EXTENSION SERVICES SUCCEED BY INVOLVING THE WHOLE FAMILY

Innovation in the way extension services are delivered to Pakistan's subsistence dairy farmers is raising productivity

PHOTO: ACIAR

Sobia Majeed (centre) with some of the female dairy farmers she worked with in Sindh, Pakistan, over the four projects in which extension services were innovated and tested in partnership with ACIAR.

KEY POINTS

- Women and children proved instrumental to the rollout of productivity-enhancing extension services to Pakistan's dairy sector.
- Women have helped raise productivity both as farmers and as extension officers, demonstrating talent that has opened doors to their higher education.

BY **DR GIO BRAIDOTTI**

Subsistence farmers in Pakistan rear up to 60% of the nation's buffalo and cattle, mostly in herds of fewer than 10 animals. The milk produced from these herds is hugely important to Pakistan's food security and to the economy.

In 2005, total milk production in Pakistan exceeded 29 million tonnes and has increased 5% per year for the past 15 years. As the world's fourth-largest milk producer, Pakistan's dairy industry is the largest livestock sector in Pakistan and is valued at Rp360 billion (A$4.9 billion) per year.

Demand, however, is anticipated to more than treble by 2020, requiring a faster boost in production. This growth in demand makes smallholder farmers essential to national aspirations to raise productivity, and creates opportunities to reduce poverty. To that end, dairy is a central focus of research, development and extension activities within the Australia–Pakistan Agriculture Sector Linkages Program (ASLP).

Improving extension services—and the way they interface with researchers and farmers—was identified as a major bottleneck in the development of the dairy sector and was targeted for Australian technical support through the ASLP.

Of particular concern was the style of communication with farmers, the information available to extension staff, the skills and numbers of extension staff and a failure to consider problems and solutions within whole-of-farm systems.

With phase two of the extension project now complete, farmers are finding it is possible to double milk production.

However, uptake of these farming innovations was found to hinge on a critical factor—the ability to include women and children in extension activities, according to Dr David McGill of Charles Sturt University, who has played critical roles throughout the project.

Dr McGill explains that many aspects of dairy farming—other than marketing—are performed by women and children. Yet extension services were male dominated and targeted to the male heads of households … to the consternation of these men.

As one male farmer said to Dr McGill: "Why were extension officers talking to me? I have never touched a calf. They need to tell my wife because she won't listen to me."

To reach the women, ACIAR commissioned Professor Peter Wynn of Charles Sturt University to head a project that saw Dr McGill travel to Pakistan. There he assembled a team that included many young early-career scientists and interns from the University of Veterinary and Animal Sciences of Lahore. The aim was to innovate the way extension services are delivered.

Essential to his team's success was the recruitment of women, who paired with a male extension officer to visit villages. Together they disseminated relevant information in a way that targeted entire farming families. The female staff included Zahra Batool, Shumaila Arif, Sobia Majeed and Khadija Javed.

"The most important people to work on these projects are the women who work on the ground, on a day-to-day basis," Dr McGill says. "In the [past] five years we had about five women within our team who established and maintained discussion groups of both male and female farmers running concurrently. The impact has been incredible."

Impressive gains in husbandry and milk production were achieved often on the back of simple changes to farm practices.

For example, high calf mortality rates (50–60%) were reduced simply by allowing newly born calves to receive disease-fighting antibodies that are present in colostrum (produced by their mothers' mammary glands late in pregnancy) as soon as possible rather than waiting, as farmers were doing, until the placenta was expelled.

"Smallholder farms have the means to reduce calf mortality rates and the project confirmed

that their herds have the genetic potential to produce more milk," Dr McGill explains. "Tapping that potential can be a matter of adopting simple measures, such as fencing animals so that they can roam and have free access to water, rather than being tied up all day."

Dr McGill is also justifiably proud of the early-career researchers on his team who subsequently won an impressive list of scholarships and fellowships to support their further training. Included are three John Allwright Fellowships, a Fulbright Award and several other scholarships including one to undertake further research in Norway.

"It has truly been inspirational watching the significant contributions and impacts the women in our team have made and, furthermore, seeing them start as interns or junior staff and end up in leadership positions or embarking on PhD opportunities," Dr McGill says.

Along the way, highly innovative methods were developed to disseminate information. Methods include extension in the form of a play and a competition in which children schooled in improved calf-rearing practices competed for prizes when they paraded their impressively hefty animals at a farmers' festival.

"The children's calves achieved impressive growth rates," Dr McGill says. "At four months the calves were huge, with some weighing over 80 kilograms, nearly double what we would generally see in villages. And the farmers saw the children parade these great-looking animals that highlighted the value of the practices we were promoting."

Overall, the project demonstrated that newly developed extension methods and materials can improve the profitability of smallholder dairy farmers. Uptake of the fencing innovation, for example, led to increases in milk production of about 1.5 litres per day, reduction in health-related issues and significant reduction in labour. ■

ACIAR PROJECT: Australia–Pakistan Agriculture Sector Linkages Program (ASLP) 'Dairy Project Phase 2: Improving dairy production in Pakistan through improved extension services'

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MEDIA LINKS: With a group of other early-career researchers working on similar projects, Dr McGill has helped to establish the Researchers in Agriculture for International Development (RAID) network at www.raidaustralia.net.

PHOTO: AZAR BHATTI

Zahra Batool started working in the Pakistan dairy sector extension program as an intern and quickly impressed ACIAR researchers. For several years she organised and ran workshops and farmer discussion groups but she now leads younger team members and has received a John Allwright Fellowship to further her education.

PHOTO: AZAR BHATTI

The family-orientated approach taken by an ACIAR team charged with innovating extension services to Pakistan's dairy sector extended to children, who subsequently demonstrated their newly acquired husbandry prowess by rearing remarkably hefty calves.

PHOTO: MUHAMMAD ZULFIQAR

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