between state agricultural departments, ACIAR and overseas agencies. For example, NSW Crawford Fund programs have tapped into existing R and D programs of NSW DPI with respect to salinity at the EH Graham Centre Wagga Wagga (EHGWW), horticulture biosecurity issues relating to Citrus Greening Disease at the Elizabeth MacArthur Agricultural Institute, and weed management in rice with support from EHGWW.

Whilst we agree that Australia's aid program focus should emphasise the Indo-Pacific region, we would also point out that Australia is unique as a developed nation in having large tracts of agricultural land with similar characteristics and climates to large regions of the Middle East and North Africa (winter rainfall crop-livestock environments) and sub-Saharan Africa (semi-arid monsoonal tropics). This means that we have demonstrated, continuously over 50 years, considerable capability to assist these regions with agricultural development and to work with them to detect and deal with new and emerging pest and diseases that will be of significant concern to our



grain and other agricultural industries. Furthermore, with its predicted population growth and lagging agriculture Africa presents a major global risk with respect to potential undernutrition and even famine and all the consequent social and outmigration issues associated with such events.

Benefits to Australia from investment in international agricultural development aid

We have commented previously on the benefits to Australia from involvement in bilateral and multilateral overseas development aid in agriculture in submissions to Parliamentary inquiries. In summary they include a wide range of tangible and non-tangible benefits many of which were discussed in detail in our 2013 study of “Doing well by doing good².” Key conclusions of that study and more recent analyses demonstrate that:

1. Aid in the form of agricultural science is effective - It works and serves Australia’s national interests of regional peace and security by alleviating poverty and by enhancing food security in developing countries. These impacts primarily take the form of increased farm incomes among smallholder and subsistence farmers.
2. The aid program benefits Australian farmers - ACIAR also functions within Australia’s agricultural innovation system sometimes linked to Australian farmer funding through RDCs. Australia’s ability to benefit from international agricultural research depends on it having strong domestic research institutions. This contributes to the depth, breadth and relevance of expertise in Australia that is available to the international agricultural research system. This, in turn, helps build enduring linkages between Australian research institutions and their global counterparts. It keeps Australia within the circle and enables access to global knowledge and product innovation networks, which also provide hands-on experience of biosecurity risks. In 2013 it was calculated that annual benefit flows to Australia from breeding materials and resources from just three CGIAR centres were estimated at \$100 million a year, which was then ten times Australia’s contribution to the CGIAR system.
3. Aid activities contribute knowledge and capacity - ACIAR funds the same scientists that support Australian agricultural enterprises. This extends the reach and scope of Australian research; generates tools and experience invaluable to Australian agriculture; and provides Australian researchers with experience of biosecurity risks. Furthermore, linking emerging Australian scientists with international networks to allow more rapid problem-solving and widen their perspectives and facilitates increased potential for developing nations to gain market access to new markets e.g. the EU through identifying potential areas of freedom from disease. Exposure to overseas agriculture also enables Australian scientists to become prepared with technologies, skills and trained staff to aid in diagnostics and control programs, in the event of an exotic incursion to Australia.
4. A focus on international agricultural research may also broaden the appeal of agricultural sciences for young Australians with a view to creating more ambassadors in international agricultural research for life. Similarly, hundreds of fellowships provided to developing country scientists who undertake research in Australia add to Australia’s knowledge bank and provide ongoing beneficial ties to many developing countries.

In conclusion, developing agricultural capability of scientists in developing countries and assisting them in developing new technologies not only improves their resilience, but also has spin off for

² Doing Well by Doing Good: *International agricultural research –how it benefits Australia as well as developing countries.* The Crawford Fund, Canberra. <https://www.crawfordfund.org/focus/doing-well-by-doing-good/>



Australian agricultural through increased domestic and overseas capacity that enhances crop production and biosecurity awareness that helps protect Australia from new pests and diseases

The Future

Whilst this submission has illustrated the significance and benefits arising from involvement in international agricultural research, we also want to indicate the role that Australia can play with respect to a global contribution to combatting the impacts of climate change on agriculture. Whilst global food production has kept pace with population growth, we hold great concern that in tropical and sub-tropical regions climate variability in the form of droughts, floods and increasing temperatures will have severe impacts on the livelihoods of smallholders and larger farmers alike. Our farmers and researchers are second to none in terms of adapting to harsh environmental conditions. This is being demonstrated through sustainable agriculture initiatives, water stewardship, improved irrigation efficiency, waste-water reuse and so on. As pointed out by Prof. Ross Garnaut in his Climate Change Review and Update³ our farmers and scientists have much to gain and to teach others in similar environments about increasing carbon sequestration in soils and landscapes. The Crawford Fund recently pointed out that, at adoption rates of 10-25 per cent in arable and rangeland environments, carbon-sequestering methodologies could offset 55-163 Mt CO₂e (million tonnes of CO₂ equivalents) per year. Even at the minimum level, these figures are close to Australian agriculture's annual production of greenhouse gases. It is important to point out that research and development of this nature can be exported into similar environments via ACIAR projects and linkages with the CGIAR. The Australian Government is already doing this in the water sector via the Australian Water Partnership.

We would like to remind the committee that just as Ross Garnaut's predictions about bushfire frequency and severity have come to pass in Australia, a previous UK Chief Scientist, Prof. Sir John Beddington, predicted in 2008, that by 2030, the world would be facing a "perfect storm," in which population increase and climate change will combine to increase risks from drought and storms to a still growing population. Agriculture and food security, nationally, regionally and globally will be severely impacted with predictable consequences to human health and wellbeing. This, as much as anything, illustrates the importance of continuing to use part of our overseas development aid on agricultural development and food security. Our view is that if we ignore the critical role overseas development aid can play with respect to global food security, the risks are such that Beddington's predictions will come to pass with potentially very serious consequences for Australia in terms of vastly increasing numbers of climate refugees.

³ R. Garnaut 2008. The Garnaut Climate Change Review.

<https://webarchive.nla.gov.au/awa/20190509040128/http://www.garnautreview.org.au/index.htm>

R. Garnaut. 2011. The Garnaut Review 2011. Australia in the Global response to Climate Change.

<https://webarchive.nla.gov.au/awa/20190509030847/http://www.garnautreview.org.au/update-2011/garnaut-review-2011.html>