Mrs Madondo, an AIDs widow, with her children and grandchildren surrounded by their weedy conventional cotton. Shortage of labour is a serious constraint for widows. Photo: Rexson Hodzi

Organic cotton to mitigate the impact of HIV/AIDS

Sam Page

Zimbabwe has one of the highest HIV infection rates in the world, with more than 26% of the sexually active population living with HIV. The driving force of this epidemic is poverty - it is forcing men to leave their families for extended periods in search of work and women to indulge in prostitution to raise money to feed their children. Local non-government and community-based organisations are at the forefront of the struggle against this pandemic.

In 1995, at the request of some 40 women farmers who could not afford to buy pesticides, Zimbabwe's first organic cotton project was set up in the Lower Guruve area. This initiative has since grown into a larger project, the Zambezi Valley Organic Cotton project, supported by the NGO African Farmers' Organic Research and Training (AfFOResT). Organic cotton and groundnuts are being produced for sale on the local and overseas markets.

The project is addressing a group of farmers who have been largely marginalised as a result of traditional law and agricultural policies: widows, many of them AIDS widows. Although many of these women may be HIV positive, it is the older women who are likely to be safe from HIV infection. As such, some older AIDS widows are responsible for six or more children, ranging from toddlers to teenagers. Many such widows are struggling to survive as smallholder farmers. While in the past widows involved in farming were a relatively small group, today, AIDS widows free of HIV and over the age of 40 are likely to be among the most productive farmers in Zimbabwe.

The impact of HIV/AIDS

The Lower Guruve area of the Zambezi Valley has not escaped the ravages of HIV/AIDS. Already more than one third of the families are headed by widows and there are an estimated 7,000 orphans living in the area. Child-headed households are also emerging. An initial HIV/AIDS impact assessment by the project has found that AIDS widows in particular suffer the effects of increased poverty, reduced availability of labour and the inability to make important management decisions. Interviews with a number of widows revealed the following adverse consequences of HIV/AIDS:

Shortage of labour

Widows suffer from a shortage of labour. Yields of the main crops cotton, maize and groundnuts are generally reduced due to late planting, smaller areas planted and poor management. Weeding seems to be the activity that suffers most. One of the women interviewed said: "*The farm activity most affected is weeding and we were delayed in picking cotton. It's impossible for me to go to the field, and it won't be possible next season either, or until the illness of my husband goes away. No one has relieved me since he got ill*." Another woman commented: "*There's only me, my 12-year-old son and my mother-in-law who work on the land now. When my husband was alive, we would plough one acre in a day, but now we can only manage to plough half an acre*".

Shortage of cash

Shortage of cash is usually a consequence of the loss of income from either full-time employment in town or sources supplementary to farming, such as ploughing, thatching, carpentry, building or mechanical work. One woman said: "*When my husband was alive, I had my small project of making table mats, but now I can't afford the money to buy the thread*". She also had to reduce her acreage of cotton. In the 1997-1998 season, she planted five acres of cotton, whereas in 1994-1995 she and her husband had grown seven acres of conventional cotton. "*When I returned to the Valley I had difficulty in finding the money to buy seed and pesticides. So, I milked my cattle and sold the milk to buy seeds*." Another woman also suffered from a lack of money to grow her cotton. She had to sell an ox to buy the cottonseed and also to pay for her children's school fees and to buy food.

Lack of financial and management skills

This is a particularly acute problem in households where the deceased husband traditionally made all the important financial and farm management decisions. One woman, for example, mentioned that a cheque they had received from the Cotton company was made payable to her husband, who was unable to travel in order to cash it.

FFSs as support mechanism

Conventional smallholder cotton growing in the Zambezi Valley is usually based on monocropping and the use of five different pyrethroid and organophosphate pesticides. The current cost of these inputs is US$48 per hectare. In Zimbabwe, Farmer Field Schools (FFSs) were introduced in smallholder communal agricultural areas as a means of improving agricultural management practices, including the reduction or elimination of

costly external inputs. These FFSs were adapted by AfFOResT to promote organic agricultural production.

Up to 90 farmers, many of them women, were trained by AfFOResT as Farmer Field Workers (FFWs) to facilitate FFSs for more than 900 other farmers over three years. During one month, these FFWs were trained at the Eco-Lab, just outside Harare (see ILEIA Newsletter Vol.13, No.4, pp12-13), in Natural Pest Management (NPM) and internationally certifiable organic agriculture, using a process known as *learning through discovery*. Once they had returned, each FFW held FFSs with 10 other farmers, at weekly intervals, throughout the growing season. Field staff regularly followed up this process to provide motivation and support. The project also managed to conduct *farmer participatory research* (FPR). In this system of research, innovative farmers were encouraged to generate their own research questions, while project scientists gave guidance in experimental design, including data collection and analysis, in a way that ensured that the farmers retain ownership of the results.

The AIDS widows said that they attended the FFSs because they gained strength from the support of other farmers and learnt how to grow cotton, hitherto regarded as a *man's crop*. They said that the system of intercropping and underplanting with food crops such as sorghum, sweet potato, cowpea and water melon, which had been introduced to eliminate the need for pesticides, also suppressed weeds, increased income and improved food security. In time they noticed that soil fertility was enhanced by following the project's recommendations for growing of live fences, conservation of leguminous trees in fields and rotation with groundnut and sunhemp.

Results compared

An analysis of costs and benefits during the 1997-1998 season indicated that organic cotton farmers had higher profits compared to conventional cotton growers. Although the average organic cotton yield was less than half that of the conventional crop in 1998, it gradually improved towards three-quarters of conventional yields by the year 2000. Year by year organic farmers gained a consistently bigger profit (see table). In 1998 and 1999, the farmers who had been certified as *organic* by the Eco-Certification Inspector received an additional 20% premium from the buyer.

It was estimated that the labour requirement was considerably reduced by replacing the 15 hours normally spent doing tasks associated with applying pesticides to conventional cotton, with 2 hours for attending a FFS and one hour scouting for pests and *farmers' friends* such as predators and parasitoids.

One widow indicated: "*I will grow only organic cotton next year because of the low labour requirement. There is less labour needed for weeding because some parts of the field are covered by cowpea. Less labour is needed for spraying too because the herbal sprays are made from plants in the bush nearby. I will not do any conventional cotton production because I have no money to buy inputs*."

It was concluded that organic farming systems have proven to be particularly appropriate for households affected by the AIDS pandemic, as they do not require the purchase of external inputs, they have reduced labour costs and they offer the farmers a premium when sold as a certified organic product.

AIDS prevention

The project has incorporated a component on women's vulnerability to HIV infection and prevention in its FFW training courses. A four-week training of male and female FFWs in May 1999 included two AIDS prevention sessions for men and women. During these sessions, condoms were promoted and the FFWs were invited to take batches with them to the Zambezi Valley to be sold at a small profit to their friends and families as an income-generating activity. The project is also sensitising communities on HIV prevention with the support of a consultant from the NGO Population Services International, who raises awareness on HIV and Sexually Transmitted Diseases and promotes the use of condoms.

NGO difficulties in averting HIV/AIDS

Despite its success in terms of mitigating the impact of HIV/AIDS and development of the production of organic cotton, this project is now on the verge of collapse. Since its inception, the biggest constraint has been the lack of funds. Now, the donor has withdrawn and aspects such as local project supervision, allowances for the FFWs, organic inspection and marketing, are suffering. The hard work of the past three years seem to get lost. This has happened despite a strong recommendation by an external evaluator to continue, and the recent nomination of the project by FAO/UNAIDS as a '*best practice*' in reducing vulnerability to the AIDS epidemic. This illustrates the difficulties local NGOs have in trying to avert the HIV/AIDS catastrophe. ■

Mrs Wingwiri and her son scouting their organic cotton crop. It is intercropped with sorghum, cowpea, pumpkins and sunhemp to increase diversity and improve food security. Photo: Rexson Hodzi

Table: Comparison of Organic and Conventional Cotton in Lower Guruve

	Organic Cotton		Conventional Cotton	
Year	Av. Cotton yield	Av. Profit (excluding premium)	Av. cotton yield	Av. Profit
1998	375 kg/ha	US$115	1,000 Kg/ha	US$75
1999	500 Kg/ha	US$64	1,000 Kg/ha	US$36
2000	750 Kg/ha	US$91	1,000 Kg/ha	US$55

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Further reading

- FAO 1999. **Sustainable agriculture / rural development and vulnerability to the AIDS epidemic.** UNAIDS best practice collection. UNAIDS, 20 Avenue Appia, 1221 Geneva 27, Switzerland. Fax: +41 22 791 4165, unaids@unaids.org, http://www.unaids.org/publications/documents/sectors/agriculture/Jc-fao-e.pdf
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