



Seeds of life cast a golden hue

Brad Collis

With the independence struggle over, East Timor is trying to establish its basic agricultural and economic needs. Brian Palmer's experience is helping sow the seeds of self-sufficiency for the world's newest nation.

A farmer (most of whom are women) from Fatumaca in a sea of newly harvested corn.

The village women sit cross-legged, patiently shelling corn; production-line workers filling woven baskets with tumbling grain. Ordinarily there would be nothing to differentiate this moment from countless others in the seasonal cycle of life and work in the foothills outside Baucau on East Timor's central, north coast.

The crop has been harvested, the women, young and old, are now doing what they have always done – yet the

whole scene depicts a farming revolution. The grain, being prized off the cobs by a blur of callused thumbs is yellow. Plus there's a lot more of it.

This new, high-yielding yellow maize is one of the more visible changes beginning to pervade a way of life that has effectively been unchanged in East Timor's rural areas for hundreds of years.

Leaving aside the fact that people are no longer living in fear, the freedom won from Indonesia in 1999 has also opened the door to modern agriculture – something that is going to be crucial for food security and for the country's long-term aspirations for sustainable agriculture.

The new yellow maize is being grown on a farm run by an Italian priest, Father Locatelli, who was a prominent figure during the two-decades of resistance against

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Indonesian occupation. The farm, at Fatumaca, near Baucau, is attached to an agricultural high school run by the Silesian missionary order. It has proved the ideal site for crop trials being undertaken by a former CSIRO researcher, Dr Brian Palmer. Already his yellow maize, provided by the International Maize and Wheat Improvement Centre (CIMMYT) in Mexico, is yielding up to six tonnes a hectare of 'corn' compared with the indigenous white maize's average 1.5 tonnes.

If these high yields can be replicated across the country for staple crops like maize, it will free up land for more commercial ventures such as vanilla, soybean, peanuts and candle nut (for oil).

Significantly, much of the terrain is similar to Australia's far north-west and prone to erosion so higher yields will also reduce the need to farm unsuitable land.

Better practice

This is one of the crucial elements behind Palmer's work as project leader for the \$1.2 million 'Seeds of Life' program set up by the Australian Centre for International Agricultural Research (ACIAR).

He is determined to help East Timorese farmers avoid causing long-term environmental damage as they respond to the urgent need to not only increase basic food production, but exportable surpluses.

'Getting more produce from the land, through the new varieties introduced under the program, will also create space for diversification into agroforestry and livestock,' says Palmer.

The new high-yielding crops include soybean from the International Centre for Tropical Agriculture in Columbia (CIAT), mungbean, cowpea and cassava seed from the International Potato Centre (CIP) in Peru, rice from the International Rice Research Institute (IRRI) in the Philippines, sweet potatoes from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India, and the maize from CIMMYT.

Palmer says his main focus has been to take the germplasm (the genetic material of an egg or sperm cell) provided by the research centres and improve the selection for East Timor's four main 'agro-ecological' zones.

'Once we feel we have the lines that are well adapted to East Timor we then have to determine if they are acceptable to the farmers. For example, the new high-yielding maize is yellow, which has a different taste and texture to the traditional white maize.'

He believes the key to farmers adopting new varieties and farming methods is 'participatory planning'.

'To me this means offering them (the farmers) technically sound options from which they can choose. Some aid organisations simply want me to give farmers what they ask for. Well until they've been exposed to a range of viable alternatives that's not giving them the options to move forward.'

He particularly rankles at outside pressure being put on East Timor farmers to go 'organic' and not to use the chemical fertilisers that he advocates.

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Palmer says the nature of the landscape and soil profiles makes fertiliser essential if higher yields are going to be sustained.

At his trial sites he applies a small dressing of nitrogen, phosphorus and potassium: 'At the end of the day it doesn't really matter whether farmers use chemical or organic fertiliser. The issue is which is the most economic.'

'The amount of fertiliser we're using equates to the cost of two or three packets of cigarettes or a bet at a cockfight – in other words a cost of about \$3.38 per 100 square metres – so it's an accessible choice. It still might be too much for some farmers, but it has to be weighed up against the time and labour needed to produce the volume of equivalent compost.'

Towards self-sufficiency

Contrary to the pessimism that some observers have expressed about East Timor's economic progress, Palmer is confident the country will achieve food self-sufficiency and in the longer term establish a sustainable agricultural economy – regarded by the government as crucial to its future.

'The progress we have already made and the willingness of the international agricultural science community to be involved makes me pretty optimistic,' he says.

The Seeds of Life program, overseen by an Australian agronomist Dr Colin Piggitt, is now changing from a humanitarian operation in 1999 to an agricultural extension program focused on sustainable production and the development of commercial crops.

The program's genesis was in the aftermath of the violent reprisals against the East Timorese after they voted for independence in September 1999. Much of the seed for the next harvest was either burned or stolen. The ACIAR contacted the world's five leading crop research centres for suitable seed and by December the first crops were being sown, averting a potential famine.

Brian Palmer was in the first wave of helpers to go to East Timor and has been there ever since: 'I had spent 20 years as a research scientist. Now was a chance to put it to real use,' he explained, showing off to a group of admiring farmers a plump bunch of groundnuts. 🌱

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Brian Palmer is lending his crop science expertise to local farmers, offering them technically sound options from which they can choose.