

30 November 2022

The Coordinator  
International Development Policy  
Development Policy Section  
Department of Foreign Affairs and Trade  
RG Casey Building  
John McEwen Crescent  
Barton ACT 0221  
Australia

Dear Coordinator,

Australia's Policy Advisory Council (for International Agricultural Research and Development) – the 'PAC' – is a unique Council, established under federal legislation in 1982 to provide Australia's Foreign Minister with advice on the critical agriculture issues facing developing countries, and the research, programs, and policies that Australia can support to address those issues.

The PAC is a group of eleven global experts in food systems, agricultural research, and policy. The members are (or have been) in prominent positions in both the public and private sector across the Indo-Pacific region. The nature of their substantive roles frequently engages them in high level national and international discussions about the urgent issues facing the Indo-Pacific. They are all experts in their respective fields. Collectively their voice is powerful.

Given their legislated mandate is to advise the Foreign Minister on matters pertaining to international agricultural development and policy, the PAC is pleased to have the opportunity to respond to the Foreign Minister's invitation for submissions to inform the design of Australia's new international development policy. This submission was crafted during the PAC's most recent meeting in Brisbane earlier this month.

The PAC welcomes any requests for further advice from DFAT's Development Policy Section.

Sincerely,



Prof Wendy Umberger  
President, Australia's Policy Advisory Council  
Email: [wendy.umberger@gmail.com](mailto:wendy.umberger@gmail.com)

# **Australia's new International Development Policy**

**A submission by  
Australia's Policy Advisory Council**

**30 November 2022**

## **What is Australia's Policy Advisory Council?**

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## **The Context of this Submission**

The PAC is increasingly alarmed by threats to food systems in the Indo-Pacific region.

As experienced in 2008, food price shocks are inextricably linked to political stability in our region, yet food systems are stretching planetary boundaries and in some regions, they are on the verge of a collapse. Now, in 2022, energy, fertiliser and input costs are skyrocketing at the same time as climate impacts are starting to bite on the back of economies being crippled by the COVID pandemic. These are not a passing phase but symptomatic of future shocks if we do not act.

And who is getting most severely impacted? The rural poor. Eighty five percent of the world's 600 million farms are smallholdings of less than 2 hectares; and yet, they produce at least one-third of the world's food. In some countries and regions of the Indo-Pacific – Australia's backyard – this figure is greater than 80%.

It is in Australia's interest that the Indo-Pacific region is stable and prosperous. It is also in Australia's interest that farmers in the region are profitable and food secure, and that food systems are reliable and robust.

This cuts to the core of our submission.

The global food system feeds three times as many people today as in 1950; this is thanks to new technologies and agricultural systems that resulted from commitments of developed countries to invest in R&D targeting the developing world.

The PAC is convinced that the new challenges facing global food systems in our region can be resolved, but it will need a renewed, substantial, and sustained focus on resolving fragilities and inequities in food systems.

Australia has an enormous amount to contribute to such food systems transformation. You are world renowned for efficient farming in resource limited environments. You have transformed your own farming systems into profitable businesses; a transformation that much of the region needs. Australian knowledge, expertise and technologies have an enormous amount to offer the region. Importantly, investment in this area addresses all four areas outlined in the invitation scope.

Australia must step-up both in urgency and ambition. Australia's new international development policy *must* make an ambitious commitment to addressing food systems resilience in the Indo-Pacific.

We have no time to waste.

## **Recommendations**

### **Recommendation 1: Food systems transformation in the Indo-Pacific must be at the centre of the new international development policy**

Three challenges to food systems transformation play to Australia's strengths:

#### **1. Managing changing patterns of demand and consumption**

Food consumption patterns are changing very rapidly in the Indo-pacific region. Asia, which accounts for 55% of the global population, has the fastest growing middle-class consumer segment in the world, reaching more than 50% of the population in some major economies within the next decade. This is driving rapid increases in demand for meat, dairy, fish, fruit. and vegetables, with a strong focus on quality and food safety. At the same time, consumption patterns of food in other regions, notably the Pacific, have moved so strongly towards processed foods that noncommunicable diseases have become a major burden on economies and well-being.

These rapidly changing consumption patterns are driving major drains on economies, environments, and well-being, contributing to risks of instability in the Indo-Pacific. If the world meets projected demand of just livestock products alone by 2050, using current production systems, we are sure to smash several planetary boundaries while contributing significantly to global greenhouse gas emissions.

Shifting consumption to more sustainable patterns requires behaviour change by all actors throughout the food system, not just consumers. Sustained action through R&D is needed to:

- Develop alternative sources of protein and more efficient ways of producing animal-sourced foods;
- Radically reduce food loss and waste;
- Reduce the planting of food crops specifically for biofuels, and develop alternative sources of biofuels (e.g., agricultural waste and crop residues); and
- Value food appropriately by understanding the true cost of food system impacts on human health, the environment and social inequity.

## **2. Maximizing productivity without drawing down on natural capital**

Growth in *agricultural productivity* (output per unit of input) over the last century has been largely driven by public and private sector investment in R&D, delivering new technologies (such as crop and animal varieties and new fertilisers) and more efficient production systems.

Growth in overall *agricultural production* (total amount produced) has benefitted from these innovations, but it has also been driven by new land being brought into production and the development of new food products and markets. These combined innovations averted major world famine in the last 30 years, but they came at the cost of being inequitable and drawing down on global natural capital.

Future productivity and production gains cannot come at the expense of the environment. Sustainable productivity growth will ensure that our food systems can feed 1 billion more mouths, that our scarce natural resources are used more efficiently, with a significantly lower environmental footprint, and without expanding land use. This requires action to:

- Bridge the yield gap of crops and livestock (e.g., through improving adoption and equitable access to existing smart technologies and management practices, which reduce environmental impact per unit of output);
- Increase the genetic potential of a wider range of crops and livestock;
- Improve the trait value of crops and livestock not just production (e.g., nutritional value);
- Restore damaged and fragile ecosystems; and
- Pilot programs which incentivise farmers and other food system actors to improve their natural capital.

## **3. Preventing and managing food system threats**

Climate change, migration and globalisation of food systems have led to new biosecurity threats which pose risks to plants, forests, animals, fisheries, and humans. Capacity at all levels of the food system to recognize these new biosecurity threats, and resources to predict, prevent, and manage threats are critical.

Misuse of antimicrobials to manage human and animal diseases has accelerated the development of antimicrobial-resistant (AMR) pathogens which pose new challenges for already strained public health and food systems. Developing and emerging economies generally have weak systems in place to diagnose, monitor and prevent AMR. Support for R&D is required to:

- Develop cross-sectoral, transdisciplinary and collaborative initiatives such as One Health;
- Improve soil health;
- Improve water resource management, quality and utilisation;
- Prevent, predict, and manage pests, pathogens and infectious diseases;
- Understand and incentivise more targeted and prudent use of agricultural chemicals, and
- Curb antimicrobial resistance.

**Recommendation 2: Mobilise Australian knowledge, skills, and technologies to develop more equitable and sustainable food systems in the Indo-Pacific region.**

Australia has a strong foundation on which to build “an ambitious commitment to addressing food systems resilience in the Indo-Pacific”. Australia is a trusted development partner in the region.

Australia’s agricultural innovation system (i.e., universities, state governments, CSIRO, research and development corporations (RDCs) and the private sector) has long-worked with partners in the Indo-Pacific region to help address issues shared across the region. The Australian Centre for International Agricultural Research has created and maintained long-term relationships across relevant sectors in the region.

All of these partnerships are valuable strategic assets for Australia at a time when the region is looking to Australia for leadership in addressing increasingly complex problems. As an indicator of this, several countries in the region are now offering to coinvest with Australia in addressing these problems, for mutual benefit. This is an opportunity in time that should not be lost.

Examples where Australia could move quickly with strong early impact are:

1. In the Pacific, a special focus on (i) developing small-scale sustainable fisheries and protecting coastal ecosystems, and (ii) supporting localised food systems in small island states that deliver safe and healthy diets.
2. In South Asia, the Mekong countries and parts of Africa, an emphasis on developing efficient food systems in water-stressed environments.
3. In Africa and Southeast Asia, sustainable crop-livestock systems expertise is particularly important to improve efficiencies and reduce greenhouse gas emissions from mixed crop-livestock systems.
4. Across the Indo-Pacific sharing knowledge, experience, and innovative co-investment models to ensure biosecurity in the region; reduce food loss and waste; and revive traditional and neglected (orphan) crops using new technologies with benefits flowing to traditional owners.

### **Recommendation 3: Australia must play to its strengths in its sphere of influence**

The ability of Australia's agricultural innovation system to engage multilaterally and partner with industry, governments and universities should not be undervalued. It is certainly recognised as an almost unique strength of Australia within the region. Through country and regional partnerships, Australia should continue to invest in the following:

- Catalyse and coordinate next generation public-private partnerships that stimulate investments in food systems.
- Engage through partnerships in policy design and implementation, assisting countries to develop agriculture and food innovation models and interventions that are fit for their unique food system issues and contexts.
- Co-invest with partner countries to target resources and capacity to address shared food system issues.
- Support opportunities for women, girls, and youth to have meaningful and profitable livelihoods in food systems.

The potential of Australia's agricultural innovation system to deliver transformative changes in regional food systems is high; but, in the view of the PAC, the ambition presented in this submission will need a substantial re-prioritisation of resources towards greater mobilisation of this potential.

### **In Summary**

Food systems in the Indo-Pacific region are facing major challenges from climate change and other concurrent shocks.

As the PAC commented after its June meeting in 2022:

*It is hard to exaggerate the scale of the predicted impacts on food systems and the potential for economic and political instability of countries within Australia's region of influence... Australia is renowned globally for its ability to develop solutions to complex real-world problems through research and development across a wide range of expertise...*

Australia's ability to develop coordinated solutions to complex problems by linking expertise and capabilities across a wide range of sectors is required now more than ever.

Linear approaches which lead to incremental changes will no longer be adequate or acceptable. New partnership models and bolder approaches to addressing shared problems are urgently needed.

Australia's partners in the region are looking towards Australia to step-up and take a lead. The new international development policy is an opportunity to substantively change a mode of development assistance – while it may have been fit for purpose for the last 50 years, it will not be fit for purpose for the next 10, let alone 50 years.

## Annex: PAC Membership

**Professor Wendy UMBERGER (President)** is an expert in agricultural development and food policy and has worked on food system issues across the Indo-Pacific region. She was the Foundation Executive Director at the Centre for Global Food and Resources (2013-2022) at the University of Adelaide and a Professor in the School of Economics and Public Policy. Professor Umberger is an Honorary Fellow of Food Standards Australia New Zealand, and a Distinguished Fellow of the Australasian Agricultural and Resource Economics Society. She recently served two-terms (2015-2021) on the governance board of the International Crops Research Institute for Semi-Arid Tropics.

**Dr Audrey AUMUA** is a prominent Fijian advocate of the challenges of food systems in small island states. She is currently the Chief Executive Officer of the Fred Hollows Foundation New Zealand. She holds a PhD in Public Policy from Curtin University in Perth and is the former Deputy Director-General of the Pacific Community (SPC).

**Dr NGUYEN Van Bo** is the former President of the Vietnam Academy of Agricultural Sciences (VAAS, 2006-2014), is currently Member of the Vietnam Panel on Climate Change, Vice Chairman of Vietnam Rural Development Science Association.

**Professor Ramesh CHAND** is one of the top advisers to the Indian Prime Minister on matters relating to agriculture and food systems. Professor Chand is a Member of the National Institution for Transforming India (NITI Aayog) and of the XV Finance Commission in the rank of Union Minister of State. Professor Chand is also a member of the Board of Trustees of the International Maize and Wheat research Centre (CIMMYT), Mexico.

**Dr Rachel CHIKWAMBA** is a member of the Group Executive of the Council for Scientific and Industrial Research (CSIR), South Africa. She is a Zimbabwean national with a PhD in Genetics. She was until recently a member of the governance board of the International Crops Research Institute for the Semi-Arid Tropics.

**Dr Reynaldo EBORA** is the Executive Director of the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) and in that role coordinates all agricultural R&D in the Philippines. Dr Eborra has been instrumental in forging a novel new program of coinvested research collaboration between Philippines and Australia for mutual benefit.

**Dr Segenet KELEMU** is the Director General and CEO of the International Centre of Insect Physiology and Ecology (*icipe*) in Kenya. She was previously Vice President for Programs at the Alliance for a Green Revolution in Africa (AGRA) and Director of Biosciences Eastern and Central Africa. Dr Kelemu is a 2014 L'Oréal-UNESCO Laureate for Women in Science. Dr Kelemu serves on various Boards and advisory panels in major global initiatives and is a Fellow of various Academies of Science.

**Professor Teatulohi MATAINAHO** is the Vice Chancellor of PNG Adventist University. He was previously Chairman of the PNG Science and Technology Council and Chief Scientist of PNG. Professor Matainaho is a pharmacologist with a distinguished career in drug discovery from natural systems in the tropics. He holds adjunct professorial appointments with the University of Utah and James Cook University.

**Dr Surmsuk SALAKPETCH** is the recently retired Director-General of the Thailand Department of Agriculture. Dr Salakpetch has an extensive professional career in agriculture, from research to management. She has a PhD in Tropical fruit physiology, University of Hawaii and a Master of Science in Horticulture, University of Western Australia.

**Professor Achmad SURYANA** is a senior adviser to the Indonesian government on matters of agriculture, food security and food systems. He is the former Director General of the Indonesian Agency for Agricultural Research and Development. Professor Suryana has a PhD in economics from North Carolina State University.

**Mr Sunny VERGHESE** is Co-founder and Group CEO of one of the world's largest agribusiness firms, Olam International Limited. He was also recently Chairman of the World Business Council for Sustainable Development. Mr Verghese has built Olam International Limited over the past 31 years to be a major international agri-business company operating in more than 60 countries employing ~90,000 people. Olam manages commercial transactions with millions of smallholder farmers every day. The World Business Council for Sustainable Development is a global, CEO-led organisation of over 200 businesses 'working to accelerate the transition to a sustainable world.'