

Boosting food security in Solomon Islands



Towards food security for a better life

Australian agricultural expertise is helping to boost food security in Solomon Islands, through a suite of Australian Centre for International Agricultural Research Centre projects

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Small-scale farming, mainly in backyard food gardens, is an essential component of food security in Solomon Islands. Traditional crops, grown in gardens, are under increasing pressure to meet rising demand for food and from damage caused by crop pests. Fishing, another valued food resource, is also under pressure, with overfishing threatening long-term sustainability. Village poultry also contribute to food security. Increasing sustainable production of these important food resources is being addressed through a targeted suite of ACIAR-supported projects.

More than 400,000 people in Solomon Islands — over 80 per cent of the population — undertake subsistence agriculture for their livelihoods. Food production relies on backyard agriculture and fishing. Growing crops in gardens, undertaken largely by women, provides for basic food staples. The main crops grown include taro, yam, sweet potato, beans, cabbage, watercress and watermelon.

Village poultry also play a role in food security. Chicken meat, and eggs, both provide dietary protein. Families run small flocks, around 10 to 12 chickens, producing an estimated 2.6 million eggs a year. This is still well below the level of supply needed to feed demand.

Fish are the other main source of protein and also provide another source of income. Both wild capture and aquaculture industries can boost fish supply, but this must be done in a sustainable manner that will ensure long-term supply.

Each of these food and income sources has significant scope for expansion; by boosting sustainable production and limiting the impact of diseases and pests. If this can be achieved there is real potential for increased income generation from selling surplus production.

Surpluses of crops and eggs are sold in villages, at roadside stalls and urban markets. Extra fish and marine resources can be sold to domestic and export markets. This money is a valuable contribution to household finances. But, with production falling the possibility of producing surpluses for sale is under threat from the impacts of pests, diseases and over-exploitation.

At the same time population growth is resulting in land use intensification, necessitating greater emphasis on sustainable farm management systems. Infrastructure was also damaged or destroyed in the civil disturbances of 1999-2000. There has been limited rebuilding; the main Department of Agriculture and Livestock research complex destroyed by fire in 2000 is yet to be rebuilt. Many professional staff returned to their tribal lands and expatriates to their home countries. This loss of expertise has also been left largely unaddressed, reducing local capacity to support increased production.

Income generation initiatives, particularly in rural areas, remain important for broader economic and social recovery.

The presence of pests has damaged plants, resulting in reduced crop yields. Pesticides are the main controls used, but are expensive to buy, particularly given the restrictions on available household incomes. Buying pesticides means foregoing expenditure elsewhere in the household budget.

The use of pesticides also presents the risk of residues remaining on staple foods. Using pesticides in areas with high population densities can also affect human health. A new approach to managing pests, that reduces the reliance on pesticides, without compromising production was needed.

The introduction of an integrated pest management approach that utilises a range of options reduces dependence on pesticides. Options being investigated include pest-resistant varieties of staple crops — which are also higher yielding — biological control agents and crop/plant monitoring to facilitate the removal of diseased and damaged plants.

Integrated pest management packages for several of the main pest and disease problems have been developed and tested. Appropriate taro and sweet potato varieties and cultivation practices are being introduced. Farming communities in Malaita and Guadalcanal are evaluating these varieties in trials coordinated by the Department of Agriculture and the NGO Kastom Gaden.

The plant research and quarantine capabilities of the Department of Agriculture are being strengthened through training of staff and re-establishment of laboratory facilities for pest identification and rearing of biocontrol agents.

The rising cost of feeds for village-based chicken producers reduces the profit margins of these smallholders. Introducing lower cost, locally available ingredients into commercial feeds is helping improve these profit margins.

Limited knowledge on how best to use the diverse local ingredients to formulate a balanced feed for laying chickens is restricting productivity growth. This is despite a wide variety of local feed resources being available,

including root crops, fruit and native plants. Research to develop quality local feeds and formulas from local ingredients is beginning to boost growth rates and egg production.

Kastom Gaden estimates that between 20 and 40 chickens per family would allow eggs to be eaten and sold each day as well as regular consumption of chicken meat. This would result in a higher protein and nutritional intake and a boost in income by ensuring more chickens are run with families reaping greater financial and dietary returns.

In fisheries, research is underway to boost production, with income generation a focal point. Sea cucumber is one of the most valuable of marine resources, but being easy to harvest is also one of the least well equipped to deal with overfishing. Recent civil unrest and economic hardship have limited opportunities to earn incomes, and resulted in the over-exploitation of sea cucumber.

Catch levels are unsustainable, with harvests declining rapidly. A collapse of these fisheries and lost incomes is likely if over-exploitation continues. The introduction of sustainable management plans is balancing the urgent needs of immediate income against long-term sustainability.

Working in collaboration with the Department of Fisheries and Marine Resources, and Provincial Governments, a community based approach is being utilised. This is assisting communities to cultivate sea cucumber to obtain increased returns, at sustainable levels.

Another component of fisheries research, also targeting sustainable community utilisation of marine resources is harvesting of coral reef fish and invertebrates. A dual approach is focussing on aquaculture of post-larval fish and sustainable management of wild capture fish.

Some villages have begun to sell fish and lobster to local exporters. Fishing practices that reduce the impacts of wild capture fishing activities amongst coral reefs, along with simple techniques and feeds to culture fish following capture also have been introduced.

For further information visit the ACIAR website at: www.aciar.gov.au

For more information on ACIAR's program in Solomon Islands visit:

www.aciar.gov.au/web.nsf/country/Solomon%20Islands?opendocument§ion=currentprojects