
Growing More Food Beats Hunger and Boosts Incomes

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On Australia's doorstep, where millions of people face hunger on a daily basis, Australia is helping smallholder farmers to boost production and improving people's prosperity.

The price peaks of the 2008 global food crisis have slowed, but those worst affected still struggle to find enough to eat each day. The global recession only makes that task harder.

The world's poor people, living on less than US\$1 per day, typically spend 70–80% of their costs of living on food. That food is often basic, low in nutritional value and insufficient to meet recommended daily intakes. By comparison, Australians, and others in the west spend around 15% of household costs on food, and we have enough choice to meet, or exceed, the recommended daily intake.

In East Timor, where more than 80% of people rely on agriculture for their livelihood, many families are going hungry. A survey of subsistence farmers conducted earlier this year by researchers working as part of Australia's aid program found that none of the families surveyed had sufficient food staples of rice or maize to last a full year. Seven out of ten families went without maize for four or more months each year. All surveyed were forced to ration food for between one and six months each year. Many reported that they gathered wild food regularly, and the worst affected consumed the seed they needed to plant crops for the following season.

These are some of the world's billion poor, almost 80% of whom live in developing

countries in East Asia, the Pacific and Africa, mostly in rural areas. Many go hungry each day, have limited access to health care and receive a limited education, often not even finishing primary school.

Australian Assistance

Australia's A\$3.8 billion aid program contributes to tangible improvements in the lives of the poorest people in the Asia-Pacific region. Every week, each of us puts in around \$3.30 to pay for the aid program – about the cost of a cup of coffee. At its forefront is a commitment to the United Nation's Millennium Development Goals. These include halving extreme poverty, getting all children into school, closing the gap on gender inequality, saving lives lost to disease and the lack of available health care, and protecting the environment.

Australians would be aware of aid because of events such as the recent Samoa tsunami, Indonesia earthquake or South-East Asian typhoons. In such circumstances we respond to appeals generously.

Poverty is just as devastating as these natural disasters. Increasing food production is the best way to create pathways out of poverty. Surpluses create income and, through this, opportunity.



Seeds of Life maize varieties have yielded up to 6.5 tonnes per hectare, compared with only 1.5 tonnes per hectare for traditional varieties.

Photo: Seeds of Life

Agricultural Development Comes First

In the Asia–Pacific region and Africa, 70–80% of people are involved in agriculture. They recognise the fundamental role of agricultural research and development in increasing food production, improving their livelihoods and boosting economic growth.

Agricultural growth has been a precursor to overall economic growth in countries like Vietnam, China and India. In post-war Cambodia, for example, a Cambodia–International Rice Research Institute–Australia project helped the country to increase rice production by 70%, achieving a rice surplus in seven years and helping to develop stability, security and goodwill.

In East Timor, Australia is helping to both rebuild the capacity of East Timorese agriculture and boost its productivity through the Seeds of Life project, which is funded by the Australian Government through the Australian Centre for International Agricultural Research (ACIAR) and the Australian Agency for International Development (AusAID). In partnership with international agricultural research centres, high-yielding, better-adapted varieties of staple food crops have been trialled with encouraging results.

Since 2005, 114 of East Timor's 442 *sucos* (villages) have seen improvements in food

security as a result of seed dissemination and field trials. Interviews with participating farmers revealed that more than half the families sold on average one-third of their extra crops to buy rice, protein and other produce to enrich the family diet, along with other essential household expenses.

Responding to the Food Crisis

Agriculture is extremely vulnerable to climate change because farming is so weather-dependent. A report issued in September 2009 by the International Food Policy Research Institute (IFPRI) on the impact of climate on agriculture predicts that without additional investments in agricultural productivity, 25 million more children will be malnourished in 2050 due to the effects of climate change. Small-scale farmers in developing countries will suffer the most because they will face bigger declines in crop yields and production. According to the report, this outcome can be averted with greater investment in agricultural research, improved irrigation and rural roads to increase market access for poor farmers, along with more open agricultural trade.

Australia's response to the global food security crisis has been to address both the short-term impacts of the food price increases

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and the need to take longer-term actions to deal with the root causes of food insecurity in developing countries in a coherent manner. Efforts to increase food security over the longer term include improving the availability and nutritional value of food by boosting agricultural productivity, and increasing the ability of poor people to purchase food by increasing their incomes, making food markets more effective and by supporting social protection programs.

Lifting productivity involves a wide range of research designed to boost the output of staple crops and develop crops that stand up better to pests, disease or climate variability, and the introduction of second crops or enterprises into farming systems where there is an opportunity to do so.

In South Asia, farmers are being encouraged to grow alternative crops in their fallow rice paddies to increase food production and incomes. By growing wheat in the dry season followed by mung beans, Bangladeshi farmers near Barisal are both increasing food production and earning a profit for their families. On the East India Plateau, growing extra crops by storing water from the wet season is not only boosting food production but also allowing families to stay together since fewer men migrate for off-farm work. Where farmers can make a transition from subsistence farming to surplus, extra income can be earned.

These and other success stories are examples of how increased agricultural production is helping to improve the lives of many poor people in the Asia–Pacific region, and on a small scale in several African countries.

Fostering Enterprise for Prosperity

Development assistance from bilateral and multilateral donors and non-government organisations helps build the stability and economic development that is vital for providing opportunities to both developing nations and

individuals. The Australian aid program is providing such opportunities.

Beyond increasing staple food production, Australia is taking a systems approach to reinforce changes, such as modified cropping or livestock activities, with specialist support for associated policy development and trade reform at government level.

The Australia–Indonesia Smallholder Agribusiness Development Initiative in eastern Indonesia draws together strategic partnerships among research providers, farmer groups and private companies. It is driving a new “market pull” approach to agricultural development among poor rural communities by establishing mutually supportive relationships between farmer groups and their produce buyers. The changes needed to create more sustainable and productive farms are given a direct commercial value, which is proving to be a strong stimulus for farmers to adopt the research.

Some of the beneficiaries of this work have been peanut growers in Lombok, who are growing improved varieties and changing cropping practices to better suit the needs of their commercial buyer. Sulawesi cocoa growers are working closely with the researchers and extension staff of the Indonesian government, and with a major chocolate manufacturer, to introduce disease-resistant varieties and improved cropping practices to overcome devastating disease issues in their once-lucrative cocoa plantations.

Capacity Building Is Vital

Building the capacity of research institutions in partner countries is one of Australia’s priorities in supporting agricultural development. It is crucial for ensuring that development-research outcomes are generated and sustained because the application of scientific research and change can occur over a long period of time. Research capacity is built through the long-term partnerships that Australia has with governments and agricultural institutions and personnel in developing countries over a long period to work on long-term problems.

Along with building the capability of partner institutions through on-the-ground research and development, Australia also offers specific training opportunities for PhD and Masters students at Australian institutions, along with

short-term capacity-building opportunities. The long-term benefits of providing postgraduate scholarships to partners from developing countries are highlighted by the number who are now playing key roles and passing on their valuable knowledge and skills. A recent survey of returnees showed an overwhelming positive response, with 99% saying they were facilitating the transfer of knowledge and skills within their institute or current workplace.

Measuring Our Impact

The impacts of Australian agricultural aid programs in developing countries are regularly assessed to determine the level of economic impacts and capacity-building initiatives, and to guide the development of future programs.

For example, a 2008 review of Australia-funded pig breeding and feeding R&D projects in Vietnam found the long-term benefits of increasing pig growth rates and reducing feed costs had increased from a net present value of nearly \$500 million to nearly \$2.0 billion, providing a benefit-to-cost return of more than 250:1.

The capacity building included as an important component of the original projects was crucial in sustaining and extending the impact of the research. Without the enhanced skills of the research team, the productivity gains for the pig industry would have diminished soon after the project was completed. The follow-up activities and emphasis on extension and training contribute to rates of return that tend to increase substantially over time, well after completion of the research activity.

Investing for the Future

One of the lessons from the global food crisis of 2008 is that more food needs to be produced now to ensure that droughts and crop failures do not cause similar problems in the future.

Looking further ahead, however, to predicted climate variability and a population increase of more than two billion people over the next four decades, similar food shortages seem likely to recur.

Addressing food insecurity is a long-term challenge requiring major investment. Australia has a new initiative to support increases in food



Bangladeshi farmer Nasima, who is boosting her profits by growing wheat and mung bean in fallow rice paddy.

Photo: ACIAR

production globally and strengthen the ability of countries in the Asia-Pacific region and Africa to address food insecurity.

The Food Security through Rural Development measure is worth \$464.3 million over four years and will help lift agricultural productivity in developing countries by working with other donors and research institutions using environmentally sustainable approaches. It will also improve rural livelihoods by improving the functioning of markets in ways that increase job opportunities and incomes for the rural poor.

For example, in Africa where progress towards the Millennium Development Goals has lagged the most, Australia has in development a project to assist resource-poor farmers in southern and eastern Africa to enhance the productivity of their staple food crops, maize and legumes, which are grown in increasingly complex and risky farming systems. This is an area in which Australia can make a unique contribution given our comparative advantage and mutual interest in agriculture.

There is a long way to go to achieving the Millennium Development Goals to eradicate absolute poverty. Australia is playing its part to ensure that we live in a region that is prosperous and a world where many of the opportunities we have each day are available to all.

ACIAR <www.aciar.gov.au> is an Australian Government statutory authority that operates as part of Australia's aid program. It aims to achieve more productive and sustainable agricultural systems in developing countries and Australia through international agricultural research partnerships.