

Project launch: Improving technologies for inland aquaculture in PNG



Sister Pauline and Tripiso go shopping for barbecue tilapia on the Highlands Highway near Lake Yonki in Eastern Highlands. There are now an estimated 50,000 tilapia farmers in PNG (image: Tim Pickering).

A new inland aquaculture research project was launched in Goroka, Eastern Highlands Province, Papua New Guinea (PNG) on 11 August 2015. The project, led by Associate Professor Jes Sammut of the University of New South Wales, Australia (UNSW) and Jacob Wani (PNG National Fisheries Authority), will continue to research low-cost technologies to improve production of freshwater fish by small-scale farmers in PNG. The AUD 4.1 million project will run over four years.

The project is funded by the Australian Centre for International Agricultural Research (ACIAR) and National Fisheries Authority (NFA), and is the flagship project for inland fish farming in PNG.

Many rural communities in PNG do not have regular access to protein and survive on less than AUD 1.25 per day. A lack of protein causes stunting in children and a range of health issues from malnutrition. A low protein diet also lessens the lifespan of the elderly and sick.

Associate Professor Jes Sammut said:

Fish farming enables rural people to produce their own protein. There is no need for refrigeration because fish can be caught, cooked and eaten as required. Improving farm production also creates a livelihood opportunity

for farmers. Fish can be sold or traded for other commodities. We work with small-scale fish farmers who have struggled to farm fish because of the lack of fish husbandry skills and the high cost of farm inputs in PNG. Fish feed currently accounts for 60 to 80% of the cost of production. The project will build on our past work on alternative, cheaper sources of feed ingredients and investigate the role of natural food sources in the growth of farmed fish. Our previous project made inroads on the understanding of fish nutrition in pond systems. The new project will involve a series of trials comparing fertiliser and formulated feed combinations as well as the use of agricultural by-products as ingredients in pelleted feeds.



The HAQDEC freshwater aquaculture research station at Aiyura has undergone major upgrades to be in readiness for its role in the Australian ACIAR funded PNG Inland Aquaculture project (image: Tim Pickering).

Jacob Wani stated that:

Broodstock management and fingerling production technologies will also be developed further under the new project. Quality fingerlings are critical to successful fish farming in PNG. We are currently maintaining two family lines of tilapia and will create new family lines to ensure robust broodstock and quality fish fingerlings are available to farmers in PNG.

Associate Professor Jes Sammut added:

Our previous work has shown that fish farming can generate significant social impacts. The project team has helped warring tribes create peace through cooperative fish farming. Sister Pauline Kagl, who is a key project team member, has used fish farming to help people overcome drug addiction and restore their status in society. Our other team members have helped disadvantaged people build self-esteem and support their needs through fish farming.

Havini Vira, a student at UNSW and Project Manager said:

Our interventions have stopped tribal fighting at several locations. Former adversaries also come to us for assistance with fish farming. At one of our locations, a former warlord became the lead farmer and was eventually elected as a councilor. Former warriors now work together to farm fish after 38 years of tribal war. The killings have stopped and the community has rebuilt its economy under a peaceful environment.

The inland aquaculture project includes a Fish for Prisons and a Fish for Schools programme. The prison programme has helped inmates to produce fish for the prison kitchen and has provided a livelihood option for prisoners who are released back into society. 'The ACIAR and NFA collaboration with Bihute Prison has been life changing for our inmates and those we have released from prison,' said Corporal Alois Siune from Bihute Prison. Associate Professor Jes Sammut said 'Once inmates are released from prison, the project team continues to provide technical assistance and mentoring. Former inmates have been able to become community leaders through fish farming and have not reoffended. We will continue working with prisoners and ex-inmates over the next four years.'

UNSW students, Havini Vira and Justin Narimbi, will play a key role on the project. Havini has been appointed Project Manager and Justin will lead field trials on fish feeding strategies. 'Havini and I will be applying new skills to the project from our postgraduate research at UNSW,' said Justin. Havini and Justin submitted their theses at UNSW in August and September 2015, respectively.

The project is based on a partnership model and brings together UNSW (the Commissioned Agency), NFA, The University of Technology (PNG), the Australian Nuclear Science and Technology Organisation, the PNG Department of Agriculture and Livestock (DAL), The Sisters of Notre Dame and RDS Partners. The project is also linked to other aquaculture programs in PNG and the Pacific.

For more information:

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