

PHILIPPINES

Key statistics	
GDP per capita (US\$) ^a	1,866
Population (million) ^a	94
Funding	\$m
2009–10 actual	3.77
2010–11 budget allocation	3.76
2011–12 budget estimate	3.10

^a data from 2009 & 2010 <<http://unstats.un.org/unsd/demographic/products/socind/>>

Training Philippine farmers how to grow new vegetables

MEDIUM-TERM STRATEGY

The Australian aid program in the Philippines aims to improve the prospects for economic growth, poverty reduction and national stability (Australia–Philippines Development Assistance Strategy 2007–11). ACIAR's support for this strategy comes through the third objective in the strategy: 'Improved economic opportunity for rural people through increases in productivity, access to markets, better infrastructure and growth of small to medium enterprises in target provinces'. Specifically, ACIAR's Philippines program is designed to assist in increasing productivity, marketability and international competitiveness for Philippine agricultural products. Underpinning this improved competitiveness is the need to enhance agricultural productivity through more-effective extension processes and greater responsiveness to market opportunities.

In 2008 the Philippines became a net food importer, having been a net exporter in the early 1980s. Being a mountainous country, there is relatively little new land suitable for expanding rice areas, and productivity growth in existing areas in recent years has been low. In addition, the population continues to grow at >2% per year (expected population will rise from 94 million to 101 million over the next 8 years). While rice production remains a dominant national focus, there is increasing pressure to diversify and produce a range of other food, livestock, fisheries and income crops on increasingly marginal land in the uplands.

ACIAR will continue to support research for development to improve market competitiveness of products from aquaculture, horticulture and livestock enterprises. The emphasis on higher value products and market competitiveness aims to address food security by supporting research that would provide smallholder farmers

and traders with increased cash income, enabling the purchase of staple foods.

While ACIAR's priority is supporting research for development to increase the prospects for wider adaptation and adoption of research outcomes, the Philippines program also engages with a wide range of local 'next-user' partners (such as local government units, NGOs, commercial agribusiness companies and farmer community groups). This includes catalysing stronger linkages between regionally based delivery organisations, and central research organisations and policymakers.

Under the current medium-term research strategy, ACIAR's Philippines program addresses the following priorities:

- Increasing the market competitiveness of Philippine horticultural products:
 - » Economic analysis of marketing chains and channels for perishables, and building of supply chains to improve alliances between suppliers, processors, institutional buyers and marketers
 - » Improvement in postharvest handling, quality, and sanitary and phytosanitary standards for focal tropical fruits and vegetables
 - » Development of disease, pest and nutrient management strategies for a range of fruit and vegetable crops
 - » Development of locally suitable protected cropping technologies
 - » Selection and clonal propagation of new high-quality mango germplasm

- Competitive and sustainable fisheries and aquaculture production
 - » Development and field testing of mariculture-based strategies to provide livelihoods and enhance locally managed fisheries
 - » Assessment of the impacts of aquaculture and mariculture on the community livelihoods of small-scale fishers, and development of better management tools
- Land and water resource management for profitable and sustainable agriculture:
 - » Development of more-comprehensive methods for characterisation of watersheds to assess vulnerability and requirements for developing more-productive and sustainable farming systems in watersheds
 - » Use of biophysical, social and economic information to develop integrated soil, water, crop and nutrient management practices that are potentially more sustainable, adoptable and profitable
 - » Assessment of policy, regulatory, social and economic constraints to the adoption of 'best management practices', and analysis of approaches for managing resource-use conflicts
- Addressing policy and technical constraints to improving returns from low-input pig production systems:
 - » Analysis of laboratory and field diagnostic resources to investigate and control respiratory disease of pigs in smallholder and commercial-scale enterprises, and development of new capacity based on surveillance and outbreak investigations.

2011–12 RESEARCH PRIORITIES AND PROJECTS

ACIAR's medium-term research strategy and geographic priorities in the Philippines are reviewed every 4–5 years through consultations between ACIAR's research programs and the key research coordinating agencies, universities, farmer organisations and private sector stakeholders. The current strategy will be reviewed in 2011 as part of the development of a whole-of-government strategy for the Philippines.

In recent years ACIAR's program has had an increasing focus on Mindanao and the Visayas, where the issues of agricultural intensification and a declining natural resource base coincide in upland areas. A significant proportion of Philippine farming is carried out in fragile sloping environments or sensitive watersheds, and it is important

that intensification of agricultural productivity does not come at the expense of land degradation.

Under the current medium-term strategy, ACIAR's research projects in the Philippines are delivered through the following four themes:

Increasing the market competitiveness of Philippine horticultural products

Two major horticultural initiatives involving researchers, government, NGOs and industry partners commenced in 2008, with a total investment of approximately \$12 million. Together, ACIAR's southern Philippines fruits and vegetables program aims to (1) improve smallholder and industry profitability and market competitiveness of selected vegetable industries (including potato, tomato, bell pepper, brassicas, leafy vegetables) and (2) identify and implement improvements to domestic and export value chains for tropical fruits (mango, papaya, durian and jackfruit) through targeted interventions in policy and regulatory analysis, production, disease and pest management, and postharvest handling.

HORT/2007/066 Enhanced profitability of selected vegetable value chains in the southern Philippines and Australia

This program aims to increase the farm income and opportunities for its diversification for small- and medium-sized farmers in the southern Philippines (Regions VIII—Leyte, Samar; X—Misamis Oriental; and Bukidnon; XI—Davao del Sur) through a focus on increased productivity and market-chain efficiencies for domestic markets. The program has six components: soils/nutrition; protected cropping systems; IPM of solanaceous crops; efficiency of selected value chains; economic impacts and policy constraints; and program management to develop a series of integrated interventions.

HORT/2007/067 Improved domestic profitability and export competitiveness of selected fruit value chains in the southern Philippines

This program aims to increase farm income and opportunities for its diversification for small- and medium-sized farmers in the southern Philippines (Regions VIII—Leyte, Samar; X—Misamis Oriental; and Bukidnon; XI—Davao del Sur) through a focus on addressing the constraints to commercial production of selected fruit crops (papaya, durian, jackfruit and mango) considered to have high economic potential in both domestic and export markets. This program has six components: tropical fruit supply chains; durian/jackfruit IPM; integrated management of papaya; integrated management of mango; economic impacts and policy constraints; and program management to develop integrated interventions.

Competitive and sustainable fisheries and aquaculture production

In the Philippines, as in many other countries, wild-harvest fish catches are declining while demand continues to rise. For well over a decade ACIAR has been working with Philippine research agencies, both national and regional, to develop and refine robust technologies for the culture and grow-out of high-value marine species, including mud crab, grouper and other marine food fish, sea cucumbers and giant clams. More recently, collaborative research has commenced to address the declining productivity of seaweed, a key source of income for Philippine coastal communities.

FIS/2003/059 Sea-ranching and restocking sandfish (*Holothuria scabra*) in the Asia–Pacific region

Technologies for producing sandfish in hatcheries (FIS/1995/703) and for releasing them in the wild (FIS/1999/025) have been developed. This project, which is being implemented in the Philippines, Vietnam and northern Australia, is replenishing selected sandfish populations through restocking into ponds and marine reserves, and evaluating a new livelihood option through releasing cultured sandfish in managed inshore habitats.

FIS/2009/033 Preliminary assessment of the hand-line (banca) fisheries in the Philippines

The objectives of this project are to carry out a preliminary investigation of the nature of the hand-line fishery in the Philippines, including the IUU components.

FIS/2009/054 Refinement and application of cage aquaculture decision-support tool (CADS tool) for freshwater systems in the Philippines

ACIAR-funded projects in Indonesia led to the development of a CADS tool that enables managers to classify and select potential fish aquaculture sites. This project is developing the freshwater module for the CADS tool and integrating it into existing aquaculture training programs in the Philippines and Indonesia.

FIS/2010/042 (proposed) Expansion and diversification of production and management systems for sea cucumbers in the Philippines and northern Australia

This project will refine sandfish culture and management technologies, develop new sea-ranching demonstration sites, continue to scale up low-cost nursery systems, and evaluate the viability of sandfish production systems under different environmental and governance conditions.

SMAR/2008/025 Improved seaweed culture and postharvest waste utilisation in South-East Asia

Seaweed production is falling significantly in the Philippines and Indonesia. This project is addressing declining seaweed productivity and lack of product diversification by identifying new strains and building capacity for ongoing strain selection work through a network of seed distribution laboratories.

Land and water resource management for profitable and sustainable agriculture

Many Philippine watersheds have been severely degraded, thus reducing their capacity to provide vital economic benefits and ecological services. Impacts include decreased agricultural productivity, pollution of water resources (especially with sediment), increased risk of flooding downstream and increased risk of landslides. ACIAR will continue to support national watershed R&D programs through targeted research collaboration to identify promising management practices best suited to local conditions.

ASEM/2010/050 Improving watershed rehabilitation outcomes in the Philippines using a systems approach

This project aims to improve the process of rehabilitation of critical watersheds in the Philippines by identifying and piloting the key technical, socioeconomic and policy drivers needed to enable successful rehabilitation, as measured by improved watershed health, increased livelihood opportunities for the rural upland poor and decreased poverty.

SMCN/2004/078 Evaluation and adoption of improved farming practices on soil and water resources, Bohol Island, the Philippines

This project is building on earlier project outcomes to develop better practices in maize–cassava cropping systems on steep lands in two upper watersheds of Bohol, aiming to improve farmer livelihoods, reduce erosion and counteract siltation of water resources.

SMCN/2009/031 Integrated plant nutrient and water management for sloping-land agriculture in the Philippines

Steeply sloping lands that are subject to agricultural intensification are vulnerable to erosion and degradation of watershed function, which in turn reduce the capacity to provide vital economic benefits and ecological services. This project is developing tools for improved planning of agricultural development in upland watersheds in the southern Philippines.

Addressing policy and technical constraints to achieving improved returns from pig production and marketing

Pork accounts for around 60% of all meat produced and consumed in the Philippines. The industry is large and highly diverse, with a wide range of production systems from large-scale commercial to low-input subsistence, but it is dominated by smallholder farmers. The designation of the Philippines as free of FMD provides the opportunity to export pigs and pork to hitherto closed markets such as Singapore.

AH/2009/022 Improved investigation, diagnosis and technical support for the control of respiratory diseases of pigs in the Philippines and Australia

In the Philippines an estimated 50% of all pig mortalities are caused by respiratory disease. This project is identifying technical gaps in field outbreak surveillance, developing cost-effective laboratory tests for bacterial and viral agents causing respiratory diseases, implementing systems in both countries for effective surveillance and controls against respiratory diseases, and developing mechanisms to communicate the results throughout the industry in the Philippines.

Other projects

The Philippines is currently the largest importer of rice in the world, at around 1.8 million tonnes in 2008. The International Rice Research Institute (IRRI) is headquartered in Los Baños in the Philippines. ACIAR provides core funding to IRRI and also supports additional initiatives aimed at maintaining rice productivity.

CIM/2006/176 (multilateral, IRRI) Developing molecular markers to enable selection against chalk in rice

Chalkiness in rice occurs during grain development, and no breeding program has yet overcome it. Earlier research found that tropical germplasm (tropical japonica and indica) is more chalk-prone than temperate japonica germplasm. This project is investigating the genetic mechanisms of low levels of chalk in temperate lines and how to incorporate traits that will result in reduction of chalk in tropical breeds.

Principal regional coordinator

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Key program managers

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KEY PERFORMANCE INDICATORS (2011–12)

- Commercial adoption of protected cropping systems in at least three districts of Leyte to provide extended seasonality of vegetable crop production
- Nutrient budgeting evaluated, and fertiliser management and appropriate agronomic practices for increasing vegetable production identified, in the southern Philippines
- Commercial adoption of ICM packages developed by the Philippines Fruits Program in papaya, mango, durian in Mindanao and jackfruit in Leyte
- Sea-ranching options for enhancing livelihoods of village-level fishers identified and being tested in at least two new locations
- Increased access to institutional markets by vegetable-growing smallholders in selected regions of Mindanao
- Program of R&D initiated for management of sloping-land agriculture in the Philippines from biophysical and socioeconomic perspectives
- Capacity of national and regional R&D agencies strengthened in agriculture, fisheries, livestock and environmental management research through formal and on-the-job capacity building of at least 50 individuals