

Submission to DFAT Enquiry on New Aid Policy

The authors of this submission write as private individuals whose views have been shaped by collectively 100+ years of experience in Australia's contribution to international agricultural research for development. This experience has been gained with a diverse range of institutions, including CGIAR, FAO, CSIRO, ACIAR and Australian Universities. Despite these institutional links we stress the views expressed here are the personal reflections of the authors as individuals.

Our key reflections (elaborated below) are:

1. Lifting agricultural productivity and better connecting value chains to markets has proven to be a foundation to wider national economic development and poverty reduction. Strengthening agricultural innovation systems, including research and development activity, is an essential catalyst for development of the agriculture sector and consequent economic growth and development.
2. Australia "punches above its weight" in agricultural research generally (and agricultural systems research in particular) and it is strategically sensible to make use of this national competency to help meet the multiple goals of Australia's Aid Policy (trade, industry development, regional stability, humanitarian and diplomatic objectives)
3. Australia's partnership approach does far more than fund development activities; it links Australian expertise with teams in developing countries to work together and build local capacity. While this distinctive Australian approach is widely respected, we argue that the current project-based portfolio can evolve to a longer-term and broadly based program approach. Programs can involve governments, industry, research and education institutions contributing to longer-term country-specific strategies for multi-sector development.

1. Agricultural research, innovation and rural development

Global demand for food and other agricultural produce and services is growing and consumer preferences are changing rapidly. Farmers and value chain actors face major challenges to expand and diversify food supply when faced with growing resource scarcity, climate change and environmental challenges. Agricultural research is one of the highest value public (or private) investments that can be made to restore land, boost crop and livestock productivity, supply food to cities and improve nutrition. Other donors recognize the high returns and importance of research, whereas the proportion of Australian Aid allocated to research has fallen in real and relative terms.

2. Working to Australia's strengths

Australia is recognized and appreciated for major contributions to international development over many decades, not least in agricultural research and development. However, we can and must do better because many in the Indo-Pacific are directly or indirectly dependent on agriculture. The primary pathway to prosperity for many of these people involves technology adoption to lift productivity, conservation of land and fresh water, and improved links to value chains and markets.

Enhanced farming and agri-food systems research capacity and methods are needed to tackle the complexity and uncertainty inherent in sustainable agricultural intensification and in supporting value chains threatened by climate change and volatile markets. This is especially the case for smallholder farmers and their communities who will continue to make a substantial contribution to global food supply up to beyond 2050. The rhetoric of holistic and systems approaches in global Aid programs needs to be underpinned by excellence in systems research, as exemplified in the best of Australia's innovative delivery of systems research through its aid programs. The digital age – computer modelling, decision support tools and artificial intelligence supported by real-time digital data streams from multiple sources – represents an integral part of modern systems research.

Ten examples of practical and participatory interdisciplinary methods in Australian-led international research partnerships were recently published by the Agricultural Institute in a Special Issue of their Agricultural Science journal (Combined Volumes 30(2) and 31(1), 2019). These illustrate the type of interdisciplinary, inter-sectoral and impact-oriented research which underpinned historical success of Australian agricultural industries over the past decades. A lesson for the Aid policy is to ensure inter-disciplinary system approaches lie at the core of design and implementation. In fact, we would encourage Australian Aid to distinguish itself from other donors by our excellence in practical systems research. These systems research models must reflect the multiple goals of development and the aid policy, including consumption, nutrition and health and ecosystem services, including water supply and carbon sequestration, fully embedded into local institutions including marketing.

The prevalence of droughts and floods, and prices largely set by international markets, has necessitated Australian farmers to develop ways of coping with uncertainty. Australian researchers and economists have led the world in decision-making under risk and uncertainty. With the increasing frequency of extreme events associated with intensifying climate change, risk management strategies and decision-making could be another theme of

excellence within Aid, again distinguishing Australian Aid and adding value to the farm management and policy making of recipient countries.

In order to ensure quality and results of the systems research, research designs must incorporate clear practical pathways to impact, accompanied by multi-criteria evaluation and ex-post assessment of impacts – as ACIAR has published over the past three decades. The definition of such pathways to impact (incorporating theories of change) can provide cogent reasons for 'joined up' government services and cooperation of government with business and civil society.

3. Evolving the partnership model – from projects to strategic programs

The partnerships model of agricultural research, such as that developed by ACIAR generate benefits in recipient countries as well as, importantly, for Australian farmers and food industries. Moreover, the participating scientists deepen their knowledge about global threats which could impact Australia's food production and export industries. The interactions with international scientists during these research initiatives help maintain the currency of Australian scientists. Many such partnerships attract students and junior researchers to Australian universities and science organizations.

However, the partnership model is threatened by falling domestic investment in Australian agricultural science, reflected also in the general fall in Australian ratings on the global innovation index. For the above reasons we advocate greater investment of the Aid program in agricultural, forest and water science and innovation for the national benefit of Australia and of neighbours.

As the science and development capacities of countries of the region strengthen, often thanks to Australian contributions, the priority needs of countries change. One of the most important transitions for agricultural research Aid is the transition from short-term projects to long-term innovation and capacity building programs in targeted countries and sub-sectors within a mutually agreed strategic framework. The chopping and changing inevitable in short term project funding invariably leads to inefficient delivery and undermines capacity development. For this reason, we are advocating a shift from a short-term project cycle in agricultural research for development activity to a longer-term and more comprehensive "program cycle". This approach would draw together the contributions of Australian and developing country partners (government, industry, research and education institutions) into a jointly developed and owned strategy. Such strategies would be country specific and negotiated at government to government level but seek to be inclusive of industry, research

and education institution contributions and objectives. The time span of these strategies would need to be long-term – 12 to 15 years and subject to regular reviews and course corrections.

Effective research is demand-driven and framed in broad impact domains. The FAO-World Bank global farming system framework based on differentiated resource, production and livelihood patterns is one way to target agricultural research <<ff ref?>>. A further strategic challenge for the Aid programs is nudging senior research leaders and policy makers towards greater use of inter-disciplinary systems approaches in general and modern farming systems research in particular.

One of the fundamental constraints to wider application of inter-disciplinary systems research and development for quality impact in Aid programs is the critical shortage of agricultural scientists, including social scientists, with advanced skills in inter-disciplinary systems research and modern agricultural systems analysis. Many short courses would be good value in the Aid program. While widespread tertiary education in systems analysis would be ideal, the establishment of mentoring platforms to support farming systems scientists and development professionals would be feasible and very effective, especially for those working with complex issues of smallholder sustainable development under climate and market volatility.

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