

SOUTHERN AFRICA: Cutting edge farming methods boost production

25 Sep 2007 17:35:17 GMT

Source: IRIN

Reuters and AlertNet are not responsible for the content of this article or for any external internet sites.

The views expressed are the author's alone.

JOHANNESBURG, 25 September 2007 (IRIN) - While increasingly grim forecasts predict agricultural declines in southern Africa due to climate change, a farming method called Conservation Agriculture (CA) is showing promise for subsistence farmers who are already struggling with poor food security.

A recent study by economist William R. Cline, 'Global Warming and Agriculture: Impact Estimates by Country,' predicts a 39-47 percent decline in agriculture in southern Africa by 2080 if greenhouse gases escalate at their current pace. That is potentially deadly news for farmers in southern Africa where the population threatened by food shortages almost doubled from 3.1 million in 2006 to nearly 6.1 million in 2007.

"We're losing 400 million tons of soil every year," said James Breen, the regional emergency agronomist for the UN's Food and Agriculture Organization (FAO). "The production of this year's food crop is shockingly low and it's going to get worse with global warming. We really are facing a meltdown," he added.

The FAO and an increasing number of NGOs and regional governments have started promoting CA as an answer to years of conventional farming methods that have left vast areas of soil utterly depleted.

CA is a method of farming that minimises soil disturbance, applies more precise timing for planting and utilises crop residue to retain moisture and enrich the soil.

Over the past 50 years in southern Africa, overall soil fertility has dropped while erosion has increased. Heavy ploughing and repeatedly growing the same crop on the same plot eventually strips the soil of nutrients and allows wind and water to wash away nutrient-rich topsoil. A downward spiral in food production follows.

But Breen sees conservation farming as a way to improve food security, and early harvest statistics are promising. "We're pushing CA as hard as we can... It's one of the ways we can scratch back from some of these losses."

"It's simple," John Weatherson, emergency coordinator for FAO in Swaziland, told IRIN. "And it has to be simple to work here. In certain areas this year, it was very, very evident that crops produced using CA inter-cropping methods were much more successful than crops produced using conventional methods."

Weatherson said the most effective way to spread the CA message was to have farmers look at the results elsewhere. He recalls a recent visit to a farmer in Tanzania who had been using conservation techniques for 10 years. When the farmer began, he was harvesting three bags of maize per acre. Two years later, three became five and today, Weatherson said, the man was reaping an average of 25 bags from his dark, fertile soil.

"What we need here [in Swaziland] is a 10-year programme with funding and it will take off," he said. The funding would go toward the basic tools - hand planters or plough-like implements called rippers - and enough personnel to train farmers. Ideally, more drought-resistant seeds and fertiliser to revive and enrich the soil would be available for the first few years.

Growing Harvests

In southern Africa the conservation farming techniques have best taken root in Zambia and Zimbabwe. At Zambia's Golden Valley Agricultural Research Trust, a joint research and training programme with the government and the national farmers union, researchers designed the 'Magoye Ripper', similar to a plough but causing minimal soil disruption.

In Zimbabwe, the International Crops Research Institute for the Semi-Arid Tropics recorded harvest figures for the 2004-5 and 2005-6 seasons from farmers using conventional methods and a basin tillage CA method that involves digging basins that capture water. In seven out of eight districts it was tested in during the first year the basin tillage system provided a higher yield. By the 2005-6 season, 11 districts were being monitored and every one reported larger harvests from basin tillage methods.

In 2005-6 in the Hwange district in the North West of Zimbabwe, maize yields were 1,700 per hectare with conventional farming methods compared to 2,500 kg per hectare when CA methods were applied.

In 2004-5, farmers yielded approximately 790 kilograms per hectare with conventional farming and 1,100 kg per hectare with basin tillage.

CARE, a humanitarian NGO, has been conducting CA training in Zimbabwe and reported that 154 farmers began using conservation techniques in 2004 in the South Eastern Masvingo district. Their substantially improved yields have convinced others to try and now there are 1,081 farmers using CA in Masvingo. Tafadzwa Choto, press officer for CARE Zimbabwe, said the number of people needing emergency food assistance in the area has dropped dramatically in two years.

"We'd like to see more farmers getting involved," said James Redell, a UN World Food Programme (WFP) field officer in Lesotho.

"We'd like to see more farmers getting involved," said James Bedell, a UN World Food Programme (WFP) field officer in Lesotho. "Some are still sceptical because it's a different way and digging the holes for the first time is labour intensive because the ground is so hard. So we try to provide food assistance while they are preparing the fields."

Bedell said WFP is also considering a 'crop insurance' program for next year where the organisation will guarantee a minimum amount of maize that will be grown if a farmer agrees to try CA methods.

Taking CA forward

According to Breen there is an effort to establish a regional committee to promote CA. "We're trying to make people aware of the benefits of it," he said. "I believe we're living in a period of extreme complacency about food security in the world. We have to go and increase conservation agriculture practices not just here but across the world."

FAO is currently training farmers in Zambia, Malawi, Zimbabwe, Mozambique, Swaziland, Lesotho, Angola and Namibia. CARE and other NGOs are also teaching CA methods throughout southern Africa.

"Those people who've been at it for a few years are doing well," said Weatherson. "There is light at the end of the tunnel."