

Choice is the sweet taste of success for sweet potatoes

Farmer involvement in sweet potato variety trials in Papua New Guinea is giving people a wider choice that, in turn, broadens people's income prospects

BY ROBIN TAYLOR

When Sharryl Ivahupa saw farmers scrambling to gather as many different sweet potato types as possible from the field trial being harvested, she could see they recognised the value of having a wide choice of pre-tested genetic material.

Ms Ivahupa of World Vision Papua New Guinea (PNG) is the project manager of an ACIAR-supported sweet potato evaluation trial involving World Vision, the National Agricultural Research Institute (NARI) and farmers of Madang province.

Project coordinator Jonathan Tregust, of

Everyone helps to record tuber weights at harvest.



PHOTOS: WORLD VISION



PARTNER COUNTRY: Papua New Guinea

PROJECT DESCRIPTION: SMCN/2003/010: Farmer evaluation and multiplication of species varieties in north coast of PNG

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World Vision Australia, says it is the largest on-farm research trial undertaken in PNG.

Sweet potato is an important staple food in the region and over three years the project tested 16 varieties at about 267 sites during both wet and dry seasons. Farmers evaluated them using a number of criteria such as taste, yield and time of maturity.

Initially the plan was to select four varieties that could be recommended across the whole province. However, it soon became clear to the project team that farmers did not want to be limited to four varieties. It seems increasing yield is only one element of food security—farmers also want choice and options, Ms Ivahupa says.

"People are happy having all 14 varieties and want to have the choice to decide over a much longer period," she says. "They want access to some varieties that mature early and others that mature later. They want some to be drought resistant and others to tolerate water. They

want the choice and to be able to carry on this research themselves."

For World Vision, this project represents a new area of work in PNG. Mr Tregust says it was a natural fit when World Vision sought to expand its food security projects in Madang, where sweet potato is the most important staple crop for both rural and town populations.

"Providing this range of varieties to farmers has allowed women—who are involved in every step, from planting to food preparation—to have the decision-making ability based on their individual and ever-changing needs," Mr Tregust says.

In order of importance, the agronomic characteristics on which farmers rate sweet potato are tuber size, smooth skin, number of tubers, skin colour and tuber shape. Taste tests revealed a preference for sweet tubers, followed by firm flesh, good taste, soft flesh and non-fibrous content.

Although the project did not include pest and disease resistance as selection criteria, virus infection emerged as a significant factor reducing yields. Virus loads were much higher than anticipated.

“We have realised that this is an area that may be limiting sweet potato production and could open up a new area of work in future,” Mr Treagust says. “Yields of sweet potato may be high to begin with—up to 30 tonnes a hectare—but decrease over time to a more average 6 t/ha as the virus load builds up.”

Although yield performance has not been as great as hoped—early results indicate the highest yielding variety produces about 15 t/ha—the social impact of the project remains high, demonstrated by more than 2,000 farmers wanting to receive planting material.

Ms Ivahupa believes one of the reasons for the project’s success was the combined focus on research and extension through on-farm field trials. “We were doing research and at the same time we were disseminating planting materials and information to farmers,” she says. “We were taking research results directly to farmers, as the end users of the product, for them to make the selection instead of us.”

The local preference is large tubers and two high-yielding varieties introduced from the Solomon Islands are attractive in this respect—a single tuber could weigh four kilograms.

The three-year project has been extended to November 2008 to allow planting material to be distributed. Nearly 800 farmers have received planting material from the project and another 1,400 have subsequently received material from these farmers.

Ms Ivahupa says the impacts of a greater supply of sweet potato will be felt in a number of ways. Of the 14 varieties, three orange-fleshed ones provide a valuable source of beta-carotene. Even though one of these is late-maturing and low-yielding, farmers want to keep it now that they know its nutritional benefits.

“You will see more sweet potatoes sold at roadside markets and fresh food markets in urban areas,” Ms Ivahupa says. “In places where sweet potato is not a dominant staple, more will be sold and the smaller tubers fed to pigs.”

The project included an activity where women were trained to prepare sweet potato in different ways. Now there is a booming cottage industry with mothers preparing and then selling these products at schools during lunch and recess breaks. ■

‘Woman’s crop’ leads to other benefits

In Papua New Guinea, sweet potato is often referred to as a ‘woman’s crop’ because it is easy to grow and fast to cook. A spin-off benefit of the new higher yielding varieties now being grown in Madang province is the opportunity for women to generate income from selling surplus produce.

World Vision paid the women for preparing the land, looking after the trial sites and harvesting the crop. With this money a bank account was opened for the women’s group, to which they added the money from selling surplus tubers.

As a result of the project, a women’s group in Nubia, Bogea District, saved enough money to set up a small trade store where they sell basic supplies such as soap, salt, tinned fish and rice, which previously could only be obtained by making a 300-kilometre trip to Madang. They have a committee to manage the store and replenish supplies.

“It shows they can make money from sweet potato and run their own business,” Sharryl Ivahupa says.

Ms Ivahupa says the project has clearly helped women in the provinces. “The men are more interested in money-making crops, like copra, coffee, cocoa and vanilla, but when you talk about food crops that will end up on the kitchen table, it’s the women who are interested because they want to know how best they can feed their families with fast and nutritious food.”

The project involved many women’s groups and helped to form new groups. The team helped the groups open passbook accounts, which is not an easy process for village women.

“The bank will ask you for an ID card, but village women do not have ID cards or passports. So we wrote letters to confirm they worked with World Vision,” she says.

Community work a satisfying endeavour

Sharryl Ivahupa’s warm voice on the phone conveys her sense of accomplishment about the World Vision project.

“The work I did in this project is what I really like doing—working with people in rural communities, introducing technologies and helping them adapt the technology,” she says. “You find that people in rural communities are more ready and willing to take risks by accepting new technologies than the people who are closer to urban areas.”

Although she lives and works in Madang, Ms Ivahupa is originally from Oro province north of Port Moresby, on the other side of the Owen Stanley Range, where the famous Kokoda Trail begins.

After completing a Bachelor of Science in Agriculture at the University of Technology in Lae, Ms Ivahupa started working as an agronomist for the PNG Department of Agriculture and Livestock. There she became involved in her first ACIAR project, investigating nutrient deficiency symptoms of tropical root crops. This led to her coming to Australia to complete a Masters in Agricultural Science at the University of Queensland with the support of an AusAID scholarship.

When she returned to PNG, Ms Ivahupa worked on another ACIAR project on planning for agricultural development and sustainable land management. She trained NARI and Division of Agriculture staff on the use and interpretation of the database as well as preparing a training manual on it.

Before joining World Vision, Ms Ivahupa worked as program director for Conservation Melanesia, a local environment and conservation NGO, where one of her tasks was to assess the impact of industrial logging and large-scale oil palm production on rural communities, and plan actions to minimise negative impacts.

She hopes to continue working with rural communities, introducing new technologies to improve their lives, and helping them adapt the technology to suit their situations.



Program manager of the World Vision farmer evaluation project, Sharryl Ivahupa.