



ACIAR projects in Pakistan are helping smallholders engaged in the citrus and dairy sectors to become more profitable.

THE FARMER NEEDS A MARKET

Australian horticultural and livestock expertise is helping disadvantaged Pakistani smallholder farmers achieve higher productivity and profitability through a program that also endows Pakistan with a stronger agricultural research, development and extension sector.

KEY POINTS:

- **Australia and Pakistan are adapting Australian farming technology to alleviate poverty among Pakistani smallholder farmers.**
- **The program targets improved productivity and market and employment opportunities.**
- **Support is also provided to improve economic and natural resource management, and build public and private capacity to service the needs of stakeholders.**

BY GIO BRAIDOTTI

There is growing recognition within the aid community that helping smallholder farmers can have far-reaching benefits for alleviating poverty. Farms can function as a catalyst for greater socioeconomic development and environmental sustainability.

The idea is central to ACIAR operations. Across programs, ACIAR's research managers do not just help developing-world farmers better manage their fields, ponds, fisheries or woodland. To realise the benefits of greater on-farm productivity, ACIAR also pays attention to issues beyond the farm gate, such as the supply chain that determines farmers' access to markets and retailers.

The approach can transform disadvantaged subsistence farms into small but dynamic agribusinesses that provide farming families with the means to better access education, health care and to build rural economies.

Rather than pursue solutions across the supply chain in a piecemeal fashion, ACIAR takes an integrated approach, building

into projects support for issues relating to marketing, labour and retailing.

One of the largest such endeavours is the \$6.6-million Australia–Pakistan Agriculture Sector Linkages Program (ASLP), which initially ran from 2005 to 2010 and targeted Pakistan's mango, citrus and dairy sectors.

In each case, ASLP on-farm production projects were augmented with supply-chain and social-science components, each headed by an Australian and a Pakistani project leader. The approach has proven to be one of Pakistan's most successful models for agricultural cooperation and partnership.

As a result, ACIAR and AusAID have agreed to extend ASLP, with AusAID investing A\$12.95 million over four years into ASLP2. Providing oversight of the program is Dr Munawar Kazmi, who formerly headed the mango production project for Pakistan. He is based at the Australian High Commission in Islamabad.

"We are ready to start phase two, which I am excited about," Dr Kazmi says. "The goals are the same and build on the outcomes from phase

one. But we are now more focused on the small farmers.

“In Pakistan the majority of farmers hold less than 5 hectares of land. So our goal is to reach more of the farmers for whom innovation and fine tuning of management practices can alleviate poverty and bring benefits to society.”

One thing Dr Kazmi stresses is that there is no intention to copy Australian farming practices but rather to understand the science behind the technology that makes Australian farms so productive. The aim is to then modify and adapt it for farmers in Pakistan and their local situation.

“One example is the emphasis we have placed on improving nursery practices in both the mango and citrus projects,” Dr Kazmi says. “We are not importing any material or technology from Australia for the nurseries. Pakistani smallholders could not afford it.

“Instead we work with what is available locally. This is an approach that makes innovation and productivity gains affordable while emancipating the local economies of smallholders.”

MANGOES, CITRUS AND DAIRY

The agricultural sector in Pakistan contributes 21.8% to the country's gross domestic product. Of particular importance are the mango, citrus and dairy sectors.

ASLP2 assistant coordinator Dr Greg Johnson says dairy is by far the country's largest agricultural industry. It ranks fourth in the world, with production worth an estimated US\$5.77 billion in 2008.

About eight million farm families are responsible for 95% of this milk production. Most are smallholders with two to five animals raised on farms that often also produce wheat, maize and cotton. About 66% of Pakistan's milk is actually produced by buffaloes; the remainder comes from cattle.

Dr Johnson says that given the informal and traditional structure of the industry, most of the milk produced is used for family consumption or traded locally.

“Of particular note for poverty reduction is the economic scope that dairy offers people with no secure land tenure, as a significant proportion of the land-less raise dairy cattle as a major source of income,” he says.

Analysis by ASLP scientists found a dairy sector in which production levels are below genetic potential and smallholders too far removed from market considerations. The situation proved similar in the fruit sector.

Pakistan harvested about 1.75 million tonnes of mangoes in 2008 from the Punjab and Sindh regions and 2.5 million tonnes of citrus, most of it mandarins. This production level makes Pakistan the world's fifth-largest mango producer and the

fifth-largest exporter of mandarins.

Farmer income, however, is constrained by high postharvest losses, low export levels (less than 5% for mangoes and 10% for citrus) and low export prices due to poor quality, handling and marketing.

With the government of Pakistan eager for incomes to increase among smallholders, the ASLP partners agreed on two main strategies: improving production and streamlining marketing.

Dr Johnson says that the benefit of this approach is illustrated in the mango sector where, despite export volume remaining relatively constant (as a percentage of total production), export value has risen from US\$32 million in 2007 to US\$61 million in 2009, which amounts to a 33% increase in price.

The process, however, places added pressure on producers to improve quality and meet international standards, issues that ASLP is helping farmers address. The Australians on the team also evaluated where Australian expertise could be brought in to the greatest effect and focused on adding value to existing production systems.

For horticulture these included the introduction and evaluation of new types of citrus and new varieties, the improvement of nursery production systems for virus-free stock, and the provision of improved management packages.

“For citrus, the focus was on improving orchard management practices,” Dr Johnson says. “The season was very short, so the program is helping to expand that window and reduce ‘seediness’, which is unpopular in some markets.”

Besides working with farmers on production issues, ASLP teams also distributed surveys in international markets, all the way through to retailers, to collect information about what buyers look for in Pakistani fruit. Feedback is then provided to growers and exporters who can use the information to target different markets.

“Through the ASLP we established demonstration sites where we can showcase the results of all the agricultural practices being made available to smallholders,” Dr Kazmi says. “The value-chain team members then market the fruit from these sites as a trial shipment and that allows them to go to the growers and tell them what the returns are from adopting certain farming practices.”

Dr Chrys Akem from the Queensland Department of Employment, Economic Development and Innovation (DEEDI) explains that a system-wide approach is one of the strengths of Australian horticulture in general and mangoes in particular.

“The systems approach and integration of end users in the planning, execution and

evaluation of research are unique attributes that could be brought to bear in Pakistan,” Dr Akem says. “It promises significant opportunities for impacts on productivity and more efficient supply-chain systems.”

From Dr Kazmi's perspective on the ground in Pakistan, the approach has earned the respect of Pakistani farmers. “Advice provided by Australian scientists is often considered convincing and is followed more diligently than advice offered in the past from extension services,” he says. “If the Pakistani project teams know that somebody from the Australian team is coming to discuss the project, they are more enthusiastic. It is a morale builder.”

However, travel to Pakistan has sometimes been restricted due to security concerns. Nonetheless, links and friendships have been forged as partners found alternative means to connect.

“As part of building research, development and extension capacity within Pakistan, the ASLP has provided the means for the Pakistani participants to travel to third-party countries that import Pakistani fruit or to Australia,” Dr Kazmi says.

“When we launched ASLP, we brought a group of growers to Australia who developed good links with the Australian Mango Industry Association. We are trying to develop the same kind of linkages with the Australian citrus industry. Some of the more enterprising farmers have even made contact with Australian scientists by email and Skype.”

Among the more frequent Australian visitors to Pakistan are Professor Peter Wynn's livestock team from Charles Sturt University (CSU), who identified poor nutrition as the main limitation to milk production and are helping farmers make up the shortfall. He places special emphasis on communication between farmers and extension officers.

“There is a major opportunity for Australian technical support to help develop the dairy sector by enhancing extension services provided to farmers,” Professor Wynn says.

“This includes improving the style of communications with farmers, the information available to extension staff to address farmer problems, the skills and number of extension staff, and the capacity to consider problems and solutions in a whole-farm systems context.” ■

PARTNER COUNTRY PAKISTAN

PROJECT: Australia–Pakistan Agriculture Sector Linkages Program (ASLP)

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