



partners

IN RESEARCH FOR DEVELOPMENT



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Partners in Research for Development is the flagship publication of the Australian Centre for International Agricultural Research (ACIAR). *Partners* presents articles that summarise results from ACIAR-brokered research projects and put ACIAR research initiatives into perspective. Technical enquiries will be passed on to the appropriate researchers for reply. Reprinting of articles, either whole or in part, is welcomed, provided that the source is acknowledged.

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Front cover: At Kamukate Village, Luwingu District, Maggie Chishala and Hendrix Chishala are working with WorldFish to build their capacity to raise quality fish stock to distribute to other farmers in northern Zambia.
Credit: Chosa Mweemba

Back cover: Woman milking—Pakistan.
Credit: Conor Ashleigh 2017

FROM THE CEO

Professor Andrew Campbell

ACIAR is proud to be co-hosting the ‘Seeds of change—gender equality through agricultural research for development’ conference with our partners, the University of Canberra and the CGIAR Collaborative Platform for Gender Research. This conference is a timely opportunity for Australian and international delegates, including many ACIAR collaborators, to focus on a dynamic area of research that is a very high priority for ACIAR and the Australian Aid program. I am looking forward to learning from some of the world’s leading thinkers in the field, and to meeting the early- and mid-career researchers who will lead future transformative change.

In February 2018, then Foreign Minister the Hon Julie Bishop MP, who championed an increased focus on gender in the Australian Aid Program, launched ACIAR’s new 10-Year Strategy 2018-27. One of its six high-level objectives is ‘Improving gender equity and empowerment of women and girls’. Consistent with that objective, and led by our gender committee chaired by Dr Jayne Curnow, ACIAR developed a *Gender Equity Policy and Strategy*, focused both on our internal employment practices and processes, and gender in our research portfolio and research procurement.

Consistent with our gender strategy, we have transformed our own demographics. Half the ACIAR senior executive are women, and women comprise 71% of the Commission for International Agricultural Research, 70% of our research program managers, 66% of associate research program managers and 78% of regional and country managers.

I am a ‘male champion of change’ and have taken the ‘panel pledge’. The Male Champions of Change is a coalition of Australian CEOs, non-executive directors and community leaders. We believe that gender equality is one of the nation’s most significant societal and economic issues. The panel pledge means that I will only



Andrew Campbell and Bridi Rice, Director of Policy and Advocacy, ACFID, on a panel discussion at the Australasian Aid Conference held in Canberra in February. Photo: ACIAR

accept invitations to speak at forums and on panels where women are well represented. As Simon Rothery, CEO of Goldman Sachs Australia, rightly says, ‘Conferences and panels provide a platform to share experiences and perspectives. When you limit the range of perspectives, you limit the quality of the conversation.’

Gender is not just about women and girls. Improving gender equity benefits everyone. Achieving it requires men to step up and be drivers of change. I am pleased to see the number of male delegates who have registered for ‘Seeds of Change’, and I am looking forward to a fantastic conference on a crucial issue.

NEWS

Food in the Anthropocene: EAT-Lancet Commission report released

In January, the EAT-Lancet Commission released its long-awaited report, *Food in the Anthropocene: the EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems*, arguing that ‘the global adoption of healthy diets from sustainable food systems would safeguard our planet and improve the health of billions’.

Under the platform of ‘One goal, two targets, five strategies’, the report details the current state of nutrition, food production and sustainability. The commission says that success in realising the goal ‘To achieve planetary health diets for nearly 10 billion people by 2050’ will require global commitment to sweeping change.

The commission sets two targets to achieve this goal: healthy diets and sustainable food production.

TARGET 1 HEALTHY DIETS

The commission says, ‘Transformation to healthy diets by 2050 will require substantial dietary shifts’.

‘This includes a more than doubling in the consumption of healthy foods such as fruits, vegetables, legumes and nuts, and a greater than 50% reduction in global consumption of less healthy foods such as added sugars and red meat (primarily by reducing excessive consumption in wealthier countries).

‘Dietary changes from current diets toward healthy diets are likely to result in major health benefits,’ the commission reports. ‘This includes preventing approximately 11 million deaths per year, which represent between 19% to 24% of total deaths among adults.’

TARGET 2 SUSTAINABLE FOOD PRODUCTION

The commission argues that ‘Global food production threatens climate stability and ecosystem resilience, and constitutes the single largest driver of environmental degradation. A radical transformation of the global food system is urgently needed.’ It examines six main systems and processes affected by food production and for which scientific evidence allows the provision of quantifiable targets, and then defines boundaries that should not be exceeded for sustainable food production.

The goal and targets will be realised through adopting five strategies:

1. A global commitment toward healthy diets
2. Changing priorities from producing high quantities of food to producing healthy food
3. Intensifying food production sustainably to increase high-quality output
4. Strong and coordinated governance of land and oceans
5. Reduce food losses and waste by at least half, in line with UN Sustainable Development Goals.

MORE INFORMATION: [The Lancet, www.thelancet.com/commissions/EAT](http://www.thelancet.com/commissions/EAT)

EVENTS MAY–NOVEMBER 2019

-
- 19–22**
MAY
- 4TH WORLD CONGRESS ON AGROFORESTRY**
Montpellier, France
The conference will focus on bridging the science–policy gap and progressing agroforestry science and practice. agroforestry2019.cirad.fr/
-
- 12–13**
JUNE
- INAUGURAL AUSTRALIAN BIOSECURITY SYMPOSIUM**
Gold Coast, Queensland
The symposium will focus on preventative biosecurity practices, research and innovation. www.biosym.com.au
-
- 12–13**
JUNE
- EAT STOCKHOLM FOOD FORUM**
Stockholm, Sweden
The forum gathers top global thought leaders from science, politics, business, civil society and beyond. It is open by invitation only to up to 1000 delegates.
-
- 8–10**
OCTOBER
- 5TH GLOBAL SCIENCE CONFERENCE ON CLIMATE SMART AGRICULTURE**
Bali, Indonesia
Themes range from reshaping supply chains and creating policy incentives to empowering farmers and consumers. <https://globalcsaconference.org/>
-
- 28–31**
OCTOBER
- 8TH AFRICA AGRICULTURE SCIENCE WEEK AND FARA GENERAL ASSEMBLY**
Cairo, Egypt
The largest gathering of specialists in agricultural research for development is organised every three years by the Forum for Agricultural Research in Africa (FARA) and partners. www.faraafrica.org
-
- 11–13**
NOVEMBER
- TROPAG INTERNATIONAL TROPICAL AGRICULTURE CONFERENCE**
Brisbane, Australia
TropAg will explore five themes: sustainable field crops, horticulture innovation, animals and environment, breeding to bread and butter, and AgFutures—a showcase of innovation and investment in Queensland agriculture.
www.tropagconference.org/call-for-symposia/

Gender on the agenda

In 2015, leaders of the 193 UN member nations pledged to end gender inequality in all forms by 2030, as part of their adoption of the 17 Sustainable Development Goals (SDGs). SDG 5 is to ‘achieve gender equality and empower all women and girls’.

The momentum towards gender equality is gathering. In the lead-up to the April ‘[Seeds of Change](#)’ conference, *Partners* spoke to several gender specialists working in agricultural development about what is driving this change. ‘Seeds of Change’ is jointly convened by ACIAR, the University of Canberra and the CGIAR Collaborative Platform for Gender Research.

Dr Jayne Curnow, ACIAR Research Program Manager for Social Sciences, says knowledge about gendered social relations and women’s empowerment has increased greatly at ACIAR since she joined three and a half years ago.

ACIAR CEO, Professor Andrew Campbell, is leading a strong senior management commitment and the agency has made enormous strides in the past 18 months. In May 2017, Dr Curnow convened a meeting of 20 Australian and New Zealand gender researchers to discuss the next steps for ACIAR in gender research. ACIAR now has a Gender Equity Policy and Strategy 2017–22, released in December 2017; whole-of-agency buy in, fostered through an excellent process facilitated by Professor Sharon Bell; an active and revitalised gender committee; a ‘male champion of change’ in its CEO; and importantly, gender is integral in its research project proposal template. This is critical Dr Curnow says, and the fact that ACIAR requires this in project proposals immediately ‘triggers teams to take a multi- or trans-disciplinary approach to their research’.

ACIAR recognises that some research partners may need help to incorporate gender research into their project design. Dr Jo Caffery (University of Canberra) wrote the [ACIAR gender guidelines](#) and Dr Ann-Maree Nobelius is supporting teams who need help to ensure that gender is factored into their project design.

Dr Curnow says there can be a tendency for discussions about gender to focus narrowly on women rather than the dynamics of gendered social relations or masculinities, or to be cast as a zero-sum game where if women ‘win’, men ‘lose’. However, she says, ‘if we better target, work with and empower both women and men,

KEY POINTS

- 1** ACIAR has made enormous strides in implementing its Gender Equity Policy and Strategy 2017–22.
- 2** The April ‘Seeds of Change’ conference in Canberra will examine gender equality through agricultural research for development.
- 3** ACIAR is delighted to be co-hosting this conference and welcomes delegates from around the world.



Daw Yee Yee Win (r), Myanmar Department of Agriculture, inspects a rice field with farmer U Thein Zan. Credit: ACIAR

we anticipate a step change in alleviating poverty’, for everyone in the communities in which we work.

It is a sentiment Vicki Wilde, senior program officer and gender specialist with the Bill & Melinda Gates Foundation, endorses. ‘Our guiding principle is that all lives have equal value. We have been working for a couple of decades on improving the lives of the world’s poor. And an undeniable truth has emerged at the core of every problem we’re trying to solve: women and girls tend to be undervalued. This holds back progress, in agriculture, in health and education.’ ‘It might be assumed that there is not a lot of willingness [from men to support such change] ... there is. They see their wives healthier, there is better income, and their children are better nourished,’ Ms Wilde says. ‘It is not a given that there will be resistance, but you do have to be intentional.’

And that speaks to, Ms Wilde says, ‘the need to have gender experts on teams—those who have the knowledge and experience to work sensitively with communities and avoid the risks of unintended consequences’. Dr Curnow says it is important to have qualified social scientists conduct social science research, especially when it comes to gender research, where the principle of ‘do no harm’ is vital.

Partners also spoke to Rhiannon Pyburn, coordinator of the [CGIAR Collaborative Platform for Gender Research](#), about the CGIAR’s work to integrate gender into agricultural research and undertake strategic gender research in the agricultural sector. This year is a transitional one for the gender platform, Ms Pyburn says. It is being upgraded to increase its profile across the CGIAR and allow broader outreach and increased investment. In 2017, CGIAR established

four cross-cutting research platforms: Big Data in Agriculture, Excellence in Breeding, the genebank platform and the gender platform. The three women are part of a gender reference group advising the CGIAR on gender policy and strategy related to both gender in the workplace and gender research, which includes supporting this upgrade process.

One of the CGIAR-wide research areas that Pyburn is particularly excited about is collaboration with the [Big Data platform](#) on gender and big data in agriculture. The big data and gender platforms and related communities share a ‘mutual interest—the big data community wants to factor in gender research much more, and the CGIAR gender research community is very interested in how big data and big data techniques can leverage gender research’. With the help of a small research grant, a collaborative group is comparing datasets from various gender research projects with a view to making an inventory of gender datasets and better describing its contents for further analysis. This involves carefully analysing the metadata to see how datasets can be made more findable, consistent and comparable, and more accessible for researchers to analyse and interpret. The group also aims to develop a minimum set of gender metadata that should be completed by any research project, so that gender researchers can make use of interoperable data.

In an innovative approach, the group is using quantitative data from the [Women’s Empowerment in Agriculture Index \(WEAI\)](#) survey tool. The WEAI measures the roles and extent of women’s engagement in the agriculture sector in five domains:

1. decisions about agricultural production
2. access to and decision-making power over productive resources
3. control over use of income
4. leadership in the community
5. time use.



A farmer and her daughter—NSW DPI soil project, Aceh. Credit: Patrick Cape

Pyburn says this project, with the working title *Where in the world are the empowered women and men?* will ‘look at the index, and areas where it has been used internationally’, and interrogate the data further. ‘What else can we learn about the people scoring highly or low in the WEAI? Is their empowerment related to education? To infrastructure? Are there links to climate? To the geographical context?’ This research project is also innovative in that it triangulates more traditional data sources, such as household surveys, with more high-velocity and high-volume data sources, such as mobile network data.

Down the track, Pyburn says, they will look at integrating other rich datasets, such as [GENNOVATE](#), a large-scale qualitative dataset, into big data systems. GENNOVATE is a comparative research initiative undertaken by 11 CGIAR centres, and involves 137



Gender experts at the ACIAR workshop, 31 May 2017. From left to right: Prof Barbara Pamphilon, Miriam McCormack, Joanne Choe, Assoc. Prof Yvonne Underhill-Sem, Dr Jayne Curnow, Dr Lauren Rickards, Dr Siwan Lovett, Dr Evan Christen, Dr Jane Dyson, Prof Margaret Alston, Prof Sharon Bell, Dr Ann-Maree Nobelius, Prof Andrew Campbell, Sally Moyle, Dr Meryl Williams, Assoc. Prof Kuntala Lahiri-Dutt, and Dr Brian Cook. Photo: ACIAR.

communities across 26 countries, with over 7,500 participants. 'It addresses the question of how gender norms influence men, women and youth in adopting innovation in agriculture and natural resource management. The vast, in-depth gender knowledge base was established following five years of research and enables researchers to move beyond the smaller, unconnected studies that have largely defined gender research.' Including qualitative datasets within a big data system will raise a host of challenges such as confidentiality issues, which will require careful navigation, but this is an area well worth exploring.

As UN Women Executive Director, Phumzile Mlambo-Ngcuka, said in 2016, 'The 2030 Agenda is an unmistakable commitment to justice and prosperity, with gender equality at its heart. But this is a promise and a commitment that can only be a reality when we have adequate data that

we can monitor. We must ensure that when we have policies, these policies can be informed by reliable data. Without quality data, there is simply no credible path to achieving the Sustainable Development Goals.'

Closing the data gap is also a priority for the Bill & Melinda Gates Foundation, which in 2016 committed \$80 million over three years to this. According to Melinda Gates, 'the world agreed to achieve gender equality by 2030. But we cannot close the gender gap without first closing the data gap. We simply don't know enough about the barriers holding women and girls back, nor do we have sufficient information to track progress against the promises made to women and girls. We are committed to changing that by investing in better data, policies and accountability.' Last year, the foundation's first gender equality strategy committed \$170 million to women's economic empowerment.

Fighting fowl cholera

A former John Allwright fellow, Dr Gnana Gunawardana, has been recognised for her work in developing an effective vaccine to combat fowl cholera, a highly contagious bacterial disease affecting domesticated birds such as chickens, turkeys and water fowl, as well as wild birds.

If the dividends from educational investments were positive feelings, the John Allwright Fellowship awarded in 1994 to Dr Gnana Gunawardana for PhD study in veterinary science would be as spectacular a stock as Google, Amazon or Microsoft.

Dr Gunawardana speaks fondly, highly and passionately of Australia and its role in her professional and personal development. She is deeply grateful, but has repaid the investment many times over through leadership and research in veterinary science, specifically in her ongoing work to combat fowl cholera. Fowl cholera is a highly contagious bacterial disease that affects domesticated birds such as chickens, turkeys and water fowl (in order of susceptibility), as well as wild birds.

Last year her work was recognised by the Sri Lankan National Science Foundation with a National Award for Science and Technology Achievement. The award citation describes her achievement: 'For the development and successful field application of a new vaccine against fowl cholera in poultry, Sri Lanka'.

In 1991, Dr Gunawardana obtained a BVSc from the University of Peradeniya in Sri Lanka. She joined Sri Lanka's Veterinary Research Institute the following year, attached to the bacteriology division. The director at that time was part of an ACIAR/University of Queensland project to develop a fowl cholera vaccine, and Dr Gunawardana says it was a 'very good opportunity' to collaborate with Australian researchers such as Professor Alan Frost, Professor Peter Spradbrow and Dr Ian Wilkie.

In 1995, inspired by that experience and supported by a John Allwright Fellowship,

she began her doctoral studies at the University of Queensland, undertaking further work on vaccine production at the St Lucia campus and the university's research facility at Pinjarra Hills.

'They were wonderful years of opportunity and experience, in a very friendly environment. The people there became like a family, the place like a second home. I had many, many friends, from Australia, Indonesia, Japan, African countries and many others,' she says.

'I learned by exchanging ideas and problem solving. I was very naive and innocent, but with the kindness and caring of my mentors I gained experience and maturity, and developed both technical and personal skills.'

Her husband joined her in Brisbane in June 1995. In 2001, after a brief stint back in Sri Lanka, she returned to complete her studies and was awarded her doctorate. She returned to Sri Lanka to work at the Veterinary Research Institute, becoming head of the bacteriology division in 2002. She says her studies in Australia taught her new techniques for making vaccines and disease diagnostic products, which she introduced at the institute. These techniques were invaluable when the institute was faced with a deadly outbreak of fowl cholera in the breeding flock of one of Sri Lanka's largest poultry producers. The outbreak was causing an average mortality rate of 20%, and had a major economic impact.

'They had an imported vaccine,' Dr Gunawardana says, 'but it was not working. We isolated the bacteria from sick and dead birds and produced various vaccines using the usual adjuvants' (a substance that potentiates and/or modulates the immune responses to an antigen to improve



them). However, the mortality rate did not decrease. Finally, after an exhaustive process, the team trialled three types of vaccine in the field. ‘One adjuvant gave good results. We vaccinated 100,000 birds and bird mortality was down.’

Dr Gunawardana continues to work in Sri Lanka, at the Veterinary Research Institute in Kandy, developing new vaccines and new ways to produce vaccines, and refining diagnostic techniques, such as biological reagents.

KEY POINTS

- 1 Dr Gnana Gunawardana obtained her PhD in veterinary science with the support of an ACIAR fellowship.
- 2 Her work has focused on developing effective vaccines to combat fowl cholera in Sri Lanka.
- 3 In 2018, the Sri Lankan National Science Foundation recognised her work with a National Award for Science and Technology Achievement.

One of the professional pleasures of this stage of her career is supporting and mentoring a new generation of Masters and PhD students. The shy young woman from Radawana, Gampaha, has come a long way from her school days at Visakha Vidyalaya, a leading school in Colombo, to become a confident advocate for women in science.

Women face a lot of challenges, she says. ‘I am confident and skilled in my subject matter; we can express our ideas, but our ideas may not be listened to as much as men’s. Although there are now a lot more women scientists in Sri Lanka—women represent 46% of scientists in science and development institutes and universities, and more than two-thirds of researchers at the Veterinary Research Institute are women—there are cultural limitations and restrictions. There’s still the idea in some circles that a woman’s role is to look after children, parents and husbands. But my family are very supportive. They give me strength to face the challenges of research and veterinary medicine, as do my friends, colleagues and ACIAR.’



1. Dr Gnana Gunawardana receives her National Award for Science and Technology Achievement. Credit: National Science Foundation



Women farmers in Nepal. Credit: Conor Ashleigh

ACIAR gender equity strategy in action

ACIAR has ten country offices: China, India, Indonesia, Fiji, Kenya, Pakistan, Papua New Guinea, the Philippines, Lao PDR and Vietnam. Four offices—India, Fiji, Kenya and Lao PDR—also have broader regional responsibilities.

Not only did the country offices contribute to the development of the ACIAR gender equity strategy, they also play an important role in implementing it. They are an important link between ACIAR and in-country partner agencies, and between Australian and partner scientists. They also serve as an important knowledge base. They provide country-specific understandings of partners, relationships, the people and that country's culture—all aspects which need to be considered in gender mainstreaming.

Women lead seven of the 10 country and regional offices. (See story on page 28 for an update on the Fiji regional office.)

Partners asked the country offices about the work they are doing to implement the [ACIAR](#)

[gender equity strategy](#), and the opportunities and challenges this entails.

The offices report that they are actively implementing the strategy. They share it as widely as possible with partners and stakeholders, and have briefed the relevant heads and deputy heads of mission regarding the strategy. They also encourage partners to apply gender-equity principles when designing and implementing projects, as well as striving for gender balance on project teams and steering committees.

Especially in countries where women participate less in research, the offices provide support to help identify women researchers who can potentially become involved in projects and

fellowship programs, and would benefit from the valuable experience gained through participating in international workshops and seminars.

Individual offices have also undertaken special programs to foster uptake of the strategy. The Vietnam office has undertaken a number of initiatives. They have funded research into integrating gender and social inclusion into agricultural value-chain research, working with ten Vietnam agribusiness projects. They also held a Hanoi-based training workshop on themes arising from the projects, which was attended by ACIAR staff from east Asia, the Philippines and Vietnam, and contributed to the broader [Embassy gender equity strategy](#) development and implementation.

In the Philippines, the ACIAR gender equity strategy is in line with existing policies and legislation, including the 2009 Magna Carta of Women, which requires all government agencies to include gender and development programs and activities in their annual plans and budgets. ACIAR projects have an opportunity both to support and capitalise on this initiative. The Philippines has a special focus on sharing case studies and research activities that have successfully integrated gender to its project partners and the ACIAR alumni. In Pakistan, as covered in *Partners* last year, the office developed and launched a gender inclusive strategy for its whole program

in 2018 with the support of the Department of Foreign Affairs and Trade.

The country offices say the strategy creates both opportunities and challenges. The project inception workshops, mid-term and final review meetings and annual meetings provide country office staff with the opportunity to advocate for and comment on integrating gender into project design and implementation. They are a good opportunity to share the ACIAR gender perspective and identify women researchers for potential John Allwright or John Dillon Fellowships.

Four Indonesian female John Dillon Fellows have successfully gained senior positions: Dr Wahida Maghraby, agricultural attaché at the Indonesian Embassy in Belgium; Dr Idha Widi Arsanti, director of education, Directorate General of Human Resources Development, Ministry of Agriculture; Dr Atien Priyanti, director, Indonesian Centre for Animal Research and Development, IAARD, Ministry of Agriculture; and Seta Agustina, Assistant Deputy Director for Cooperation, Indonesian Centre for Horticulture Research and Development, IAARD, Ministry of Agriculture.

Challenges can arise because project leaders vary in their support for integrating gender into project activities, and whether or not they provide the necessary resources. Achieving gender balance on project or review teams, or on steering committees, can be problematic because of a limited number of either men or women researchers. In some countries, for example, there may be more women in research positions because the men take up other positions that offer higher salaries.

The country office network says it continues to advocate for gender diversity in the planning, implementation and monitoring of project activities, but cautions that ‘we should still be mindful of the country context when applying gender targets. Consideration should also be given to the sex ratio of the country’s population, wage/employment opportunities and barriers, culture and gender role expectations, and the do-no-harm principle.’

KEY POINTS

- 1 The ten ACIAR country offices contributed to the development of the ACIAR gender strategy.
- 2 They are an important link between ACIAR and the in-country partner agencies, serving as an important knowledge base of each country’s partners, relationships and culture.

Homeward Bound—the journey of a thousand women

In 2019, two ACIAR-sponsored researchers will take part in Homeward Bound, an innovative leadership program for women in science.

Dr Shumaila Arif says she owes a huge debt of gratitude to her parents, especially her father. Her parents' belief in the value of higher education for girls often ran counter to traditional values in Pakistan, but their support enabled her to continue her education beyond the normal high school level to complete a bachelor's degree in veterinary medicine. 'I am the first girl on my father's side of the family who has been educated, and I feel very blessed.'

That family support continued with encouragement to undertake a PhD, made possible through an ACIAR John Allwright Fellowship. In November 2018, the School of Animal & Veterinary Sciences at Charles Sturt University awarded her PhD, 'Epidemiology of brucellosis in smallholder farming systems in Pakistan'.

Her research focused on Pakistani dairy farmers and the zoonotic aspects of brucellosis, a bacterial disease of livestock. In humans, it can cause recurring flu-like symptoms—fatigue, joint pain, fever and weight loss—and, in women, it can also lead to spontaneous abortions, foetal death and low birth weights of children.

Dr Arif says very little work had been done on brucellosis in smallholder dairy farms, which represent 90% of dairy production in Pakistan—ranked fourth in the world in terms of dairy production. She researched over 400 dairy farming families in seven districts across Pakistan to establish the prevalence of the disease in their livestock. She also surveyed them to undertake a risk analysis of dairy

farming practices such as calving procedures, handwashing, dung management and vaccination. 'We collected 1200 blood samples,' she says, 'but that was a real challenge. They had no crush; it took us two hours to get a sample from one animal.'

Dr Arif's research looked at three commonly used bovine brucellosis diagnostic tests, and found that two, when applied in parallel, yielded the best results for Pakistani field conditions. Her research also identified regions with high, medium and low disease-prevalence. She also found that the vast majority of smallholder farmers (97%) were not aware of how brucellosis spread, and many engaged in risky practices as a

KEY POINTS

- 1 Two Pakistani agricultural researchers will participate in the year-long Homeward Bound program, which culminates in a three-week sea voyage to Antarctica.
- 2 Dr Shumaila Arif and Humera Iqbal are working with smallholder farmers, seeking especially to empower women smallholders.



Penguin on ice drift, Antarctica. Credit: Ravas51

consequence. The majority (66%) of the farmers' families, for example, reported they consumed raw milk and its by-products, lived in shared housing with animals (49%) and did not cover hand cuts during contact with animals (74%).

The challenges and opportunities continue for Dr Arif and her colleague, animal nutritionist, Humera Iqbal, in 2019. They are two of 95 women selected for the fourth year-long Homeward Bound program. The program takes women with a background in science, technology, engineering, mathematics or medicine (STEMM) from around the world, at various ages and career stages, to give them an immersive networking and leadership opportunity.

The program concludes with a three-week cruise around Antarctica in December. The choice of Antarctica is symbolic. For much

of the history of exploration of the continent, women were excluded. In 1937, all 1300 women who applied to go on the British Antarctic expedition were rejected; it was not until the 1950s that women scientists were allowed access to research the frozen continent. The ongoing intention of Homeward Bound is to develop a 1000-strong network of women with STEMM backgrounds who can support each other in creating change.

Dr Arif and Humera Iqbal are being sponsored by ACIAR as part of its ongoing focus on gender empowerment. They were encouraged to apply for the program by Dr Rebecca Doyle, who is working with them on an ACIAR smallholder program in Pakistan, 'Smallholder goat value chains in Pakistan: challenges and research opportunities'. This scoping project is describing goat and sheep production systems to identify constraints and opportunities throughout the

value chain in the Pakistani provinces of Punjab and Sindh. There are some 66 million goats in the country, mainly kept by smallholder families for both consumption and sale.

Dr Doyle is a senior lecturer and animal welfare specialist at the University of Melbourne. She was one of 78 women who participated in the Homeward Bound program in 2017, and undertook the four-week trip to Antarctica in early 2018. She applied because she had been looking for a suitable leadership program for some time, and was drawn to Homeward Bound because of its focus on women in science. 'I gained enormously from the experience. I found the 360-degree feedback, and the work we did on visibility, very valuable. Women tend to have a much more collaborative approach, and emphasise the importance of the team in any achievement.' That can mean they do not receive recognition for the work they do, she says. 'It's important to be visible.'

On the University of Melbourne's online publication *Pursuit*, Dr Doyle said, 'As a scientist, I've always valued the concept of cross-disciplinary collaboration and research, and Homeward Bound really builds on this, focusing on the value of the collective as a leadership tool. The value of collective leadership and collective science is the biggest and best lesson I learnt from Homeward Bound.'

While she has not felt direct discrimination in academia, Dr Doyle says structural change is needed. At the University of Melbourne, for example, women hold 60% of the junior academic lecturer roles but fewer than 20% of higher-level professorial roles. 'Women have to work together for structural change.'

Personally, the program has encouraged her to 'be more reflective—to ask open-ended questions. In academia and science, there's a tendency to think, "You must know it all, and you must do it all". That's dangerous and limiting,' she says.



Dr Shumaila Arif (l) and Humera Iqbal (r) undertaking field work with Pakistani women farmers. Credit: supplied by Dr Shumaila Arif

'I hope scientific research becomes more collaborative in the future. Antarctica is a really remote and challenging environment. Everyone was outside of their comfort zone, which is a really powerful way to get people to think about how they can make change. It's easy in science to get really focused on the details, which leads to independent work, but to have impact and bring about change you need to be open and share—share your ideas, your thoughts, your findings.'

The two Pakistani livestock researchers are looking forward to 12 months of personal and professional learning with the program. For Humera Iqbal, it will be 'a unique opportunity to explore and become more capable, not being afraid to be more visible, and sharing experiences with a diversity of scientific women'. Dr Arif says she is just starting her career, and



Meeting with women dairy farmers, Pakistan. Credit: Conor Ashleigh

wants to learn from other women who have gone through their careers about how they have dealt with gender inequality in their workplaces. 'In male dominated communities like Pakistan,' she says, 'women tend not to take credit, and they have to struggle to express an opinion.'

Dr Deborah O'Connell was a participant in the inaugural Homeward Bound program in 2016. She is a Principal Research Scientist with the CSIRO, and now works in sustainable development, resilience and adaptation. In an interview in March 2016 with the CSIRO's *ECOS eNews*, Dr O'Connell said that the Homeward Bound program and voyage appealed for many reasons, but in particular, the opportunity to be in a scientific setting where she wasn't the 'marginal' voice. 'I was always one of a handful of women working in energy and water and I always felt the lack of diversity, and critical mass.

You never want to be the lone voice of diversity in the room; it's a hard place to be. That's what it felt like in those days and is that way much of the time in Australia.'

In that interview, Dr O'Connell expressed similar hopes to Dr Arif and Humera Iqbal for the program's outcomes. She was attracted to the program because of its inclusion of a broad range of experience levels—not just senior women talking to senior women, but PhD students talking to team leaders, and vice versa. 'There's a range of people and ages and times in careers and I think we'll get a lot of strength and learning from that.'

ACIAR PROJECT: Smallholder goat value chains in Pakistan: challenges and research opportunities, LPS/2016/096.

The social economist and the human geographer

Professors Katherine Gibson and Naila Kabeer are two of the four key speakers at the ‘Seeds of change—gender equality through agricultural research for development’ conference in Canberra. Professor Kabeer will give a public lecture during the conference and Professor Gibson will deliver the first keynote presentation.

PROFESSOR NAILA KABEER

Professor Naila Kabeer is a British Bangladeshi social economist, research fellow and writer. She is currently Professor of Gender and Development at the London School of Economics Gender Institute. *Partners* spoke to her about her research interests and the topic of her address during the ‘Seeds of change’ conference. Professor Kabeer says she is ‘interested in various aspects of inequality and how they play out within households, labour markets and the wider economy ... Gender is obviously an important example of these inequalities, but I am also interested in how gender intersects with other socio-economic inequalities.’

In discussions of such inequalities, the terms ‘gender equality’ and ‘gender equity’ are contested, with gender equality often preferred over gender equity. Some dismiss the debate as a distraction, defining gender equality as being the desired outcome and equity as being the process. For Kabeer, the term ‘gender equality’ carries connotations of symmetry and equal access. ‘Gender equity’ comes closer to ideas of justice, acknowledging that people have different kinds of constraints and that these need to be factored into policy making.’ Over time, she says, she has moved to the term

‘gender justice’. Justice is what emerges when all sections of society have an equal chance to develop the principles and arrangements of justice. ‘It cannot be just if something is put into place with only a narrow section of society participating.’ She goes on to explain that, ‘At the heart of it is Nancy Fraser’s concept of “parity of participation”—you have to look at all the obstacles which prevent certain groups in society from being influential in how the society should be organised.’

Professor Kabeer is especially interested in linking her research with the ‘real’ world of policy and practice. This linkage will be evident in her address, ‘Empowering women, improving livelihoods—keys to rural development’. She has written a paper that she has wanted to write for a long time, critically examining a massive amount of literature on diverse intervention projects claiming to empower women—of all ages and stages—economically. She is seeking to develop a framework for assessing a range of what she calls ‘livelihood capability interventions’: to assess their success and find evidence of empowerment. By answering questions such as, ‘Did this study succeed? Why was it supposed to have succeeded? What is it that explains failure? Do these studies tell us what we want to know?’, Kabeer hopes to develop a theory of change embedded in an analytical framework.





Professor Naila Kabeer. Photo supplied.



Professor Katherine Gibson. Photo supplied.

PROFESSOR KATHERINE GIBSON

Whereas Professor Kabeer’s approach to gender is through the lens of the social economist, Professor Katherine Gibson’s is as an economic geographer. Her first study was human geography, the relationships between people and their environments, and the spatial relations that shape our world. Professor Gibson combines innovative scholarly work on economic transformation, especially in community-based, post-capitalist economies. She has over 30 years of political engagement, working in the field in Australia, the Philippines and the South Pacific. She says her ‘research has been used to work with rural communities and those in economically depressed areas to activate new visions of economic development based on the assets of people and places’. She describes this in her 2013 publication as ‘taking back the economy’: the building and empowerment of alternative communities in these regions.

Professor Gibson’s work strives to ‘enact new visions of economy’, especially as it relates to gender equality. For her, this means ‘not seeing the economy as only made up of formal paid work, capitalist business and commodity transactions. It means recognising the work that women and men do in a “diverse economy” where there are many forms of unpaid work, non-market transactions and a diverse range of enterprises that are not solely focused on profits for the few.’

Her conference keynote will focus on the ways agricultural development might build on the existing assets of community economies and how gender awareness must be built into rural development projects from the ground up. ‘I will draw on examples of research in various locations in South-East Asia and the Pacific to show how a gendered and diverse economy perspective can create opportunities for women to benefit from increased agricultural productivity. This means taking the process of tracking changes in gender equity into the hands of communities themselves—to work out what they want and expect and how they can measure shifts and developments.’

Flavour of success

Melbourne, for all its undoubted charms, is not usually associated with development in tropical agriculture. But when your product is the basis of that most urban and urbane of foods—chocolate—then the elegant Victorian state capital becomes a key location.

At the time of writing, Steven and Elizabeth Saveke, cocoa growers from Siwai on the Papua New Guinean island of Bougainville, were due to spend a week in Melbourne after winning the 2018 Bougainville Chocolate Festival competition.

Their prize trip is not a holiday, but an immersive and intensive week meeting Australian chocolate makers. The Australian makers have already received 20 kg samples of Steven and Elizabeth's award-winning cocoa beans and used them to create innovative chocolate products that will be shown and compared at a Taste and Tell event in Melbourne.

As festivals go, the Bougainville Chocolate Festival is serious business. It brings together cocoa farmers, buyers, researchers, government agencies, chocolate makers and marketers for the purpose of developing the cocoa industry in the Autonomous Region of Bougainville. And the best way for growers to develop high-quality cocoa is to compete in the arts of growing, drying and fermenting beans.

The competition is part of the 'Developing the cocoa value chain in Bougainville' project, which in turn is part of the Transformative Agriculture and Enterprise Development Program co-funded by the Department of Foreign Affairs and Trade and ACIAR.

Project leader, Professor David Guest of the University of Sydney, says the project has come a long way since the initial invitation to 'train farmers to be better cocoa growers'.

'My response was, "We can, but we don't think that's going to work",' he recalls.

'Globally, there's been a lot of investment in training farmers to be better at growing cocoa but

average yields haven't changed over 40 years. Instead, we took a broader approach and asked what were the constraints to smallholder farmers adopting new technologies and techniques.'

Aspects of this holistic approach ranged from selecting high-yield, high-quality cocoa varieties to identifying communities most suitable for cocoa growing; analysing the gender dynamics of cash crop agriculture (which can be complex in the matrilineal societies found in PNG); developing complementary income streams; and gaining a thorough firsthand understanding of rural Bougainville society. Some significant lessons emerged.

'We found the wealthiest 20% of the population are the best educated, the healthiest and have the most diversified income. None of the other variables count,' Professor Guest says. 'As you can imagine, that's a very powerful message that not only informs what we do, but is also powerful to communities, policy makers and governments.'

Autonomous Region of Bougainville project coordinator James Butubu says, 'We in Bougainville are lucky to have this project that will have a high impact on the lives of Bougainvillean cocoa farmers'.

Companion crops and animals were an essential part of diversifying income. 'Cocoa growing involves a lot of waste materials, pruning trees and collecting diseased pods,' Professor Guest says. 'There's no direct financial incentive to do this. If you include goats, they will eat those things and then there's a direct incentive to prune and harvest, because that's what feeds the goats. They then provide manure which is fertiliser for the cocoa.'



Steven and Elizabeth Saveke drying cocoa beans. Credit: Hause

Cocoa marketing expert, Grant Vinning, says the quality of Bougainvillean cocoa is improving year by year. ‘We’ve run three festivals now and each time the judges’ job has been harder, because the growers are listening to what the buyers, who judge the competition, say about their product,’ he says.

Vinning sees a tantalising analogy between cocoa and another agricultural product from a distinctive region: scotch whisky. ‘We’re trying to relate the product to the craft,’ he says, adding that cocoa can have regional flavours as complex and subtle as whisky, cognac or coffee.

He dreams of artisan chocolate becoming as lucrative for Bougainville as whisky is for Scotland.

‘You can break the world cocoa market into three areas. One is the bean-to-bar market. It’s very highly specialised, about 10% of the market, and price is a secondary consideration. A second level is craft-type chocolate, which takes up about 30%. The balance is the bulk market. We’re trying to carve out a niche in tier one and two.’

Vinning says, ‘We’ve already made a name in tier one,’ mentioning the Black Opal Bougainvillean chocolate by Canberra chocolate maker Jasper

+ Myrtle that won a gold medal at the 2017 Academy of Chocolate awards in London.

‘Bougainville cocoa can be the single malt of chocolate.’

ACIAR PROJECT: Developing the cocoa value chain in Bougainville, HORT/2014/094.

KEY POINTS

- 1 Could artisan chocolate do for Bougainville what whisky has for Scotland?
- 2 The winners of the 2018 Bougainville Chocolate Festival competition, Steven and Elizabeth Saveke, will participate in the Taste and Tell event in Melbourne.
- 3 ACIAR and DFAT are co-funding the Transformative Agriculture and Enterprise Development Program in Papua New Guinea.

Facilitating gender and social change

An innovative program in the lakes fisheries regions of Zambia and Malawi has driven change in the livelihoods and empowerment of women.

In the Barotse floodplain of Zambia and the Lake Chilwa basin of Malawi, men and women rely heavily on fish for income, food and nutrition. Yet, according to Canada's International Development Research Centre (IDRC), sub-Saharan Africa has the lowest fish supply per person globally, and fish supplies in the region are predicted to fall further over the next 20 years. Dr Jemimah Njuki is a senior program specialist at the IDRC, where she oversees a portfolio of projects on gender and women's empowerment in agriculture as well as supporting gender integration in other IDRC agriculture projects. Participation in fishing tends to be strongly gendered, Dr Njuki says.

The lake catch is taken at night from boats, primarily by men, who then market the increasingly scarce supply. The men generate greater income than the women, who process the fish through smoking over open fires or drying in the sun. The general supply shortage of fish is compounded by women's lack of access to technologies and finances, leading to up to 38% losses in captured fish through insect or bacterial contamination. Add to this the constraints of strong cultural and social norms and the result is that women tend to have lower incomes, little control over that income, and play a subordinate role in household decision-making generally.

Through Cultivate Africa's Future (CultiAF), the IDRC and ACIAR funded departments of fisheries and universities in the two countries (Chancellor College of the University of Malawi and the University of Zambia), WorldFish and the

Zambia Centre for Communication Programmes (a social enterprise focused on behaviour change communication) in a project to empower women, change unequal gender and social relations and improve their livelihoods. The WorldFish program was led by gender scientist, Dr Steven Cole, who heads WorldFish gender transformative research in Zambia. Dr Njuki says the project focused on two main areas: technology to reduce captured fish losses, and the use of community theatre to transform attitudes about gender.

Traditional processing involves either drying in the open air, where fish are subject to biological contamination, or open-fire smoking, which requires the burning of wood, another scarce resource. Both methods, Dr Njuki says, add to women's drudgery and affect their health. Open-air drying necessitates constant turning and protecting the fish from bad weather, while smoking requires gathering of firewood and constant monitoring of the fire. The researchers trialled two technologies to find more practical processing methods. The first, an enclosed solar tent dryer, is like a polythene greenhouse in which the temperature and humidity can be controlled and greater quantities of fish can be laid out to dry on multiple racks. The second is an enclosed smoking kiln, with the smoke generated by burning crop waste. The kiln has six to eight racks for laying out fish rather than the single tray used in traditional open-fire smoking. Both technologies reduced fish losses and cut down the amount of time women needed to spend



A woman processor in a solar tent fish dryer in Tangatanga fishing camp, Western Province, Zambia
Credit: Olek Kaminski, 2016

monitoring the processing, freeing them to do other tasks.

The project also trialed salt processing—an easy, simple process with an end product that Dr Njuki says there is a big market for. ‘A lot of traders from the Democratic Republic of Congo come into Malawi to buy salted fish.’

The impact of the new technologies was significant:

- Fish processors increased their gross margins from 5% to 25%, eliminating much of the previous wastage.
- Fish salting resulted in no insect infestation, compared to 11% in open-air sun drying.
- The fish salting process took only one day, compared to almost four days for the traditional open-air drying process.

KEY POINTS

- 1 ACIAR has co-funded an innovative project on improving gender equity in fisheries in Zambia and Malawi with the Canadian International Development Research Centre.
- 2 The program employs a blend of technology and community theatre to improve the physical and mental wellbeing of women and men in the lakes fisheries regions.



Chikondi Manyungwa-Pasani (right) at Kachulu Beach, Lake Chilwa, Malawi, waiting for fishing boats to land. Credit: WorldFish

Dr Njuki says that while the technology could improve women's livelihoods, it is also necessary to work on the social and cultural norms that constrain them—especially the relations between the fishermen and women processors. The project team worked with a community theatre for development: the Zambia Centre for Communication, to help people think about the norms that were defining how men and women were behaving. According to the IDRC report, 'The team used results from community discussions to develop scripts and trained community members to enact them as theatre for development.'

Dr Njuki says, 'It was a bottom-up approach where community members learned how to do this theatre, and other community members watched and listened. Then there was a facilitated discussion about what is happening, and what needs to change.' A wide range of people participated in this process: women and men fishers, village committees, traditional

leaders, transporters, boatbuilders, village savings and loans representatives, and fisheries and trade government departments. The project design meant that some communities had both the new technologies and the theatre groups, and some had just the new technologies and a simpler gender-integration approach.

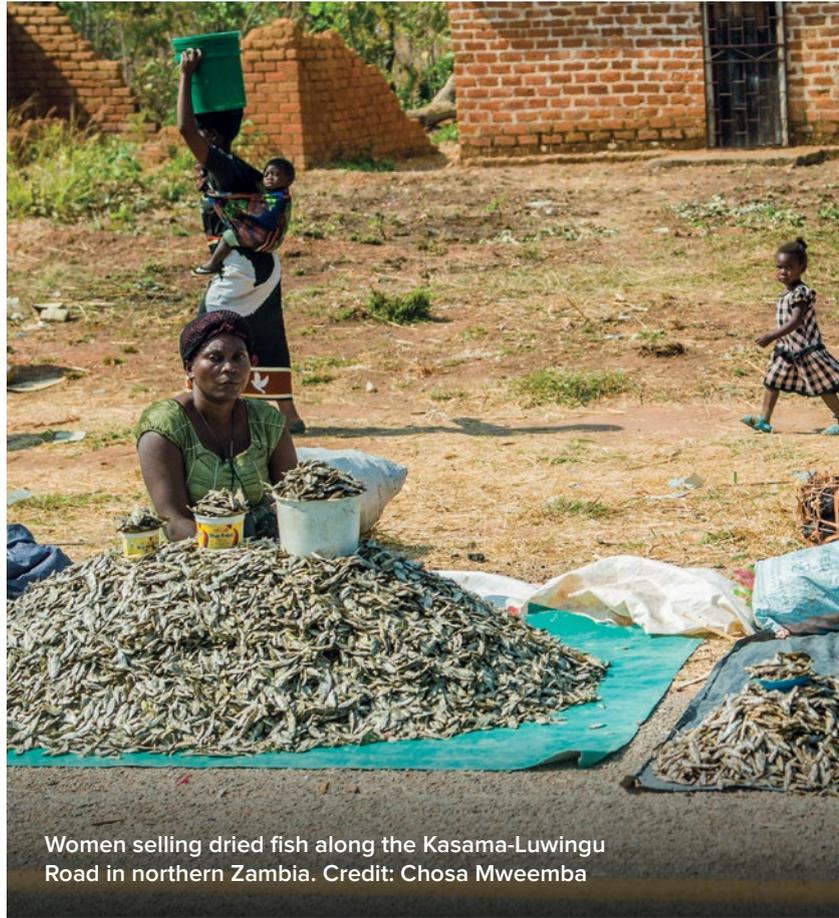
Dr Njuki says they are under no illusion that some of these attitudes, and especially practices, take a long time to shift, but nevertheless there were some 'pretty significant changes'. The team evaluated four key elements of empowerment: choice, agency, ownership of resources and institutional structures.

- Choice: There was a 45% reduction in those agreeing with the statement that 'Women should not be involved in fishing' among people who participated in the community theatre, compared to a 26% reduction among people who did not. Women who were theatre participants increased their fishing participation (and therefore their income) by 70%.





A woman performs a drama on improving gender relations in Mukakani fishing camp, Western Province, Zambia. Credit: Olek Kaminski, 2016



Women selling dried fish along the Kasama-Luwingu Road in northern Zambia. Credit: Chosa Mweemba

- Agency: Women who were theatre participants increased their involvement in decisions about fish trading income from 65% to 94%.
- Ownership of resources: Over 18 months, there was a big shift among men who were theatre participants in their response to who owned their family’s fishing equipment (sole or joint ownership). Initially, 50% answered ‘sole ownership’, but this dropped to 19% after the theatre experience.
- Institutional structures: The project used a gender attitude scale comprising eight statements, such as ‘Women should not get involved in fishing full time, that is a man’s responsibility’. The maximum score (24) indicates a perfect gender-equal attitude and the lowest score (8) indicates a perfect gender-unequal attitude. Men who were theatre participants showed the greatest increase in scores of any sub-group, from 18 to 24 (a 36% increase).

Dr Njuki says that, following recommendations from the project that an increased focus on women’s access to resources was needed, the work in Malawi will be funded for a further 24 months from December 2018. The Malawi project began developing networks with financial institutions to enable women to access small loans to invest in technology, and this will be consolidated and evaluated in the second phase. The polythene used to construct the solar tent dryers, for example, is a relatively expensive component for many fish processors, so access to microfinance for both women and men would enable more people to adopt this technology.

MORE INFORMATION: Combining post-harvest fish value chain and social change interventions in Zambia and Malawi (CultiAF). Project ID: 107637

Mapping women's role in agriculture

Dr Sreenita Mondal is a young Indian researcher harnessing her diverse skills to examine the role of women in agriculture on the fertile Eastern Gangetic plains.

The art and science of geography is the link between Dr Sreenita Mondal's abiding interest in gender studies and the seemingly disparate subjects of agriculture, water use and conservation. She uses a geographer's diverse toolkit, including remote sensing, digitised mapping and traditional qualitative research, to show that you cannot resolve one issue without considering many others. Dr Mondal is lead researcher on an ACIAR-funded project run by the South Asia Consortium for Interdisciplinary Water Resources Studies (SaciWATERS), within the ACIAR-DFAT-funded Sustainable Development Investment Portfolio (SDIP). 'Understanding women's role in agriculture in the Eastern Gangetic plains: the macro and micro connections' seeks to critically revisit the role of women in agriculture in the Eastern Gangetic Plains, an area encompassing parts of India, Nepal and Bangladesh. This region of highly fertile land, however, has a high economic dependence on subsistence agriculture, low productivity, limited crop diversification and a high incidence of rural poverty.

Dr Mondal, who joined SaciWATERS after working as Assistant Professor of Geography at Raniganj Girls' College affiliated to Kazi Nazrul University, West Bengal, sees the irony in her evolving academic speciality. 'My family was not at all involved in farming,' she says. Despite this, geography became her academic passion, with a specialisation in regional development. Her PhD thesis, from New Delhi's prestigious Jawaharlal Nehru University, was

titled 'Accumulation through dispossession: contestations of subaltern spaces in coal-steel industrial complex of eastern India'.

Her academic career came out of the mines and into the fields, so to speak. 'I got the opportunity to work with an agricultural scientist at a research institute in New Delhi, Centre de Sciences Humaines. There I was working on the local and global challenges the Indian dairy system is facing. The project aimed to understand the ongoing transformation of the Indian dairy system and its diversity, and to assess the extent to which it represents a sustainable development model, able to address food security, social inclusion and environmental issues.'

Without realising it, she was also assembling the disparate research skills needed for the SaciWATERS project. It required the insight of her focus on gender, the broad knowledge of her geography background, and the specific rural focus she had acquired in milk production study. It also required a distinctive combination of quantitative and qualitative research methods. Dr Mondal's education had given her just such a combination, with training in geographical information systems software, statistical analysis software, as well as language skills. The SaciWATERS project covers four regions: the Indian states of West Bengal and Bihar, Bangladesh and Nepal. Fluent in Hindi and Bengali (and English), Dr Mondal speaks the majority language of three of the four study zones. 'That was an advantage for me,' she says modestly.



Dr Sreenita Mondal. Photo supplied.

KEY POINTS

- 1 Dr Mondal is lead researcher on an ACIAR-funded project run by the South Asia Consortium for Interdisciplinary Water Resources Studies (SaciWATERS).
- 2 Trained as a geographer, she specialises in regional development.
- 3 The SaciWATERS project covers four regions: the Indian states of West Bengal and Bihar, Bangladesh and Nepal.

‘We consider the Eastern Gangetic Plains as a broad region—a macro region with many diversities within it,’ Dr Mondal says. ‘Women’s participation in agriculture has increased substantially in Bangladesh and Nepal, essentially because of male selective out-migration (and many other reasons). However, in Bihar and West Bengal, the situation is quite different; women’s participation in agriculture, and in the rural workforce, is declining day by day. We wanted to find out the reasons behind that. It was short-term research, so it wasn’t possible to explore all the possibilities, but we did manage to answer some questions about why women are leaving agriculture.’

The result? ‘There are multiple reasons. In West Bengal, there was diversification of crops, and opportunities for women to participate in agriculture have declined. In other locations there was change in land use. Part of one region had completely converted from agriculture to fisheries. Mechanisation is also a factor.’

All these changes have gender implications, she says. ‘Men have the freedom to move out of agriculture into other employment. For women,

their mobility is quite restricted. They are not able to go out and work.’

Women’s economic relationship to agriculture varies, she says. Some of their work is paid, and empowering; other work is unpaid, and an invisible burden.

‘We found women’s work is quite invisible. When I speak with them, they often are not considering the things they do as work. Often, they are cooking for a home, doing household activities. That is work, because if these were done by people outside someone would have to pay money.’

Another issue uncovered by the 12-month project was the difficulty in teasing out the two kinds of withdrawal from the workforce. ‘One is distress-driven and another kind is prosperity induced,’ Dr Mondal says.

‘It’s very difficult to separate these. Family members seeking work in urban economies might be classified as distress-driven, but the remittances they send back home might cause further prosperity-induced withdrawal from the workforce.’

Family farm teams project grows

Professor Barbara Pamphilon is a co-convenor of the ‘Seeds of change’ conference. She spoke to *Partners* recently about her ongoing work in PNG and its likely extension into other Pacific regions.

Professor Pamphilon, from the University of Canberra, is the leader of the ACIAR project: ‘Improving opportunities for economic development for women smallholders in rural Papua New Guinea’. She says the initial family farm teams’ approach was developed through trials of experiential learning, focusing on four training modules. The first module examined family roles. In one of the activities, participants were asked to divide a circle into sectors showing the current daily work roles of each family member. She says the ensuing discussion led to the beginning of the concept of a family farm team, as family members came to understand each other’s workloads, talk about goals and plan daily work more equitably.

The second module focused on enabling men and women to see that they were not ‘just farmers’ but heads of a farm business, and that running a farm business required longer-term planning. Many participants had low levels of literacy, so the project team taught farm mapping so that families could see all their assets and identify their crops. From this, families could then consider annual seasonal planning. Treating the farm as a business also meant financial planning, so the project team worked with families on how to allocate farm income to the family, to community and cultural spending, and importantly, to reinvest in the farm.

Professor Pamphilon says families were asked questions like ‘How would you like to reshape the farm to be more efficient?’ and ‘How far away is water?’ By framing these questions as efficiency measures, not only were farm operations planned more efficiently but the number of time-consuming tasks performed mainly by women and children could also be reduced. For example, saving for a water tank

meant that it would no longer be necessary to carry water over long distances.

The third training module—nutrition—focused on encouraging families to grow and eat local, and generally more nutritious, indigenous crops. The families’ understanding of nutrition was improved by categorising the foods they ate into three groups: foods that build the body, foods that provide energy and foods that protect health. Families also saw how much money could be saved by reducing low-nutrition, store-bought foods.

Finally, the fourth module focused on communication and decision-making as a family team, which is the oil that helps family farm teams work smoothly into the future.

Professor Pamphilon says the project team is now looking at ‘Where to from here?’ The various church groups in Papua New Guinea are a trusted part of society, and have an existing focus on family, and rural families in particular.

KEY POINTS

- 1 The family farm teams approach focused on empowering Papua New Guinea farming families, giving family members a greater understanding of each other’s roles.
- 2 The project worked with family farm teams to improve financial and agricultural planning, family nutrition and productivity.



Mother and son, Maureen and Richard Trison, inside their poultry shed with the lanterns they use to keep chicks warm Credit: Conor Ashleigh

The team is now exploring ‘How can we work with churches to facilitate them using the family farm team approach alongside their community development work?’

Engaging young people in farming is another focus, given agriculture is the biggest income generator for families in Papua New Guinea. Many young people do not want to do the same hard, physical outdoor work as their parents. Professor Pamphilon says the project team is exploring other options for them in the agricultural value chain, such as raising seedlings to on sell to other farmers.

Another flow-on from the family farm teams project is the work Professor Pamphilon and the team are doing on women’s literacy. ‘Women farmers told us they want to learn to read and write,’ she says. The set of ‘Maria’ books developed in the first phase of the project began the process of meeting that need, as women shared the simple text with their children. However, taking a more holistic approach, Professor Pamphilon and the team are targeting teachers’ professional development in an effort to introduce more agricultural learning into their literacy teaching, and the kindergarten to year 12 curriculum generally. ‘We have developed an SD card which you can put into your phone to access professional development materials very easily.’

The team has developed these SD cards with the Pacific Adventist University. They have been distributed in East New Britain and New Ireland, and this will be followed up later this year.

Professor Pamphilon says, ‘The family farm teams idea has really resonated, with the majority of men and women participants happy with how things have changed.’ However, she adds that ‘a longitudinal study in five years would be good’, to track which of these changes endure. Given the successful impact of the work with their partners in Papua New Guinea, Professor Pamphilon says there are plans to extend the family farm team program elsewhere in the Pacific. Plans are underway for the University of Canberra team, with ACIAR support, to trial the approach in another Melanesian culture, Solomon Islands, to establish whether the approach taken in Papua New Guinea is transferable.

ACIAR PROJECTS: Examining women’s business acumen in Papua New Guinea: Working with women smallholders in horticulture, ASEM/2010/052; Improving opportunities for economic development for women smallholders in rural Papua New Guinea, ASEM/2014/095.

MORE INFORMATION: See the ‘Maria’ books on the ACIAR YouTube channel.

REGIONAL ROUNDUP

GOLD AWARD FOR VIETNAMESE AGRICULTURAL STRATEGY

Late last year, 'The Australia in Vietnam Agriculture Strategy' won the Public Affairs Asia 2018 Gold Standard Award for Country and Trade Promotion. ACIAR Vietnam's strategy is an important part of this overall strategy, which was nominated for recognition by the Australian Embassy in Hanoi. Nguyen Thi Thanh An (ACIAR Country Manager, Vietnam) attended the awards ceremony in Hong Kong on behalf of ACIAR. Peter Horne, ACIAR General Manager, Country Programs, says, 'This is a significant achievement for the ACIAR team in Hanoi and a testament to the outstanding teamwork with Amy Guihot (Agricultural Counsellor), Nguyen Van Thuan and their team from Department of Agriculture and Water Resources, Vietnam'.

In 2018, the tenth year of the competition, Public Affairs Asia received over 360 nominations from more than 120 organisations for the awards. 'The Australia in Vietnam Agriculture Strategy' won in a strong field of contenders in the Country and Trade Promotion category, which included the shortlisted Gold Coast Tourism Corporation's 2018 Commonwealth Games campaign, 'Destination Gold Coast'. 'The Australia in Vietnam Agriculture Strategy' was also shortlisted for the Gold Standard Award for Diplomatic Engagement.

NEW REGIONAL MANAGER

In February, ACIAR announced that Ms Florence Rahiria will assume her new role as **Regional Manager, Pacific and Papua New Guinea**, after two years as the Country Manager for PNG.

The new position will be based in Suva, Fiji. The ACIAR Pacific research program currently operates across eight countries in the region: Fiji, Solomon Islands, Vanuatu, Samoa, Tonga, Kiribati, and Tuvalu as well as Papua New Guinea.

The Pacific Islands are among Australia's nearest neighbours, so ACIAR is well placed to work closely with governments and civil society on a range of agricultural research programs and projects that aim to meet several of the Sustainable Development Goals as well as ACIAR's strategic objectives supporting Australian aid policy.

Our research partnerships in this region aim to make agricultural systems more resilient and help transform the agricultural, fisheries and forestry systems in Pacific countries from subsistence to sustainable, income-generating activities. To foster sustainable change, ACIAR encourages innovative approaches that also engage, empower and invest in women.

Recruitment is currently underway to fulfil the country manager vacancy in PNG left by Ms Rahira's move.



From left to right: Nguyen Thi Thanh An, Vietnam country manager; Nguyen Van Thuan, DAWR Vietnam; Senator Dean Smith; Tamerlaine Beasley, The Pioneers and Australian-ASEAN Council board member; Amy Guihot, Australian agricultural counsellor in Vietnam. Photo: supplied

'Seeds of Change' Conference

Gender equality through agricultural research for development

2 – 4 April 2019

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@ACIARAustralia #SeedsOfChange19

Australian Centre for International Agricultural Research
University of Canberra
CGIAR Collaborative Platform for Gender Research



A close-up photograph of a person milking a cow. The person is wearing a dark blue garment with intricate gold floral patterns. The cow's head and neck are visible in the upper left, and its udder is being milked into a shiny metal bucket. The background is slightly blurred, showing more of the cow and the person's hands.

The Australian Centre for International Agricultural Research (ACIAR) is part of Australia's international development cooperation program. Its mission is to achieve more productive and sustainable agricultural systems for the benefit of developing countries and Australia. ACIAR commissions collaborative research between Australian and developing-country researchers in areas where Australia has special research competence. ACIAR also administers Australia's contribution to the international agricultural research centres.



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