Experiential learning through group activities: is central to the approaches used in the courses. This picture shows a role-play exercise that develops deeper understanding of the challenges in communicating complex ideas between different groups, such as scientists and community development officers, or extension officers and farmers. In the exercise, one team member takes on the scientist's role. Other team members are extension officers or farmers.

PHOTO: LAURIE FOOKS

THE ART OF COMMUNICATING SCIENCE

TRAINING SCIENTISTS TO COMMUNICATE THEIR RESEARCH IS THE FOCUS OF A NEW PROJECT IN PAPUA NEW GUINEA, REPORTS **DAVID ADAMS**

Communicating scientific breakthroughs in a clear and understandable way is not always easy, even for the most media-savvy scientists.

In Papua New Guinea, the problem has been exacerbated by a lack of training for agricultural scientists – particularly those just starting out – on how best to communicate their findings.

But now an AusAID-funded and ACIAR-managed project has been created to address the issue and bring scientists working in universities and out in the field up to speed on how to best get their discoveries across to a wider audience.

Started in 2002 and being led by the University of Queensland, the project was sparked after concerns about the publication of findings were raised by Government and research funding bodies.

"There was quite a large call for some assistance with communicating science, communicating research results and having scientists write in journals and being able to go through whatever process they needed to communicate," says Dr Jeff Coutts, the project director. "There was certainly a feeling among researchers and some of the funders of research that they put a lot into research but – it's the old story – it wasn't really getting outside of the research community terribly effectively."

The University of Queensland was selected to manage the project, based on their previous experience with a similar type of initiative they were running through the university's Rural Extension Centre (REC) at Gatton in the south-east of the state.

There, postgraduate courses were developed for extension officers and people working in community development to help them upgrade their skills in a range of fields including consultation, planning and evaluation. The courses brought participants together for a week and, says Dr Coutts, based assignments as much as possible on their actual work.

The Papua New Guinea project was initiated by the University of Technology in Lae on the country's east coast, but other universities, including the University of Papua New Guinea in the capital, Port Moresby, the University of Goroka, the University of Vudal and Divine Word University, a Catholic university in Madang on the north-east coast, quickly became involved.

"Even though it was based at the University of Technology in Lae, it wasn't just for the University of Technology," notes Dr Coutts, a former University of Queensland staff member who now runs evaluation, extension and communication consultancy Coutts J&R Pty Ltd and has been contracted by the university to head the project team. "We wanted to involve as many institutions as we could."

During the project's first year, each of the universities nominated between two and four staff – who became known as core lecturers – to help develop the course program.

Dr Coutts says the project deliberately involved around 20 staff from the participating universities from the beginning to help generate a strong ownership of the courses by the universities. "It was effective, running it that way, and so all of the courses were developed with that approach."

A number of subjects, including communication with adults, the language of science, science communication in the community, writing scientific reports, transforming information into knowledge and advanced roles for scientists, have since been successfully developed and trialled by this core group of staff.

Meanwhile, staff from the University of Queensland have helped the local scientists to develop each of the course modules with a technical expert from the university 'shadowing'

Seeking to understand how villagers exchange information

One of ACIAR's newest John Allwright Fellows, Lilly Sar, is a lecturer in the ACIAR science communication project at the PNG University of Technology. Lilly is studying for her PhD at the University of Queensland.

"We need a better understanding of how information transfer with rural villagers takes place so that projects and programs can be designed and structured to ensure an effective flow of information between stakeholders," Lilly explains.

"Agriculture is a well established part of peoples' lives in PNG. My family in Madang is no exception. When you refer to a farmer in PNG you are talking about 85 percent of the village population who are semi-subsistence rural households."

Lilly is planning to use her PhD research to identify projects both in PNG and Australia which have had successful communication outcomes, as well as drawing from projects in Australia that have attempted to use participatory processes to advance rural development.

She hopes this will lead to a better understanding of the types of communication strategies and approaches that should be used by multi-disciplinary partners in research and extension to improve rural production and practice in PNG.

Lilly was involved in the initial consultations on the science communication project when consultant Trish Robinson was gathering information from the PNG University of Technology and other stakeholders.

"Although I didn't meet Trish at that time, I had the opportunity to give comments on the relevance of the proposed project and how the university could contribute further to community development.

"With my experience in teaching research communication skills to science and engineering undergraduate students, I saw the sci comm project as a way to further enhance those skills at the industry and community level with practising scientists."

As well as working as a teacher in schools and universities, Lilly has taught adult literacy skills in her own time as a community service.

"It is a challenge to help people gain skills that will enable them to make appropriate decisions to improve their living conditions."

While she has not finalised her list of case studies yet, some of the projects Lilly is interested in are the ACIAR projects – 'Lus Frut Mama' and its successor 'Improving productivity and the participation of youth and women in PNG cocoa, coconut and oil palm industries' – and the ACNARS Agricultural Innovative Grant Facility project: 'Testing and adopting of technologies to improve village poultry production'.

Information transfer: Lilly Sar teaching research communication skills to practising scientists.

'IT'S BEEN AN ENORMOUSLY EXCITING PROGRAM IN JUST THE INCREDIBLE SUPPORT WE'VE HAD FROM THE UNIVERSITIES AND THE STAFF INVOLVED'

the delivery of the courses during their trial phase and providing feedback and extra input as required.

Once they had completed the subjects, participating PNG staff – who, as well as being from agriculture-related faculties, were also drawn from a range of academic disciplines – have then become the key source for the lecturers and facilitators who take the course beyond the immediate core group.

"The model just worked brilliantly," says Dr Coutts. "And while it's linked to ACIAR, which has a very strong agricultural research and development focus, the program is also directed to picking up people working in the medical and various health areas, and certainly some of the courses I've been involved with have a strong health faculty participation."

While the project was initially focused on providing training at a postgraduate level for those researchers and scientists who were already on the job, the project has since evolved to include undergraduates.

"What's happened is a number of the participants who have undertaken the program have used what they got from their course to redevelop some of their own undergraduate programs," says Dr Coutts.

"Certainly the University of Papua New Guinea, as they were revamping the undergraduate programs, used some of the courses to help boost the way in which their undergraduate programs addressed the issue.

"In the Divine Word University, they've used it as part of their undergraduate distance education program … and the University of Goroka has also incorporated some of the material developed into their undergraduate programs."

Since the project was launched in 2002, 182 postgraduates and undergraduate students have passed through. The first 19 graduates received their Graduate Certificate in Scientific and Technological Communication in March 2003. A year later, a further 40 people graduated.

With funding in place until mid-2005, there are now moves to take the course even wider, beyond university campuses and into government and private sector organisations. Journalists, charged with the at times difficult task of communicating scientific research findings to a non-scientific audience, are also a target audience for the course.

One of the next issues to be examined by the project team is setting fees.

"There is an issue of having course fees which make it sustainable for universities to run courses but are also low enough for people and their organisations to be able to afford to pay," says Dr Coutts.

While the course is already making strides in providing scientists with the ability to communicate their findings to a broader audience, there is also a growing impetus to develop new resources in which those findings can be published.

"Part of the flip side of this too is that we need to develop stronger Papua New Guinea-based or regionally-based journals so that people can have places to publish," says Dr Coutts. "That's another aspect that we're starting to look at."

Dr Coutts is excited about the opportunities the project offers and says it is largely due to the input of staff from the universities in Papua New Guinea.

"It's been an enormously exciting program in just the incredible support we've had from the universities and the staff involved," he says.

"I just couldn't believe the absolute commitment and their preparedness to throw themselves into it over a long period on top of a very heavy workload."

Communicating clearly: project director Dr Jeff Coutts.

PHOTO: ROBYN COUTTS

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Scientific communication in Papua New Guinea

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