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is happening around him. An orphan is different because little attention is paid to him. He needs a shoulder to lean on. (Kraalhead.)

Stress was noted in caretakers, especially the elderly and older siblings forced to assume parenting roles and community volunteers trying to support destitute orphan households with meagre resources:

My mother is suffering, unlike when father was alive; she cannot carry the burden alone. (Girl, 12.)

These orphans are compelled to take over the duties of their deceased parents. (Homecare volunteer.)

(Because of the situation), I almost thought of committing suicide. (Brother-care-taker.)

Schooling, health, nutrition and clothing. Numerous families in poor communities face difficulty meeting basic needs, but these problems are particularly common in orphan households (Foster *et al.*, 1995, Semali *et al.*, 1995). Nineteen orphaned children highlighted their concerns about schooling. Eight orphans said that the grandmother or mother was no longer able to afford school fees or uniforms. Four stated that relatives refused to contribute towards their schooling. Children may be withdrawn from school because of stigma and discrimination, because education is not seen as a worthwhile investment, because they are needed to work for the household or to provide care for other children. Girl orphans are particularly likely to be withdrawn from school (Konde-Lule *et al.*, 1995):

Mother is in a sewing cooperative so I am left at home looking after the young children. (Girl, 14.)

Children stay away from school when they are needed for cattle dipping. (Wife of pastor.)

There is a high rate of absenteeism because of hunger, embarrassment at having tattered clothes or because children are left behind looking after young children while caretakers are doing other chores. (Caretaker-visitor.)

Some orphans had the threat of withdrawal of school fees hanging over them. Children who continued going to school still faced problems because of poverty:

I encourage the orphans to go to school because I am afraid that relatives who sacrifice to pay their fees will end up refusing to help if the children are absent from school. (Caretaker.)

My father used to buy school uniforms; nowadays it is difficult. (Boy, 13.)

They are glad that the school board is not strict concerning the subject of uniforms. (Caretaker.)

The orphans do not have school fees, clothes, food and shelter. Fortunately the headmaster does not send them away (Community worker.)

Access to health care was a problem faced by orphans whose guardians could not afford health fees. Elderly caretakers had difficulty in recognizing serious illness in children in their

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care. Caretakers had problems knowing who to turn to when faced with illness in their families:

I think most people die of poverty. People don't go to the clinic or see a doctor. It would be better if we could have doctors who charge less money. (Community worker.)

If the children are ill, the mother goes to seek help from the kraalhead. The relatives offer no help. (Community worker.)

Obtaining enough food to feed their families was a concern for caretakers, especially those too old to work in their fields. One way destitute families cope with their situation is by reducing the intake and quality of their food; five children noted that food changed following parental death. Community leaders noted the desperate situation of several families:

She (an elderly grandmother) does not do hard jobs because of her health; as a result, she finds it difficult to obtain enough food for the children. (Caretaker.)

Their (orphans') mischief is due to starvation or negligence. They steal crops from the fields for survival. (Art co-operative worker.)

At times the headman calls upon the villagers to help but the children end up stealing because of hunger. They even eat raw fruits. (Community worker.)

It was common for orphans to compare their situation with that of non-orphans or with that prevailing before their parent's death. However, unlike food intake, their current clothing situation was apparent to others in the community:

Now that I stay with grandparents, I no longer have new clothes. (Boy, 9.)

The (orphaned) children wear tattered clothes given to them by well-wishers. (Caretaker.)

You can tell orphans by their appearance—their clothes are worn out, they are dirty and their hair is not combed. (Headmaster.)

Caretakers deemed new clothing less essential than more basic requirements such as food. Consequently, orphans received new clothing infrequently, often as gifts at Christmas from uncles or brothers:

The families are unable to buy clothing; they have to get other basics first such as maize meal and soap which they have to beg for. (Caretaker.)

The orphans only get decent clothing once per year while those with parents get them regularly. (Caretaker.)

Responses

The study sought to understand coping strategies and responses which had been initiated because of increasing parental deaths due to AIDS. Some communities are organising to respond to increasing numbers of orphaned children. A few respondents suggested that in view of poverty, there was nothing they could do to help orphan households:

The people have nothing to give because they are poor. (Community worker.)

We cannot help, although we have love, because life is difficult. (Community worker.)

Most people are sympathetic and are willing to help (orphans) but alas, they cannot because they are also poor (Caretaker-visitor.)

Many more said though they were poor and could not afford to give much material help, they were attempting to alleviate the desperate situation faced by orphans. One way by which to gauge the strength of coping mechanisms in the face of the impact of AIDS is to examine community responses. Relatively few people in this study responded to the situation with fatalism or acquiescence; several wanted to help and contribute towards the welfare of orphaned children and some were actively organizing resources to improve the situation of orphans. No one suggested that sending orphaned children to an institution was an appropriate response. Respondents wanted to recruit others to help in orphan support and felt there was need for each member in the community to play their role in the community's response:

We sometimes think about the problem but come up with no solution—at times, we don't even sleep. We want to help the orphans very much but sometimes our endeavours are limited because of lack of resources. (Caretaker.)

People should come together like this, talk about it (the situation of orphans), form societies, build love and help. (Art cooperative worker.)

I wish there were more people in the area willing to help orphans (besides ourselves). (Community worker.)

Community visitors took on responsibilities to care for orphans who were unrelated to them. Some quoted incidents where they saved the lives of children by taking them for medical treatment. Teaching orphans and caretakers and bringing them together in support groups is an encouragement to those faced with overwhelming situations:

We take care of the children voluntarily; some come to us on their own and others we come across during home visits. (Caretaker-visitor.)

We visitors are 'the relatives' and we have a duty to teach the orphans. (Caretaker-visitor.)

Sometimes, we visitors noticed that the children were seriously ill and saved their lives by getting them to go to hospital. (Caretaker-visitor.)

Those looking after orphans should be educated about nutrition, child health and the needs of orphans. (Caretaker-visitor.)

Traditional community leaders and community visitors can exercise moral suasion by encouraging relatives to fulfil their family responsibilities; they can protect the inheritance rights of widows and orphans and help vulnerable families retain and use their land; however, even their best efforts were sometimes unfruitful. In cases where children are abused, neglected or exploited, recourse may be made to these traditional leaders as well as government agencies such as local police and district centre-based social workers. It is interesting to note that both child-protective and child-exploiting behaviour exist in a traditional community. Those social, cultural, economic and religious factors which distinguish 'carers' from 'non carers' is an important topic for further research:

The community encourages the relatives to look after the deceased's children and wife. At times, disputes arise resulting in the intervention of the headmen or kraalheads. We fail to play a decisive role as this is a family affair. (Councillor.)

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The late husband's family take everything but sometimes the community elders intervene. (Homecare volunteer.)

My aunts and paternal grandmother refused to take care of us. The matter was reported to the police who assessed the situation and gave custody of the children to me. I volunteered to look after the children, changing their nappies, because it was my responsibility. (Brother-caretaker.)

Orphans were recognized as being vulnerable to HIV infection and some members had established educational activities and income-generating activities. Capital necessary to establish income-generating activities presented a problem to poor community members. When such assistance was provided, one group donated the profit to help poorer orphan households:

We need to see these orphans being educated so that they develop a sense of belonging. We decided to establish a garden, but since we come from different areas which are far away, this plan failed. (Caretaker-visitor.)

We have plans that when it rains, the orphans grow crops in their fields to help themselves. (Caretaker.)

The FOCUS co-ordinator gave us corn to pop; we sold the popcorn and made almost \$500 (\$US50); we used the money to buy books and pens for the orphans. (Caretaker-visitor.)

Schools are in a good position to support orphans. Teachers in the area were providing direct support to children. Community leaders had discussed the situation with the local headmaster who now helped orphans attending his school. Cultural activities and church, sports and youth groups can provide a supportive setting where children can talk together about their concerns:

On Saturdays, the orphans spend the whole day playing at the centre. We teach them knitting, sewing, carving, moulding and gardening. They take part in football, netball and traditional dances. (Caretaker-visitor.)

There is need to provide spiritual guidance for the orphans at churches. (Councilor.)

The children talk together about the death of their parents (Caretaker).

Some orphan households are in such dire situations that they require relief assistance to meet their immediate needs. In 16 cases, children stated how their family had received assistance through the local orphan support programme. Other families received assistance from community members and local churches:

Teachers offer direct assistance such as clothes and food. (Community worker.)

The church sometimes helps us by donating clothes; FOCUS also helps with food, school fees, and blankets. (Caretaker.)

Neighbours gave the children food; the clinic gave milk for the infants; my sister helps with soap, salt, cooking oil, sugar and children's clothes each month. (Brother-caretaker.)

The church also helps the orphans; sometimes, everyone contributes one dollar to help the poor (Community worker.)

There was recognition that only limited material resources were available within the community to cope with situations requiring immediate relief. The existence of an active orphan-visiting programme in the area contributed to the welfare of children and encouraged more humane attitudes towards orphans:

Community support is there, but it is limited; people provide maize meal and contribute money for funeral expenses but usually this is a one-off thing. After the funeral the family is left to fend for itself. (Pastor.)

FOCUS is now helping those families by promoting a more humane attitude towards orphans. (Councillor.)

People are becoming more sympathetic to each other and offer love and comfort to the bereaved. (Community worker.)

We appreciate the care being given by the FOCUS centre; the changes brought about are evident. (Councillor.)

Programmes can build on existing, though limited, support being provided by the community to people in needy circumstances. Though the FOCUS programme is supported by a non-governmental organization, the perception of community members was that the programme was owned and run by community members. The presence of the programme appeared to have strengthened caring responses within the community and to have discouraged 'property-grabbing'.

Strategic responses

In this study, focus group discussion and key informant interview formats were used to gain detailed qualitative information on how orphans viewed their current situations and how communities were coping with rising numbers of orphans. The methodology of using a facilitator, observer and two recorders for focus groups enabled complete transcripts of discussions and information from participant observation to be obtained. It must be accepted that some types of data are difficult to elicit from children, particularly relating to physical or sexual abuse, attitudes towards their current caretaker and their emotional response to their parent's illness and death. However, important information on other significant issues was obtained.

Communities and families are making adjustments to cope with the impact of AIDS. Similar programmes to the one described above have been developed in other African countries with large numbers of children orphaned by AIDS (UNICEF, 1994; Williamson, 1995). It is important that outside organizations seeking to establish such programmes use knowledge of community coping mechanisms to guide them in programme development (Lwihula *et al.*, 1995). Otherwise, their well-meaning attempts to help may actually undermine activities being undertaken by affected communities. Three major strategies are suggested by this study through which outside organizations could support similar communities struggling to respond to the impact of AIDS.

Firstly, outside organizations can help communities to co-ordinate their responses. Visiting the sick, bereaved, widows and orphans is a frequent activity of many traditional communities. Many people living in affected communities are concerned about the plight of orphans but the task of providing meaningful, regular support to growing numbers of orphans may seem overwhelming to concerned individuals. When groups of such people meet to plan and co-ordinate their activities, there is a greater likelihood that significant support activities

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can be undertaken. One important benefit of setting up a local committee and developing orphan support activities is the impact this has on others. The presence of an active group of concerned people encourages supportive actions; relatives are discouraged from abandoning their responsibilities towards orphans, knowing that others in the community would be disapproving. The strong sense of shame in traditional cultures is a potent motivating force, discouraging exploitation and abuse of orphans and encouraging relatives to 'do the right thing' and care or provide financial support for orphaned children.

Secondly, directing essential items of material support and school fees to selected households is another strategy which can strengthen the ability of families to meet their own needs. Destitute families are in immediate need of direct relief because their health, security or survival is at stake. Only after their immediate needs are met is it possible to build their coping capacity in a sustainable way. Outside organizations have difficulty delivering timely support to households with the greatest needs. Community-based organizations on the other hand have members who are in the best position to identify such families and provide them with support at times of crisis, but they often lack the required material resources. Partnerships between community groups and outside organizations can be effective in solving large-scale, long-standing development problems by building on each group's strengths and overcoming their respective weaknesses (UNDP, undated; Foster *et al.*, 1996).

Relatively small amounts of support provided at critical times, such as food relief and medical or transport fees for sick children can make the difference between life and death for some families. Limited, short-term, material support for urgent situations is a necessary disaster-alleviation measure which is unlikely to undermine extended family and community coping mechanisms. On the other hand, programmes which provide large amounts of material support are likely to be unsustainable, non-replicable and dependency-creating. The small amounts of material support provided in this programme (average of US\$9.6–13.10 per family per year) contrasts with support costs of US\$2,733 to US\$73,216 per person per year in eight survivor assistance programmes in Kagera, Tanzania (Koda, 1995).

The third strategy to strengthen community coping mechanisms is for outside organizations to help communities develop income-generating activities. Poverty is the major factor magnifying the impact of AIDS in developing countries. Communities wish to develop schemes leading to self-sufficiency rather than rely upon donated material support. However, income-generating activities have high failure rates (Jackson *et al.*, 1994). In choosing to provide assistance for income-generating purposes, it is important that outside organizations consider carefully whether their efforts undermine community initiatives. Schemes should be developed through discussion with community members, should build upon existing resources and capabilities and should benefit the poorest in the community, especially women caretakers.

Concluding remarks

Though extended families and communities affected by AIDS are being severely stressed, this study suggests that people in one AIDS-affected community were developing activities to reduce the impact of AIDS, with assistance from an outside organization. Although community members were willing to help affected families by giving their time, poverty was the main constraint limiting their effectiveness. Lack of material resources is a potent force that can lead to hopelessness and a sense of powerlessness by community members faced with the progressive disaster of AIDS.

Outside organizations can play a major role in helping communities to respond to the impact of AIDS by helping them to meet together to discuss and plan. They can develop

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partnerships with community groups and build upon existing goodwill and concern for orphan families. They can assist communities to help themselves by providing limited material support and assistance in developing income-generating activities.

The earlier that communities organize to meet together to discuss problems due to the impact of AIDS, the better. Numerous deaths of young adults in communities lead to increased impoverishment, depression and difficulty mobilizing volunteers. Local non-governmental organizations are in a good position to help communities develop AIDS-related activities and channel essential support to them in ways that do not undermine their coping mechanisms. The challenge to outside groups is to be willing to be catalysts to help communities bowed down by their burden of AIDS-related problems to help themselves.

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PROJECT UPDATE

Number 2

December 1998

INTRODUCTION

In the six months from July to December 1998, the pilot study results were analyzed in detail, the baseline survey for the demographic impact study and the evaluation of the intensified HIV/STD control strategy was started, and implementation of the strategy was commenced in the first project areas. Details of the aims and design of the project were given in *Project Update 1*.

In this report, we summarize the progress that has been made over the period, describe the problems which have been encountered and how these are being addressed, and provide details of the preliminary results. The purpose of including results is to make these available on a timely basis for discussion in relation to the future development of the project and for other purposes. However, we should stress once again that these are of a preliminary nature and often are based on small sample sizes. Therefore, they should not be quoted or cited in publications without checking with us first (BRTI: 04 723997 or 028 448).

PILOT STUDY RESULTS

Introduction

A total of 689 people from two communal farming areas and one commercial estate in Mutasa district participated in the pilot study. Details of the data collection and evaluation methods used can be found in *Project Update 1*. In this section, we provide a brief overview of the results.

HIV diagnosis

The HIV infection status of individual participants was assessed using the results of ELISA (Abbott) and dipstick tests done on dried blood spot (DBS) samples, and, where available, results of saliva (Orasure) and serum (Abbott ELISA) based tests. If the results of the initial tests differed, a further ELISA test (Genelavia) was conducted. If results from DBS and serum samples differed, a Western Blot test was conducted. Where, following pre-test counselling, participants wished to receive the results of their HIV tests, a serum sample was

always taken. Repeat serum samples were taken in cases where results from tests on DBS and initial serum samples were in disagreement.

Socio-Demographic Correlates of HIV Infection

A breakdown of the HIV results is given in Table A1.

Univariate results are shown as the total sample is too small for a full multivariate analysis. However, results presented in this form should be interpreted carefully as, in some cases, they reflect confounding between the variables. For example, respondents with secondary and higher education have lower infection rates than those with less education ($p=0.049$). However, this is due, in part, to confounding between the effects of age and education – more younger people have secondary education but they also have had shorter periods of sexual activity within which to have acquired HIV infection. ie: the reason more educated people have lower infection rates could be that they have had less time to be sexually active rather than because they are taking greater care to avoid infection.

The results broken down by age and marital status are of particular relevance to the project. They suggest very high incidence of new HIV infections in the late teens and early twenties for women and throughout the twenties for men and extremely high levels of infection among divorcees and widows.

Young people clearly need to be a focus of the prevention strategy. Also, it is noticeable that the ages of peak incidence are close to the average ages at marriage for women (18.5) and men (25) in these communities. More women than men were divorced and widowed reflecting lower rates of remarriage and the later increase in female adult mortality. Most of these women were interviewed on the estate where it is easier for them to find employment. Thus, the prevention programme must also address the circumstances of formerly married women living on estates.

Few clear socio-economic differentials are evident in the data. Men and women appear to have high infection rates regardless of their own or their partner's education and employment status. One exception is that men who live apart from their

Few clear socio-economic differentials are evident in the data. Men and women appear to have high infection rates regardless of their own or their partner's education and employment status. One exception is that men who live apart from their wives are more likely to be infected as are the wives of seasonal migrants.

Sexual Behaviour and HIV Infection

Table A2 shows the risks of HIV infection according to reported recent sexual behaviour.

Men who visit beerhalls and their wives are twice as likely to be HIV-positive as other men and women. Those reporting multiple partners in the last year, multiple partners in the last month and a new partner in the last year all have somewhat higher rates of infection, after controlling for gender. Men who report consistent use of condoms with their most recent current partner have slightly lower infection rates. The small number of women who reported using condoms actually are at higher risk of being infected probably. These women may be predominantly commercial sex workers who have had unprotected sex with previous clients.

As might be expected, more people on the estates reported multiple partners but, overall, the numbers of respondents reporting risky behaviour seem quite low given the very high level of HIV prevalence. In previous research in Mutasa we found that some respondents with multiple partners fail to provide truthful information on their sexual behaviour even to well-trained experienced interviewers. There is clearly a risk that such mis-reporting will increase with added awareness of AIDS especially following a period of exposure to peer-education programmes.

In the pilot study, the enumerators were trained to introduce themselves and the study thoroughly, to explain the need for information on sensitive personal matters, to stress the confidentiality of information given, and to take time to develop a good rapport with respondents.

In addition, we tested a secret voting method for collecting data on sexual behaviour. The results for some of the key behaviour questions are shown in Table 1. In each case, slightly more respondents reported behaviour that could increase rates of HIV transmission. The difference in reporting is not dramatic and there are some disadvantages with the method – eg: it takes some time to explain to each respondent and the enumerator is unable to check the internal consistency of responses.

TABLE 1

Proportions of respondents reporting high-risk sexual behaviour for HIV by data collection method

<u>Sexual behaviour question</u>	<u>secret voting</u>		<u>interview</u>	
	n		n	
More than one partner:				
- in the last year	22%	165	13%	367
- in the last month	8%	165	3%	367
More than one current partner	11%	168	5%	367
Last partner a casual partner	22%	118	10%	234

However, given the importance of improving the reliability of these data, we intend to persevere with the method during the baseline survey and carry out further evaluations of the data collected in this way.

HIV, Fertility and Antenatal Surveillance

One of the aims of the research is to collect data on the impact of the HIV epidemic on fertility and, in particular, the effects for HIV-positive women.

Data from other African countries suggest that women with HIV have reduced fertility. This may be because they are more likely to have a prior history of infertility possibly related to STDs and/or marital instability and HIV itself increases miscarriages and amenorrhoea. If so, HIV surveillance data - usually collected from pregnant women at antenatal clinics - will understate true prevalence levels¹ especially at older ages. If condoms are used widely, these data may also fail to identify declines in HIV prevalence occurring within the general female population.

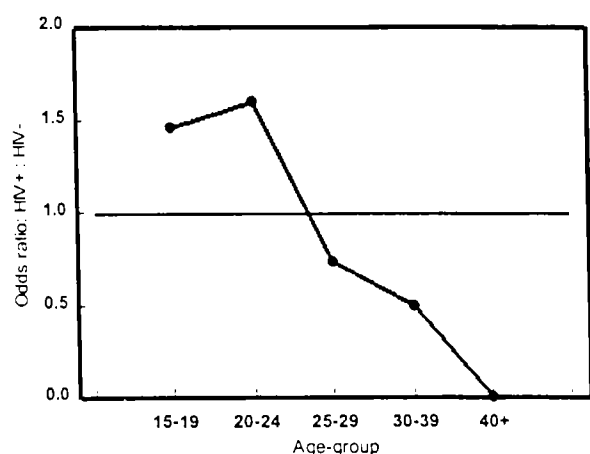
In the study, we are therefore attempting to measure the differentials in fertility between HIV-positive and HIV-negative women by asking women about their recent pregnancy and fertility histories. Also, in the baseline survey, we will be gathering HIV prevalence data from women at the antenatal clinics in the study areas so that direct comparisons can be made between surveillance and population-based data.

¹ For the whole adult population including men, the pilot study results indicate that antenatal surveillance data may overstate HIV prevalence in the general population in the areas studied. ie: because men currently have lower HIV infection rates.

The odds ratios for current pregnancy in HIV-positive women in relation to uninfected women in the pilot study are illustrated in Figure 1.

FIGURE 1

Odds ratios for current pregnancy in HIV-positive women compared to HIV-negative women



The sample sizes for some age groups are small but it does appear that older women with HIV have lower fertility than other women. The excess fertility among younger women with HIV also reflects the expected pattern as many of the uninfected women are not yet sexually active and therefore would not be expected to become pregnant.

Sexually Transmitted Diseases

The prevalences of common STDs were assessed during the pilot study to identify those which: (a) should be targeted during the STD/HIV prevention project; (b) could be monitored in the evaluation; and (c) should be controlled for in the study of HIV and fertility. The focus was on STDs that could be detected using DBS, urine and saliva samples as it was considered impracticable to use more invasive procedures in a population-based survey.

The results are summarized in Table 2. Syphilis appears to be very rare in the study areas. Low prevalences have also been observed in urban areas of Zimbabwe in recent studies. However, we plan to validate this result by repeating some of the tests in an independent laboratory.

12% of men reported problems with genital ulcers within the last year. Our results indicate that the most likely cause of many of these was HSV-2. However, the test we used was poor at distinguishing HSV-2 from HSV-1 when applied to

DBS samples. We therefore intend to use a different test with a higher specificity in the main surveys.

13% of men and 36% of women reported experiencing genital discharge or lower abdominal pain in the last year. The LCR test results indicate that relatively few of these cases resulted from episodes of gonorrhoea or chlamydia. Trichomoniasis appears to be a significant cause but the test used for this is still under development. Early evaluations indicate high levels of sensitivity and specificity but, for the time being, results should be interpreted with caution.

TABLE 2

STD diagnostic test results

Infection	males		females	
		n		n
HIV	15.4%	280	29.2%	383
Syphilis (TPHA/RPR)	0.0%	278	0.3%	383
Gonorrhoea	1.1%	280	2.3%	391
Chlamydia	2.9%	276	2.3%	389
Trichomoniasis	4.8%	83	19.2%	99
Syphilis (TPHA)	1.1%	279	1.3%	384
Syphilis (RPR)	1.1%	278	1.6%	383

The results indicate that trichomoniasis and HSV-2 infections may both be strongly correlated with HIV in Mutasa. This finding reflects the common mode of transmission and possible co-factor effects.

Healthcare-Seeking Behaviour

90% and 74% of men and women, respectively, suffering STD symptoms sought treatment - almost always from a hospital or clinic. However, many respondents waited several days before seeking treatment - Table 3. Thus, there is some potential for cutting these waiting times through education and promotion of the improved clinic services.

TABLE 3

Proportions of respondents seeking treatment for STDs within three days of noticing symptoms

Symptoms	males	females
Genital ulcers	48%	-
Discharge/lower abdominal pain	57%	24%

BASELINE SURVEY

HIV and STD Diagnostic Tests

Due to the large sample size required, the costs of diagnostic tests, and funding limitations, the number of tests had to be reduced in the main survey.

For HIV, we decided to just carry out a dipstick test on each DBS sample in the baseline survey (except where participants wish to know their own results). The specimens would be stored so that the initial seronegative status of all apparent HIV incident cases identified in the follow-up survey could be verified. Given the high specificity of the dipstick test - Table 4 - there should be few false positives in the baseline survey and the number of seroconversions missed should be very small.

TABLE 4

Sensitivity and specificity of alternative HIV diagnostic tests under field conditions

	ELISA	dipstick	'saliva'
Sensitivity	100.0%	93.7%	95.9%
Specificity	97.5%	99.6%	99.0%
n	679	679	259

For the STDs, we decided to concentrate on developing the tests from trichomoniasis and HSV-2 - the infections that appear to be most common and can be detected relatively inexpensively from DBS samples. Results from the trichomoniasis tests can be fed back to participants and treatment made available. Should the syphilis validation results contradict the initial findings, tests for this infection can be conducted using the stored samples.

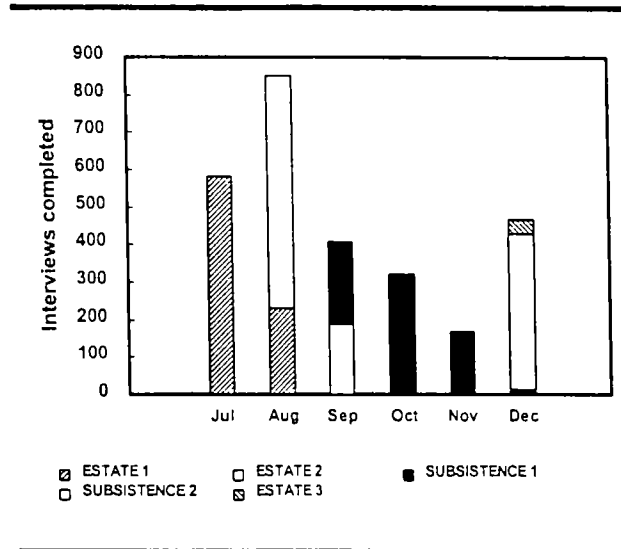
Progress with Enumeration

Enumeration for the baseline survey started in July. The interview process is now nearing completion in the fourth of the twelve research areas and nearly 3,000 people have joined the survey.

Progress has been slowed by a number of recent high-profile press stories about Satanists. These lead to widespread rumours that the research team were also Satanists - as they were gathering blood samples. The problem was particularly bad in the two subsistence farming areas where some local chiefs were reluctant to lend their support.

FIGURE 2

Interviews completed per month: July-December 1998



Action taken to address this issue included:

- Issuing a press release confirming the project's authenticity. This was broadcast on national radio and published in the *Manica Post*;
- Accelerating STD tests and treatment;
- Issuing enumerators with t-shirts and more official looking badges with the BRTI logo, photographs and personal ID numbers;
- Intensifying efforts to involve local leaders and holding more community meetings;
- Hiring local community members as guides to introduce enumerators to potential participants.

Largely due to these measures and hard work and persistence by the fieldwork team, progress improved substantially during December.

INTERVENTION IMPLEMENTATION

The aim of these *Project Updates* is to review progress on the research component of the project. However, there has also been significant progress in establishing the HIV/STD prevention activities.

Peer-educators are being recruited and trained by FACT (Mutare) in the first three project sites and condoms are now available. Reviews of existing clinic-based STD services and intensified STD control strategies have been completed for each site. Training in syndromic management and counselling for local nursing staff commenced in November. Drug supplies are being monitored and, to date, there have been no gaps in supply.

Table A1 **HIV prevalence by population sub-group**

SOCIO-DEMOGRAPHIC FACTORS	males			females			combined		
	+	n	prevalence	+	n	prevalence	+	n	prevalence
SOCIO-ECONOMIC CONTEXT									
Communal farming area	19	178	11%	69	273	25%	88	451	20%
Commercial estate	24	102	24%	43	112	38%	67	214	31%
Combined	43	280	15%	112	385	29%	155	665	23%
AGE									
15-19 (17-19 males)	0	65	0%	8	98	8%	8	163	5%
20-24	8	72	11%	32	95	34%	40	167	24%
25-29	12	56	21%	19	50	38%	31	106	29%
30-39	13	48	27%	39	96	41%	52	144	36%
40-54 (40-44 females)	10	39	26%	14	44	32%	24	83	29%
15-54	43	280	15%	112	383	29%	155	663	23%
MARITAL STATUS									
Single	7	132	5%	8	96	8%	15	228	7%
Married	32	136	24%	62	213	29%	94	349	27%
Divorced/separated	2	8	25%	28	52	54%	30	60	50%
Widowed	2	4	50%	14	24	58%	16	28	57%
	43	280	15%	112	385	29%	155	665	23%
Divorced in last 2 yrs (ever married):									
Yes	9	22	41%	36	72	50%	45	94	48%
No	27	125	22%	68	217	31%	95	342	28%
Widowed in last 2 yrs (ever married):									
Yes	3	9	33%	14	26	54%	17	35	49%
No	33	138	24%	90	263	34%	123	401	31%
RELIGION									
Apostolic	2	13	15%	1	10	10%	3	23	13%
Other	41	267	15%	111	375	30%	152	642	24%
	43	280	15%	112	385	29%	155	665	23%

Table A1 **HIV prevalence by population sub-group**

SOCIO-DEMOGRAPHIC FACTORS

	males			females			combined		
	+	n	prevalence	+	n	prevalence	+	n	prevalence
EDUCATION									
None	1	4	25%	10	23	43%	11	27	41%
Primary	23	116	20%	54	188	29%	77	304	25%
Secondary/higher	19	160	12%	48	173	28%	67	333	20%
	43	280	15%	112	384	29%	155	664	23%
EMPLOYMENT STATUS									
Professional/managerial	1	14	7%	3	10	30%	4	24	17%
Self-employed	0	4	0%	4	8	50%	4	12	33%
Skilled	11	50	22%	3	3	100%	14	53	26%
Unskilled	26	139	19%	79	271	29%	105	410	26%
Unemployed	5	73	7%	23	93	25%	28	166	17%
	43	280	15%	112	385	29%	155	665	23%
PARTNER'S EDUCATION									
None	1	3	33%	1	6	17%	2	9	22%
Primary	18	79	23%	30	107	28%	48	186	26%
Secondary/higher	13	54	24%	28	95	29%	41	149	28%
	32	136	24%	59	208	28%	91	344	26%
PARTNER'S EMPLOYMENT									
Police/army	-	-	-	2	8	25%	2	8	25%
Education	-	-	-	3	5	60%	3	5	60%
Building/manufacturing	-	-	-	12	33	36%	12	33	36%
Estates	6	10	60%	19	67	28%	25	77	32%
Retail	2	3	67%	9	36	25%	11	39	28%
Informal/unemployed/student	22	119	18%	15	61	25%	37	180	21%
	30	132	23%	60	210	29%	90	342	26%
SPOUSAL SEPARATION									
Live together	14	75	19%	33	121	27%	47	196	24%
Seasonal separation	1	1	100%	15	35	43%	16	36	44%
Live apart	17	60	28%	14	56	25%	31	116	27%
	32	136	24%	62	212	29%	94	348	27%

Table A2 HIV prevalence by population sub-group

BEHAVIOURAL FACTORS

	males			females			combined		
	+	n	prevalence	+	n	prevalence	+	n	prevalence
PARTNER VISITS BEERHALL									
Yes	1	1	100%	39	98	40%	40	99	40%
No	26	118	22%	17	95	18%	43	213	20%
	27	119	23%	56	193	29%	83	312	27%
RESPONDENT VISITS BEERHALL									
Yes	24	112	21%	4	13	31%	28	125	22%
No	19	168	11%	108	372	29%	127	540	24%
	43	280	15%	112	385	29%	155	665	23%
MORE THAN ONE PARTNER IN LAST YEAR (STARTED SEX; EXCLUDING POLYGAMISTS)									
Yes	12	59	20%	8	13	62%	20	72	28%
No	25	149	17%	98	282	35%	123	431	29%
	37	208	18%	106	295	36%	143	503	28%
NEW PARTNER IN LAST YEAR									
Yes	19	105	18%	18	49	37%	37	154	24%
No	22	170	13%	92	327	28%	114	497	23%
	41	275	15%	110	376	29%	151	651	23%
MORE THAN ONE PARTNER IN LAST MONTH (STARTED SEX; EXCLUDING POLYGAMISTS)									
Yes	3	13	23%	4	4	100%	7	17	41%
No	34	195	17%	102	291	35%	136	486	28%
	37	208	18%	106	295	36%	143	503	28%
CONDOM USE WITH LAST PARTNER (100% USE LAST MONTH)									
Yes	4	23	17%	4	8	50%	8	31	26%
No	23	94	24%	47	149	32%	70	243	29%
	27	117	23%	51	157	32%	78	274	28%

Table A3 HIV prevalence by population sub-group

OTHER STIS (STARTED SEX)	males			females			combined		
	+	n	prevalence	+	n	prevalence	+	n	prevalence
SYMPTOMS - LIFETIME									
Genital ulcers:									
Yes	25	60	42%	-	-	-	25	60	42%
No	15	151	10%	-	-	-	15	151	10%
Genital discharge or lower abdominal pain:									
Yes	27	72	38%	51	125	41%	78	197	40%
No	16	152	11%	52	163	32%	68	315	22%
SYMPTOMS - LAST YEAR									
Genital ulcers:									
Yes	13	27	48%	-	-	-	13	27	48%
No	28	195	14%	-	-	-	28	195	14%
Genital discharge or lower abdominal pain:									
Yes	10	30	33%	46	109	42%	56	139	40%
No	33	195	17%	61	193	32%	94	388	24%
STI DIAGNOSTIC TEST RESULTS									
HSV-2:									
HSV-2	0	1	0%	9	11	82%	9	12	75%
HSV-2 or HSV-1 (indeterminate)	4	31	13%	20	49	41%	24	80	30%
HSV-1 or neither	1	19	5%	3	22	14%	4	41	10%
Syphilis:									
TPHA+	1	4	25%	2	5	40%	3	9	33%
TPHA-	42	221	19%	106	298	36%	148	519	29%
RPR+	1	3	33%	3	6	50%	4	9	44%
RPR-	42	222	19%	105	297	35%	147	519	28%
Gonorrhoea:									
Yes	0	4	0%	4	7	57%	4	11	36%
No	43	218	20%	104	293	35%	147	511	29%
Chlamydia:									
Yes	2	11	18%	3	10	30%	5	21	24%
No	41	211	19%	105	290	36%	146	501	29%
Trichomonas:									
Yes	1	2	50%	16	19	84%	17	21	81%
No	9	72	13%	23	97	24%	32	169	19%

INFORMATION ABOUT FACT

A. GENERAL INFORMATION

1. Information about Mutare & Manicaland

Mutare is the provincial capital of Manicaland and is Zimbabwe's third largest city. It is situated in the Eastern Highlands lying in a gap in the highlands through which the main road and railway link between Zimbabwe and Mozambique pass. The city is 8km from the Mozambican border and 263km south-east of Harare.

Manicaland with a population of 1.54 million is the most populous of Zimbabwe's eight provinces; nearly 90% of the population of Manicaland live in rural areas, mostly communal areas though some live in commercial farming areas. The province is divided into seven districts and stretches 200km north and south of Mutare and 100km west.

In 1992, Mutare had a population of 132,000 (male 69,000, female 63,000); this was almost double the 1982 figure of 70,000, an increase of 7% per annum. About three-quarters of Mutare's population is concentrated in its two main high-density townships of Sakubva (popn 57,575) and Dangamvura (popn 39,812). Sakubva is an old suburb near the city centre with poor quality unserviced housing: residents have access only to communal ablution blocks and water installations. The critical shortage of accommodation has led to the construction of wooden shacks on many plots. Dangamvura and the newly developing Chikanga townships are medium-density owner occupied suburbs.

Most of the industries based in Mutare focus on the use of locally produced materials. These include paper and timber mills and furniture making using the products of the Eastern Highlands timber industry. The tea and coffee grown in the area is processed in the city and food processing and canning takes place using locally grown produce. Other important industries include the assembly of motor vehicles, glass production, textile production, fuel distribution and railways. Some 15km from Mutare is Independence Mine, a gold mine belonging to the Lonrho Group of companies. The Eastern Highlands area around Mutare is an important agricultural region. As well as timber, tea and coffee already mentioned, almost all Zimbabwe's deciduous fruit is grown in the area. Other important crops include maize, cotton and tobacco. Because of the city's picturesque location, tourism plays a large part in the economic life of the province: there are seven luxury hotels in and around Mutare.

The city is administered by a municipal city council consisting of a health, education, engineering and community services department. The municipality is under the overall responsibility of the Ministry of Local Government, Rural and Urban Development. Most schools within the city are under the direct jurisdiction of the Ministry of Education.

2. AIDS epidemic in Zimbabwe

According to World Health Organisation figures reported recently, Botswana (8.9%) and

Zimbabwe (8.0%) head the table of countries which have the highest proportion of the population HIV-positive.

Country	Population (millions) (1994)	HIV cases (1994)	Proportion of population HIV-positive (%)
Botswana	1.4	125,000	8.9%
Zimbabwe	11.3	900,000	8.0%
Zambia	9.3	700,000	7.5%
Uganda	19.7	1,300,000	6.6%
Malawi	11.2	650,000	5.8%
Kenya	27.1	1,000,000	3.7%
Tanzania	29.7	840,000	2.8%
Mozambique	15.4	400,000	2.6%
South Africa	41.9	650,000	1.6%

Only four countries in the world have more people with HIV than Zimbabwe (900,000 infections): these are India (1.75million), Uganda (1.3m), Nigeria (1.05m), and Kenya (1m) (Weekly Epidemiological Record, 15.12.95).

The progression of the HIV epidemic in Zimbabwe has been rapid. Anonymous unlinked surveillance of pregnant women in 5 urban and 17 rural antenatal clinics during 1992/93 found 21.2% (1,205/5,679) to be HIV-positive. Antenatal surveillance rates in Manicaland were 14% in Rusitu and 24% in Honde valley (both rural areas) and 25% and 46% in Mutare and Rusape in 1993.

Families are caring for numerous orphans in Zimbabwe and other developing countries. A 1992 enumeration study of orphans in Mutare district found 12.8% of the children in the area studied were orphaned: AIDS was one of the primary causes of parental death (Foster et al., AIDS Care, January 1995). A 1995 enumeration in Chirovakamwe, 20km outside Mutare and the site of an orphan support (FOCUS) programme found 14.7% of children orphaned with one quarter of parental deaths occurring in 1994 alone (Foster et al., AIDSCare 1996).

The following is a summary of the projected impact of HIV/AIDS in Zimbabwe by 2005 (Gregson and Foster, ZAI Net AIDS News, vol 1 & 2, 1994, based on a mathematical model developed by Roy Anderson, Oxford University, UK; see Health Transition Review, Vol 4, 1994).

- 80-90% of deaths in people 25-45 years will be HIV-related

- Life expectancy (57-59 in the late 1980's) may fall to between 30-35, lower in women than in men
- Less than 20% of women can expect to live through their child bearing years
- only about one third of girls aged 15 will survive to 35 years old
- nearly one third of all children will be maternal orphans
- population growth will decline sharply, possibly leading to a short period of negative population growth.

Recent research in Manicaland confirms the accuracy of this model; young adults 25-34 years old have a 40% probability of dying during a 10-year period (Gregson)

B. ORGANISATION INFORMATION

1. Establishment and development

Family AIDS Caring Trust was founded in Mutare in 1987 as Zimbabwe's first AIDS service organisation by Dr Geoff Foster, FACT Mutare's current Director. As a paediatrician at the government Provincial Hospital, Dr Foster saw an increasing number of children affected by HIV/AIDS. As a Christian, he felt a church-based, community response was needed to complement the activities of the formal health services.

FACT was formed by volunteers from different churches and various denominations in the Mutare area. These volunteers were trained in information concerning HIV/AIDS, basic counselling skills and educational activities. For the first four years, FACT operated from a single office employing two or three staff on low salaries and relying upon volunteers to carry out educational activities in schools and home visits to sick patients.

In late 1991, FACT became a project partner with the Mutare City Health Department to run a community and workplace HIV Prevention Programme; professional staff were recruited. During 1992, FACT established its Rural Training, Youth and Homecare programmes and laid the foundation for Family AIDS Support Organisation, a support group for people living with HIV/AIDS.

In 1993, the Families, Orphans and Children Under Stress programme was commenced. In 1994, an office was opened in Rusape to supervise an HIV prevention programme, administered from Mutare. In 1995, FACT's church programme was formally established.

2. FACT Associations and Branches

FACT Masvingo and FACT Chiredzi were established as independent FACT associations in 1989 and 1992 respectively. FACT Rusape was established as a branch of FACT Mutare in 1994. During 1996, a FACT coordination committee was established which meets at least once per year. This is comprised of six representatives from the FACT Mutare Board and two from each of the governing bodies of other FACT organisations. All FACT associations and branches share the same aims and objectives, as stated in their constitutions, reflecting the Christian orientation of the organisations:

Objectives of FACT organisations

- a) to be a support to people affected by the AIDS virus
- b) to educate about the causes, effects and prevention of HIV infection
- c) to offer a counselling service to people infected with HIV and their families
- d) to increase public awareness of the AIDS epidemic
- e) to provide a forum for the exchange of information on problems of AIDS in Zimbabwe
- f) to organise and manage fundraising activities for the financing of activities relating to the prevention of the spread of AIDS
- g) to present the biblical view, that we as humans were created for faithful, permanent marriage relationships and that sex outside God's laws accelerates the spread of AIDS
- h) to present the message of eternal life, forgiveness of sins and power to live by the Holy Spirit when appropriate to situations or when requested
- i) to minister to emotional, physical and spiritual needs of HIV-infected persons and their families
- j) to pursue other objectives in keeping with the work of FACT

3. Mission Statement of Family AIDS Caring Trust Mutare

FACT is a Christian-based organisation working with various communities to provide HIV prevention programmes, training, and care for the whole person.

FACT promotes sexual abstinence outside marriage and faithfulness within marriage.

FACT provides unconditional care and support to people affected by HIV/AIDS.

Worldwide, FACT supports and cooperates with others who are responding to AIDS in their communities.

4. Organisation (see organisational chart, Appendix 1)

FACT is a registered welfare organisation, and is governed by a Board elected by its membership at an Annual General Meeting. Membership, currently around 50-100, is open to anyone agreeing with the aims and objectives of FACT through payment of an annual subscription. Members receive a quarterly newsletter and are invited to attend quarterly meetings. At each AGM, members receive financial and programme reports and elect a director, secretary and treasurer.

FACT's Advisory Board is made up of FACT's treasurer Mr Limebeer and director, Dr Foster, both volunteers, together with four board members elected for four year terms. Board members may not be employed by FACT and currently consist of a Rev Jalalabadi, a pastor, Dr Ptumojena, a physician, Mrs Winter, a lawyer and Mr Gomo, Scripture Union. The Board meets quarterly and discusses issues of strategy and policy. Specific areas discussed include staff remuneration, discipline, capital purchases, fundraising ventures, membership etc.

FACT's executive committee meets monthly to make decisions affecting the functioning of the organisation. This is made up of the director, treasurer and secretary of FACT (Mrs Makufa, FOCUS programme coordinator) together with the Projects Director, Dr Drew, the Administrator, Mrs Eston and a workers' representative, Mrs Muchaneta, FACT's Church

Programme coordinator.

Major decisions affecting staff are made through consultative procedures. A weekly staff briefing meeting, a monthly staff report meeting and monthly prayer meeting are attended by all staff. FACT staff are divided into prevention, care, administration and training teams which meet monthly to coordinate programme activities.

5. Financial functioning

FACT's financial year coincides with the calendar year. Monthly accounts are produced for each programme and the organisation as a whole. Accounts are audited annually in the first quarter of the year by Ernst and Young accountants.

Most of FACT's finances are raised from a small number of large donations from international organisations. Such donations are linked to specific projects for which operating plans and budgets have been developed. An increasing number of relatively small donations are being raised from individuals, companies and churches. Local fundraising is the responsibility of Mrs Mel Paterson, a volunteer working as FACT's membership secretary.

C. PROGRAMME INFORMATION

1. Philosophy of programmes

FACT's programmes have been developed using the following basic principles:

Peer education:

In order to alter the course of the epidemic significantly, it is necessary to alter the behaviour not just of individuals but of entire communities. Simple dissemination of information is insufficient to produce behaviour change on a wide scale. Using members of target groups to organise and conduct AIDS-related activities has several advantages. Such peer educators are more credible sources of information than paid professionals and become powerful motivators and role models if their lives have changed. They are also able to be recruited in large enough numbers to enable activities to be carried out frequently over large areas.

The joint FACT-City Health HIV Prevention Programme was evaluated by the London School of Hygiene and Tropical Medicine in 1993; this showed very high rates of programme activities (over 1,000 meetings per month being organised and conducted each month by community and workplace peer educators); over 90% of men and women interviewed in beerhalls had been to at least one programme meeting while 96% reported they had taken measures to reduce their risk of HIV infection: 14% of men interviewed in beerhalls no longer had girlfriends, 26% had reduced their number of girlfriends and sexually transmitted infections had fallen by 50% over 18 months. FACT's Youth programme, evaluated by the University of Zimbabwe in 1994 also showed the effectiveness of peer education programmes in schools.

Community Mobilisation:

The sheer size of the AIDS epidemic means that it is impossible for a small organisation such as FACT to provide prevention and care services over large areas. This is well illustrated by findings from an evaluation of FACT's Homecare programme in 1994 - only 3% of people requiring homecare services in the city of Mutare were receiving such service. FACT seeks to identify community-based organisations, especially churches and women's groups, who are concerned to help people affected by HIV/AIDS or to prevent its spread. Through sensitive community mobilisation methodologies, FACT seeks to develop partnerships with such organisations so that AIDS-related activities can become more widespread and effective.

Development Orientation:

AIDS is seen by FACT as being primarily a development issue. Programmes are therefore developed with poverty alleviation and self sufficiency as key objectives. Revolving credit funds and support to small scale income generation are major activities in several programmes.

2. Programme areas

FACT operates nine established AIDS/HIV programmes (see summary charts). These programmes expanded during 1995 to provide support to programmes or establish AIDS-related activities outside the city of Mutare. Where possible, FACT supports existing organisations such as mission hospitals and churches and seeks to increase their capacity to administer effective AIDS care and prevention programmes. In addition, FACT has set up a branch in Rusape (popn 20,000), an office base for a training programme in Nyanga township

CARE PROGRAMMES MISSION STATEMENT:

The FACT care and social support programmes provide spiritual, psychological, social, emotional, material, practical and physical care to orphaned families, the terminally ill and those affected by HIV/AIDS.

<i>Name of Programme</i>	<i>Date of Establishment</i>	<i>Staff Coordinator & Assistant Coordinator</i>	<i>Assistants/ Volunteers</i>	<i>Extent of programme activities</i>	<i>Collaborating organisations</i>	<i>Linkages with other FACT programmes</i>	<i>Principal Donor(s)</i>	<i>Approximate Budget (1995)</i>
Homecare	1992	C: Mrs Tebbie Nyaruwa	Full-time homecare assistants (4)	Mutare City Assistance given to programmes from St Augustine's mission, Penhalonga, FACT Rusape and Chirovakamwe Christian Life Centre, Zimunya	Mutare City Health Ministry of Health Island Hospice Mutare Nursing Service St Augustines mission Chirovakamwe Christian Life	Rural Training Church FASO FOCUS FACT Rusape	Tear Fund	\$225,000
Families, Orphans & Children Under Stress	1993	C: Mrs Choice Makufa	Part-time supervisors (4) Volunteer home visitors (60)	FOCUS programme centres: Chirovakamwe Marange Buhera Rusitu Danganvura	Department of Social Welfare. University of Zimbabwe	Homecare Church	Plan International (Mutare)	\$225,000
Family AIDS Support Organisation (FASO)	1992	C: Mr Tonderai Chiduku A/C: Mrs Emily Chigwida	Volunteer counsellors (5)	Groups in Mutare and Sakubva. Support given through FASO Net to Chipinge, Murambinda Birchenough Bridge, Chisumbanje, Elim, Regina Coeli	Mutare City Health. Ministry of Health	Homecare	NORAD Oak Foundation	\$100,000

PREVENTION PROGRAMMES MISSION STATEMENT:

The prevention team educates, informs, raises awareness and makes communication about AIDS easier. It empowers the community to make informed decisions about choices on issues affecting their lives. The prevention team supports, shares and cooperates with others involved in prevention work in their communities.

<i>NAME OF PROG- AMME</i>	<i>DATE OF ESTABL- ISHMENT</i>	<i>STAFF Coordinator & Assistant Coordinator</i>	<i>ASSISTANTS/ VOLUNTEERS</i>	<i>EXTENT OF PROGRAMME ACTIVITIES</i>	<i>COLLABORATING ORGANISATIONS</i>	<i>LINKAGES WITH OTHER FACT PROGRAMMES</i>	<i>PRINCIPAL DONOR(S)</i>	<i>APPROX- MATE BUDGET (1995)</i>
COMMUNITY HIV PREVENTIO N PROGRAMM E	1991	C: Mrs Rosemary Gomo	Community peer educators (45)	Mutare City; Zimunya; Penhalonga	Mutare City Health Department Programme Support Unit, Dept of Psychology, University of Zimbabwe	Workplace Programme FACT Rusape	NORAD SAT Programme	\$80,000
WORKPLAC E HIV PREVENTIO N PROGRAMM E	1991	C: Mrs Thandiwe Gara A/C: Mr Jealous Samupindi	Workplace peer educators (160)	Mutare City; 40 companies/government departments	Mutare City Health Department Programme Support Unit, Dept of Psychology, University of Zimbabwe	Community HIV Prevention Programme FACT Rusape	NORAD SAT Programme	\$80,000
YOUTH PROGRAMM E	1992	C: Mr Loveniore Magwere	Programme Assistants (5)	Manicaland Province; 200 clubs in primary and secondary schools	Ministry of Education	Rural Training Programme	Plan International (Mutare) Zimbabwe AIDS Network	\$250,000

CARE PROGRAMMES MISSION STATEMENT:

The FACT care and social support programmes provide spiritual, psychological, social, emotional, material, practical and physical care to orphaned families, the terminally ill and those affected by HIV/AIDS.

<i>Name of Programme</i>	<i>Date of Establishment</i>	<i>Staff Coordinator & Assistant Coordinator</i>	<i>Assistants/ Volunteers</i>	<i>Extent of programme activities</i>	<i>Collaborating organisations</i>	<i>Linkages with other FACT programmes</i>	<i>Principal Donor(s)</i>	<i>Approximate Budget (1995)</i>
Homecare	1992	C: Mrs Tebbie Nyaruwa	Full-time homecare assistants (4)	Mutare City Assistance given to programmes from St Augustine's mission, Penhalonga, FACT Rusape and Chirovakamwe Christian Life Centre, Zimunya	Mutare City Health Ministry of Health Island Hospice Mutare Nursing Service St Augustines mission Chirovakamwe Christian Life	Rural Training Church FASO FOCUS FACT Rusape	Tear Fund	\$225,000
Families, Orphans & Children Under Stress	1993	C: Mrs Choice Makufa	Part-time supervisors (4) Volunteer home visitors (60)	FOCUS programme centres: Chirovakamwe Marange Buhera Rusitu Danganyura	Department of Social Welfare. University of Zimbabwe	Homecare Church	Plan International (Mutare)	\$225,000
Family AIDS Support Organisation (FASO)	1992	C: Mr Tonderai Chiduku A/C: Mrs Emily Chigwida	Volunteer counsellors (5)	Groups in Mutare and Sakubva. Support given through FASO Net to Chipinge, Murambinda Birchenough Bridge, Chisumbanje, Elim, Regina Coeli	Mutare City Health. Ministry of Health	Homecare	NORAD Oak Foundation	\$100,000

OTHER PROGRAMMES

<i>Name of Programme</i>	<i>Date of Establishment</i>	<i>Staff Coordinator & Assistant Coordinator</i>	<i>Assistants/ Volunteers</i>	<i>Extent of programme activities</i>	<i>Collaborating organisations</i>	<i>Linkages with other FACT programmes</i>	<i>Principal Donor(s)</i>	<i>Approximate Budget (1995)</i>
Rural Training Programme	1992	C: Mrs Fiona Robinson A/C: Mrs Spiwe Papaya A/C (Nyanga): Mr Perkins Machanje	Supervisors (36) Active Trainers (90)	Manicaland province; office in Nyanga	Commercial Farmers Union	Youth Homecare	Southern African AIDS Training (SAT) Programme Canadian General Training Facility	\$400,000
Church Programme	1995	Mrs Lorraine Muchaneta	Home Visitors (4)	Mutare City	Ministers' Fraternal and different local churches, Mutare	Homecare FOCUS	Misereor	\$150,000
FACT Rusape	1994	C: Mrs Nonia Temberere A/C: Mrs Sophie Rapozo	Peer Educators (25)	Rusape Town and Township	Programme Support Unit, Dept of Psychology, University of Zimbabwe	Homecare Church Youth Workplace Community HIV Prevention	NORAD SAT Save the Children Fund(USA)	\$250,000

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The optimism of the West is a cruel fantasy in Zimbabwe. There is no treatment, no cure, little hope and -- in almost every country in Africa -- far more pressing problems to face each day.

The savage virus has left few people untouched: it has devastated families, communities and cities. But seen through the weary and often bloodshot eyes of the beleaguered doctors and nurses who must attend to the sick people around them, AIDS is just another word for dying -- and it's just another disease.

People here call it "iyoyo" -- "that thing." And in the spare but spotless clinics of Zimbabwe -- where aspirin is available only a third of the time -- "that thing" may not even be the one that matters most. With an average of less than \$10 to spend on each person's health every year, most African nations have no money for tests, for fancy drugs or for complicated support networks.

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It is an understandable comment from a man who couldn't send his nurses out in the community in July to give vaccines because the Health Ministry had no money left to buy gas in the car.

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In Zimbabwe, doctors and nurses all know the bad news and they all worry about it. They face AIDS -- in one way or another all day, every day: when they see a man with genital herpes, when they draw blood or stick themselves with a needle, when they deliver a baby, when any patient starts to cough, or wheeze or breaks out in a rash.

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Dr. Labode has a poster on a wall outside her office that lists the "standard case definition" of bubonic plague. It is not a historical artifact. She talks about leprosy, malaria, diarrhea, TB.

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It would be a staggering figure anywhere, but particularly in a country that can afford to spend only \$11 per person each year on health care.

"I don't like to think about AIDS," said Sithozile Nkala, a nurse at the district hospital in Tsholotsho. "It's not because I am afraid or because I think we can run away from it. But the only way I can do my job is to see every patient and try to just help them. If I say to somebody you have AIDS -- and we almost never know because we don't have money for tests -- they just go home."

"That's why I don't think you can write about the effect of AIDS on the health care system," she said. "Most people just stay home to die. And we encourage that because really there is very little we can do here for them except to try and make them comfortable. And people at home can do that better than we can."

Miss Nkala is 28 and she came from a small village more than 200 miles from Tsholotsho. She said that most people don't want to know if they are infected with HIV, and it is common lore among nurses that those who do find out often give up and die much more quickly than if they had lived on in ignorance.

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Nkomo can see 130 people a day -- although most days he sees far fewer. Sexually transmitted diseases have long been taken as the best marker for the prevalence of HIV; in addition to being a sign of risky sexual behavior, the diseases themselves often make it far easier to become infected. Last year 70 percent of the patients tested in one clinic in Harare were infected with HIV. No similar study has been conducted here -- but Nkomo assumes the figures can't be much different.

"You have to assume that almost everybody who walks in the door is going to get AIDS," he said. "But you can't dwell on it. Because if you do then you just walk out and go home for good."

He has no intention of doing that. A thin man with a wispy string of beard, he manages to be both an optimist and a realist.

This day he will see a variety of people: a boy with a broken ankle and a woman with a skin rash and a man who has a strange swelling in his feet.

One woman comes in with elevated blood pressure -- but Nkomo will be able to do little for her because there are no drugs available at the moment for her condition.

Zimbabwe has a list of drugs that doctors consider essential for treating the most common and commonly cured illnesses -- and most basic medicines are usually available. But it takes aggressive pharmacists, luck and good connections to keep a well-stocked clinic. Today there is no aspirin, no acyclovir (for treatment of herpes, one of the most common sexually transmitted infections), and penicillin won't be in until this afternoon.

"I want more drugs and I want donors to help buy them for us," Nkomo said. He has recently returned from three months' work at a clinic in Liverpool and it pains him greatly to see how easily most of his clients could be treated for many of their illnesses.

"Why shouldn't we want to treat AIDS?" he asks. "What kind of doctor would I be if I sat here quietly and watched everyone in England taking drugs that will save their lives and knowing that we are all going to die?"

A 23-year-old man comes into the office. He is shy, embarrassed and silent.

"You got to tell me what's bothering you if I'm going to treat it," Nkomo said, quietly. "That's what I am here for."

The patient has reason to believe he has a sexually transmitted disease and upon examination it is clear that he is right.

"When did you last meet someone?" the doctor asked, using a common euphemism here for having sex. The answer was last week.

"Did you use a condom?" he asked. The answer was a quiet no.

"Is she your regular partner?" he continued. No again. "When did you meet someone before her?" The week before. The same questions followed with the same answers.

"Do you know about AIDS?" he asks. Yes, the patient replies, dazed but slightly angry.

"Don't you care?" Nkomo asks, his voice rising sharply. "Do you want to die?" Of course not, the patient replied. Sometimes I just forget.

Nkomo gives the man a lecture and tells him condoms are always free at his clinic. He shows him how to use the condoms -- there is a wooden pole on his desk for demonstrations. And he warns the young man that sex these days is not a game.

As soon as the patient is gone Nkomo takes both hands and slams them on the desk.

"Sometimes this is so painful," he whispered. "What can I do for these people? I want to be out there fighting or them. Most of the time I believe we will turn the tide. But sometimes I ask myself if we are all just going to disappear."

The Ailing Nurse

Mildred passes for what is considered middle class in this part of Africa. She is a highly trained nurse who earns about \$100 a month but recently she became too sick to work. She has fevers and headaches and no appetite.

Her husband, who has spent his life working on the railroads, seems healthy, and neither has taken an AIDS test.

For the last month she and her husband have been on a drug hunt -- desperately trying to find a way to acquire enough antiretroviral medicine to keep her alive. The couple have three children and live in a lovely brick house in a suburb of Bulawayo that once was dominated by the whites who ruled Rhodesia.

They invited a reporter into their home with great reluctance and with the hope that publicity -- however vague and indirect -- might somehow help them. When asked how she became infected, she replied at first that she wasn't. When pressed she conceded she must be.

"I can't explain it," she said, fighting back the tears. "I can't explain it at all. I never had any extra love. I have always worked hard. I don't deserve to die and I know I don't have to."

There are many drugs in Zimbabwe to treat the secondary infections caused by AIDS -- the pneumonias and fungal infections and other ailments that come when a person's immune system is too weak to do its job. But the latest therapies to treat the virus itself are not available and there are very few people who could afford them if they were. So this couple recently went to South Africa to see if they could buy a stay of execution.

"We got to a clinic and the doctor told us it would be about \$1,000 a month for the drugs," the husband said, moaning softly. "That was some sort of discount price. I make \$200 a month. We could afford the drugs for maybe one month or two. And that is nothing. It would only make us poor. So we are waiting now for God to help us. We are hoping God will help us all."

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In Tsholotsho, Zimbabwe, where AIDS is rampant, a mother cried for her baby, dead soon after birth.



Credit: Fiona McDougall for The New York Times
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He has no intention of doing that. A thin man with a wispy string of beard, he manages to be both an optimist and a realist.

This day he will see a variety of people: a boy with a broken ankle and a woman with a skin rash and a man who has a strange swelling in his feet.

One woman comes in with elevated blood pressure -- but Nkomo will be able to do little for her because there are no drugs available at the moment for her condition.

Zimbabwe has a list of drugs that doctors consider essential for treating the most common and commonly cured illnesses -- and most basic medicines are usually available. But it takes aggressive pharmacists, luck and good connections to keep a well-stocked clinic. Today there is no aspirin, no acyclovir (for treatment of herpes, one of the most common sexually transmitted infections), and penicillin won't be in until this afternoon.

"I want more drugs and I want donors to help buy them for us," Nkomo said. He has recently returned from three months' work at a clinic in Liverpool and it pains him greatly to see how easily most of his clients could be treated for many of their illnesses.

"Why shouldn't we want to treat AIDS?" he asks. "What kind of doctor would I be if I sat here quietly and watched everyone in England taking drugs that will save their lives and knowing that we are all going to die?"

A 23-year-old man comes into the office. He is shy, embarrassed and silent.

"You got to tell me what's bothering you if I'm going to treat it," Nkomo said, quietly. "That's what I am here for."

The patient has reason to believe he has a sexually transmitted disease and upon examination it is clear that he is right.

"When did you last meet someone?" the doctor asked, using a common euphemism here for having sex. The answer was last week.

"Did you use a condom?" he asked. The answer was a quiet no.

"Is she your regular partner?" he continued. No again. "When did you meet someone before her?" The week before. The same questions followed with the same answers.

"Do you know about AIDS?" he asks. Yes, the patient replies, dazed but slightly angry.

"Don't you care?" Nkomo asks, his voice rising sharply. "Do you want to die?" Of course not, the patient replied. Sometimes I just forget.

Nkomo gives the man a lecture and tells him condoms are always free at his clinic. He shows him how to use the condoms -- there is a wooden pole on his desk for demonstrations. And he warns the young man that sex these days is not a game.

As soon as the patient is gone Nkomo takes both hands and slams them on the desk.

"Sometimes this is so painful," he whispered. "What can I do for these people? I want to be out there fighting or them. Most of the time I believe we will turn the tide. But sometimes I ask myself if we are all just going to disappear."

The Ailing Nurse

Mildred passes for what is considered middle class in this part of Africa. She is a highly trained nurse who earns about \$100 a month but recently she became too sick to work. She has fevers and headaches and no appetite.

Her husband, who has spent his life working on the railroads, seems healthy, and neither has taken an AIDS test.

For the last month she and her husband have been on a drug hunt -- desperately trying to find a way to acquire enough antiretroviral medicine to keep her alive. The couple have three children and live in a lovely brick house in a suburb of Bulawayo that once was dominated by the whites who ruled Rhodesia.

They invited a reporter into their home with great reluctance and with the hope that publicity -- however vague and indirect -- might somehow help them. When asked how she became infected, she replied at first that she wasn't. When pressed she conceded she must be.

"I can't explain it," she said, fighting back the tears. "I can't explain it at all. I never had any extra love. I have always worked hard. I don't deserve to die and I know I don't have to."

There are many drugs in Zimbabwe to treat the secondary infections caused by AIDS -- the pneumonias and fungal infections and other ailments that come when a person's immune system is too weak to do its job. But the latest therapies to treat the virus itself are not available and there are very few people who could afford them if they were. So this couple recently went to South Africa to see if they could buy a stay of execution.

"We got to a clinic and the doctor told us it would be about \$1,000 a month for the drugs," the husband said, moaning softly. "That was some sort of discount price. I make \$200 a month. We could afford the drugs for maybe one month or two. And that is nothing. It would only make us poor. So we are waiting now for God to help us. We are hoping God will help us all."

International

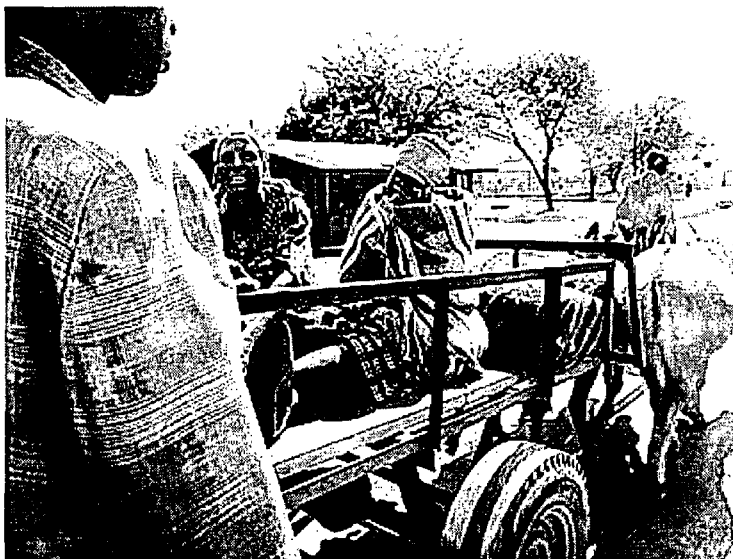
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In Tsholotsho, Zimbabwe, where AIDS is rampant, a mother cried for her baby, dead soon after birth.



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A PRE-INTERVENTION SURVEY TO DETERMINE UNDERSTANDING OF HIV AND AIDS IN FARM WORKER COMMUNITIES IN ZIMBABWE

Susan M. L. Laver, Bart van den Borne, Gerjo Kok,
and Godfrey Woelk

A cumulative total of 41,298 AIDS cases have been reported in Zimbabwe as of March 1995. Of concern is the growing evidence of high levels of seroprevalence among rural farm workers.

A pre-intervention survey was conducted by interview in one district to examine behavioral factors likely to place farm workers in marginalized rural communities at risk for sexually transmitted diseases (STD) and HIV infection. Seven hundred seventy commercial farm workers from 17 randomly selected commercial farms participated in the study. We found that farm worker communities, which are characterized by educationally disadvantaged women when compared with men ($p < .001$), have had little exposure to AIDS prevention activities. Beliefs that AIDS is brought about by divine or ancestral retribution were upheld by less educated women ($p < .001$). A significant association was found with respect to perceived risk to HIV and low self-efficacy among uneducated women who articulated helplessness and an inability to protect themselves from HIV infection. Among more educated men, we found acknowledgment about multipartnering and that changes in behavior are more likely to develop as a result of changes in normative values ($p = .075$). Condom use among men, which is probably the most effective barrier against STD infection, was shown to be associated with age ($p < .01$) and education ($p < .01$). The study concludes with recommendations for an appropriate intervention.

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AIDS interventions in Africa have failed to initiate the wave of behavior change that was anticipated in the early phases of the epidemic. Reports indicate that the disease has reached endemic proportions in some parts of the continent and that there is a shift toward lower income, unskilled people (Williams & Ray, 1993) with an increasing number of people testing positive for HIV in rural areas (Torrey & Way, 1991; Williams & Ray, 1993; [ZAINET], 1993). Faced with new information about risk, people have been expected to alter their behavior, but as Denscombe (1993), in quoting Bagnell & Plant (1987), De Haes (1987), Regis (1988), said, "the evidence is that people do not always respond in a 'rational' manner to messages about risk." Although there is a clear understanding that HIV in African communities is mainly transmitted through unprotected heterosexual vaginal intercourse, researchers show the importance of recognizing that HIV transmission is also influenced by a web of complex cultural factors that shape understanding and influence risk-taking behavior (Airhihenbuwa, DiClemente, Wingoog, & Lowe, 1992; Bassett & Mhloyi, 1991; Caldwell, Caldwell, & Quiggin, 1989; Linville & Fischhoff, 1993; Mutambirwa, 1991). In spite of this, AIDS communicators often fail to plan their interventions on the basis of a clear understanding of the issues that combine to influence the way that people perceive the problem of HIV and AIDS in local settings.

Of particular concern are poor, rural communities whose needs have been marginalized in AIDS prevention campaigns. In theory, community involvement in AIDS awareness programs is given high priority; in practice, it is evident that Western-type interventions designed for urban, industrialized settings are often relocated in communities whose understanding of the epidemic is shaped by a cultural perspective of HIV and AIDS that does not necessarily converge with that of the urban dweller. The didactic delivery of information through channels such as print media suggest that interventions are not planned against an understanding of the strong culture of dialogue that exists in rural communities.

THE PROBLEM IN ZIMBABWE

The official estimate of HIV infection in Zimbabwe by early 1995 is estimated around 1 million or 10% of the total population (Farag, 1995). The National AIDS Co-ordination Programme (NACP) estimates the real figure to be approximately three times the reported figure (ZAINET, 1993). Williams and Ray (1993) observed that "as in other countries, AIDS in Zimbabwe is primarily a disease of adults of working age: over 80% of those infected are aged between 15 and 60, with men and women affected in roughly equal numbers." Sexually transmitted diseases (STDs), and in particular genital ulcer disease, the incidence of which is increased by multipartnering and unprotected sex, are known to be important risk factors in HIV transmission with a total of 197,162 episodes reported nationwide by the second quarter of 1994 (NACP, 1994).

Despite the fact that approximately 73% of the population in Zimbabwe live in the rural areas (United Nations Children Fund, 1994), few planned AIDS prevention interventions have been carried out in rural workplace communities (NACP, 1994). Surveys conducted in commercial farming communities at two time intervals (Chinemana, 1991; Laver, 1993) show that knowledge about transmission of the disease is limited among farm workers; there is still an unmet demand for information; and condoms, which are widely promoted for "safer

sex," are unavailable. A recent survey by the NACP (1994) reveals that national campaign literature such as posters and pamphlets has failed to reach disadvantaged rural communities at district and community level. The didactic content of print media also shows that the needs of illiterate communities have not been prioritized by the service providers in the AIDS sector.

Of particular concern in this respect is the commercial farming sector of Zimbabwe where approximately 4,600 landowners (Frazer-Mackenzie, 1992) employ some 270,000 farm workers or 17% of the total workforce. In the face of mounting concern about the growing prevalence of HIV infection in farm worker communities, the absence of planned AIDS prevention interventions is noticeable. Epidemiological data from one farming area shows, for example, that antenatal clients ($N = 287$) living on commercial farms and presenting at local health centers showed a seroprevalence of 11.5% to 19.9% (De May, Hukuimwe, Matsitukwa, Makasa, & De Colombani, 1992). In a further study in the same farming district 25.9% ($N = 197$) antenatal mothers tested HIV positive, and it was shown that between 35.7% and 49.2% of STD patients ($N = 205$) were HIV positive (De May et al., 1992). Data from catchment clinics in the same area showed 24,371 reported episodes of STDs in the second quarter of 1994 (NACP, 1994).

AIM OF THE STUDY

We present observations and findings from a survey that was carried out in a sample of 770 farm workers randomly selected from 17 commercial farms in the Zvimba commercial farming area in the Mashonaland West Province of Zimbabwe. The aim of the study was to examine factors that affect the interpretation of HIV and AIDS by farm workers in marginalized communities in Zimbabwe. This information can be used as the basis for developing an intervention that will promote preventive behavior with respect to HIV and AIDS in these communities.

Our findings were viewed through a combination of behavioral models which integrated the health belief model (HBM) as described by Janz and Bekker (1984) and the attitudes, subjective norms, and self-efficacy expectations model, also called the ASE model, as described by De Vries, Dijkstra, & Kuhlman (1988). While the HBM provided a framework for understanding the existence of lay beliefs among farm workers about the perceived threat of AIDS (i.e., where a combination of perceived susceptibility and perceived severity are labeled as perceived threat [Glanz, Lewis, & Rimmer, 1990, p. 43] and perceived benefits and barriers to condom usage by men), the ASE model made a number of contributions by explaining health-related behaviors not included in the HBM. The most important of these is the explicit introduction of self-efficacy, which was used in this study to explain the judgment by women of how able they felt to "execute courses of action required to deal with prospective situations" (Bandura, 1986) such as unprotected sex. Attention was paid to the measurement of attitudes by men toward certain behaviors such as multipartnering and also to the effect of peer influence on behavior. Also examined were knowledge and the effect of sociodemographic variables, particularly literacy, educational attainment, age, and the social environment of the farm worker community, all of which were believed to affect individual's perception of AIDS and indirectly influence behavior.

METHOD

THE STUDY SITE

Our study took place in the Zvimba District of Mashonaland West Province of Zimbabwe. The district is situated 100 km northeast of Harare and has a population of 1,116,928 people or approximately 10.7% of the total population of Zimbabwe (CSO, 1992). We selected the Zvimba District because it represents one of the most important commercial farming areas in Zimbabwe. The district also had a good indication of probable success for the intervention planned for the next phase.

In Zvimba there are approximately 450 large-scale commercial farms where hundreds of farmworkers are employed full time or seasonally. The main crops grown in the area of tobacco, wheat, maize and legumes; banana plantations are found in the northern part of the district.

In theory, the first point of referral for health problems on commercial farms is the farm health worker; this is constrained in practice through inadequate training and a shortage of basic drugs. The area has six health centers, including one district hospital, and government clinics offer primary health care free of charge to persons earning less than Z \$400 (U.S. \$50) per month. Access by farm workers is determined by distance and cost of transportation. Traditional healers who live and work in the farming area provide alternate health care to farm workers and play an important role in managing a range of illnesses, particularly during the busiest periods of farming activity when access to clinics is limited.

THE STUDY SAMPLE

A total of 770 farm workers (382 men and 388 women) from 17 randomly selected commercial farms in Zvimba participated in the survey. Participation in the study was voluntary. Although there was 100% participation, some respondents declined to respond to some questions. Selection of farm workers was determined with the aid of a numbered employment register and a random table. Only full-time permanent-resident farm workers were included in the sample; we excluded seasonal workers because they are transitory and would not have been representative of the permanent farm worker community. To ensure that women would have equal representation in the sample, we interviewed the wives of men randomly selected from the employment register. Slightly more women (1.0%) than men were interviewed; this was because widows ($N = 7$) were also included. The sample drawn from each farm was proportional to the size of the full-time labor force employed on that farm.

PROCEDURES

Most of the study sample was functionally illiterate. This had two important implications: first, each respondent had to be personally interviewed, and, second, we limited the number of questions so that respondents did not easily tire. We trained five Shona-speaking research assistants (two female nurses and three male environmental health workers) already familiar to the farming community to carry out the interviews. Each interview, which was conducted in

the vernacular language, took about 20 minutes to complete. To ensure open disclosure during the interview, female interviewers interviewed female respondents. In addition to conducting the interview in a comfortable, secluded place to avoid onlookers, we also offered respondents the opportunity of indicating their response to sensitive questions using a "nonverbal" technique. This was achieved by asking respondents to rest a stone on or point to a color-coded board where the color green denoted the response "I agree," orange indicated "not sure," and red indicated "disagree."

MEASURES

Informal discussions with key informants such as farm health workers on each of the 17 farms yielded information pertaining to the social environment of the farm workers. In particular, we inquired about social networks operating within the community, availability of recreational facilities, condom availability, and exposure to AIDS education activities. A pretested questionnaire was used to collect the quantitative data for the study. The items of interest for the present discussion are described below.

Sociodemographic Characteristics of Farm Workers

The sociodemographic characteristics of the farm workers who participated in the study were measured by six questions regarding age, educational attainment, wage, nationality, marital status, and religious affiliation.

Attendance at AIDS Education Activities, Perceived Understanding, and Instrumental Knowledge of AIDS

Attendance at AIDS education activities was measured by one statement: "I have attended some/no AIDS education activities on this farm." This was followed by a question that invited respondents to mention the kind of activities attended (drama, talks, video, etc.). One item measured perceived level of understanding of HIV and AIDS: "At this time I feel I know a lot/something/very little about AIDS." Two items measured instrumental knowledge of AIDS on a 3-point scale of agree, not sure, or disagree: "Mosquitoes spread AIDS" and "The chances of getting AIDS are greater if one has a sexually transmitted disease."

Beliefs About Infection

Four items measured lay beliefs about AIDS on a 3-point scale of agree, not sure, or disagree; each item was designed to measure the existence of exogenous beliefs which were thought to influence perceptions of vulnerability to infection in illiterate farm worker communities. These included: "Many people on our farm believe AIDS is a result of our ancestors' displeasure"; "Many people on this farm believe AIDS to be an old disease"; "People think that AIDS is a disease of poor people"; and "Getting AIDS is a matter of bad luck."

Perception of Risk

The dimension of perceived susceptibility as it refers to one's subjective perception of the risk of contracting HIV was measured by the following item: "At this time I am at risk/at some risk/at no risk of getting AIDS."

Peer Influence

Two items measured the effect of peer influence on men and women on a 3-point scale of agree, not sure, or disagree. These were: "People will only change their behaviour when a close friend or relative dies of AIDS" and "People will find it easier to change their sexual behaviour if others decide to do with same."

Condom Use and Attitudes to Multipartnering Among Men

Condom use by men was measured by two items: "I use condoms every time I have sex/for casual sex only/never use condoms at all," followed by "Using condoms affects my sexual pleasure." Barriers to use were measured on a 3-point scale of agree, not sure, or disagree. Attitudes by men to multipartnering were measured on a 3-point scale of agree, not sure, or disagree by the following items: "It is true that most men expect to have more than one partner these days" and "Most men expect to get STD sooner or later."

Self-Efficacy in Women

Self-efficacy, or "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 79), was measured by four items in women only: "Even if I want, I have no control over my sex life"; "There is nothing I can do to prevent myself from getting AIDS"; "I know that my partner has other partners"; "Most married women expect their husbands to have other partners." These items were measured on a 3-point scale of agree, not sure, or disagree.

DATA ANALYSIS

Data were analyzed using Epi-info Version 5. The variables, which measured instrumental knowledge, lay beliefs, peer influence, and self-efficacy, were coded according to the scale of 1 = agree, 2 = not sure, and 3 = disagree. A scale was also used to interpret the results of the analysis of condom usage, where 1 = always use condoms, 2 = use condoms only with girlfriends, and 3 = never use condoms. Similarly, risk perception was measured on a scale with 1 = "I am at risk of getting AIDS"; 2 = "I am at some risk of getting AIDS," and 3 = "I am at no risk of getting AIDS." Perceived levels of understanding about AIDS was measured on the scale where 1 = "I know a lot about AIDS," 2 = "I know something about AIDS," and 3 = "I know very little about AIDS." The data were coded in such a way to enable correct interpretation of results. Age was categorized in two groups, <35 and >35. No other categories were included because this would have made the numbers too small and the analysis

less meaningful. Frequency distributions were used to describe demographic variables. The analysis of variance provided the *t* test, when comparing two means, the *F* statistic for comparison of more than two means and the *p* value for all variables. Where the Bartlett's test for homogeneity of variance showed the samples to be different, the Kruskal-Wallis one-way analysis of variance (equivalent to χ^2) provided the statistic and the *p* value. The significance of the interactions was examined through the *p* values at the 99.9% ($p < .001$), 99% ($p < .01$) and 95% ($p < .05$) levels of confidence.

RESULTS

SOCIODEMOGRAPHIC CHARACTERISTICS OF FARM WORKERS

Table 1 presents the demographic characteristics of the sample. As the study area is situated in close proximity to countries that border Zimbabwe in the northwest, we anticipated that significantly more non-Zimbabweans would be represented in our sample. Our discussions in the community revealed, however, that original migrant workers on commercial farms have now been replaced by second- or third-generation descendants and that seasonal workers, who were excluded from our sample, were more likely to be non-Zimbabwean. A slightly higher percentage of males (10.1%) versus females (7.1%) were foreigners. The mean wage earned was Z \$194. (U.S. \$24) per month with a range of Z \$77 (U.S. \$9) to Z \$1,800 (U.S. \$220). Women dominated the lowest wage categories. There was a significant difference ($\chi^2 = 72.35$; $p < .001$) with

Table 1. Demographic Characteristics of Farm Workers

Demographic Profile	Male		Female		N
	N	%	N	%	
Gender	382	(49.6)	388	(50.5)	770
Marital status					
Married	320	(83.8)	318	(82.0)	756
Unmarried/widow/widower/divorced	50	(13.1)	59	(15.2)	
Nationality					
Zimbabwean	337	(88.2)	355	(91.5)	764
Malawian	14	(3.7)	8	(2.1)	(99.2)
Zambian	8	(2.1)	8	(2.1)	
Mozambique	15	(3.9)	11	(2.8)	
Other	1	(0.3)	—		
Age					
Range	17-60		16-53		
Mean	32.6		30.2		
SD	8.4		7.7		
<35 years	239	(62.6)	279	(71.9)	765
>36 years	141	(36.9)	106	(27.3)	(99.4)
Education					
No education*	83	(21.7)	200	(51.5)	770
1-7 years	207	(54.2)	166	(42.8)	
8-11 years	67	(17.5)	18	(4.6)	
>12 years	25	(6.5)	4	(1.0)	

Note. Numbers vary because of missing data.

* $\chi^2 = 72.35$, $p = < .001$.

respect to sex and education where significantly more females ($N = 200$) having received no formal education. A statistically significant association was found between age and education ($p < .001$) where more younger men (90.8%) were educated compared with older men (58.2%). Among educated women, the majority (59.1%) were under the age of 35.

THE FARM WORKER ENVIRONMENT

Permanent farm workers in our study are housed as family units within "compounds." Dwellings were made of brick or of mud and thatch, and although minimum environmental standards have been recommended by the ministry of health we noted that some farm compounds still lack clean water supplies and adequate sanitation facilities. Seasonal peaks in ill health, and particularly childhood diarrhea (October through February), sexually transmitted infections (August through December), and upper respiratory tract infections (May through August), were recorded in the district during 1993.

All 17 farms had a beer hall, which, apart from football, was the focal point for recreation; 3 farms had a public radio; only 1 farm had a public television set. Free primary school education up to Grade 7 is available for children of dependents on 11 farms in our study. Where schools were not available, children attended school on neighboring farms.

SOCIAL NETWORKS OPERATING WITHIN THE COMMUNITY

Many commercial farms are isolated from large towns by long distance and a poor system of public transportation. The workplace provides an environment of "shared" identity; it is a "community" where men and women not only work together but live and spend recreation time together as well. However, our findings also reveal that because the population in most commercial farm compounds in our study were characterized by seasonal and permanent workers, the community does not necessarily function as an interdependent group. Decision making becomes diffuse. Discussions with members of different farm communities revealed that seasonal workers are particularly hard to reach and difficult to influence. Additionally, their transitory status tends to reinforce not only their marginalization but also their "right" to behave independently of community norms. Seasonal workers are also perceived to attract prostitution on farms, particularly on paydays.

The "welfare" of farm workers is generally the concern of the farm owner who is the reference point for most major decisions concerning the workforce. Collective action in farm worker communities is rare because of a lack of leadership and organizational skills. Our study revealed, for example, that although the workers' committees that were set up on all the farms in our study tend to provide a useful reference point for the farm owners, they lack the power to bargain or reach decisions. A paternalistic approach to decision making is therefore still prevalent in farm worker communities where people lack tenure and a nonparticipatory environment prevails.

Social groupings tend to mobilize around interests such as football, the church, handicrafts, and, on some farms, burial societies; we failed to locate any community initiatives that targeted health as the central issue and none that had evolved in response to the AIDS epidemic.

Our observations of high-access areas such as beer halls, schools, and community centers revealed the presence of only two outdated AIDS posters on 17 farms; no leaflets or other sources of information were visible or available. Radios account for the most common source of information in farm communities; however, not all households have radios. Newspapers provide a source of information mainly for literate men, but access is limited and supplies are irregular. Evidence of local initiatives in AIDS prevention in the farm communities in the study were confined to talks by farm owners.

ATTENDANCE AT AIDS EDUCATION ACTIVITIES, PERCEIVED UNDERSTANDING & KNOWLEDGE OF AIDS

Although there was a clear expectation by 93% of respondents that the farm health worker was the most appropriate person to receive training and carry out AIDS prevention activities in the farm worker community, our study revealed that none of the farm health workers trained under the Ministry of Health scheme in Zvimba District ($N = 250$) had received comprehensive training in AIDS prevention.

Our findings showed no association between sex and attendance at AIDS education activities. However, a close association was found with respect to education and nonattendance, with significantly ($p < .01$) more uneducated males (91.5%) not having attended any AIDS education activities (Table 2). A trend toward an association ($p = .085$) was also found among uneducated females, with 86.6% having not attended any AIDS prevention activities. Drama accounted for 5% of the activities attended; talks, films, and visits by the outreach team accounted for 12%.

No significant differences were found among our respondents with respect to gender or education and perceived levels of understanding about AIDS. It was noted, however, that a large percentage of males (82.6%) and females (83.8%) agreed with the statement "At this time I feel I know nothing about AIDS."

Selected items of knowledge measured unproven means of transmission (mosquitoes) and a known route of transmission through STD infection. Our results showed a significant association ($p < .01$) between sex and the statement "Mosquitoes spread AIDS" where more males (47.6%) than females (32.8%) incorrectly agreed (Table 2). No interaction was recorded among males or females with respect to education or age with respect to this item.

A strong association ($p < .001$) was found with respect to gender and the statement "The chances of getting AIDS are greater if one already has an STD," with significantly more males (76.6%) in agreement when compared with females (56.4%). We also found a strong correlation with education, where significantly more educated males (81.6%) agreed with this statement ($p < .001$). A significant association ($p < .05$) was also recorded among educated females with 64.9% in agreement with this statement (see Table 2).

With respect to age, a trend ($p = .063$) was observed with younger females (61.6%) agreeing with the statement; no significant differences in age were recorded among men.

BELIEFS ABOUT INFECTION

Four items were used to measure lay beliefs about AIDS. With respect to sex, our results showed a significant association ($p < .01$), where 88.4% males

disagreed with the statement "AIDS is a disease of the poor" as opposed to 79.4% of the females. No further differences were observed on the remaining items with regard to sex.

When education was adjusted for sex on all items, it was found to significantly influence responses in respect of three items which tested beliefs. On the first item, "AIDS is a result of our ancestors' displeasure," 79.3% of the educated males disagreed ($p < .001$) and a trend ($p = .071$) was observed among educated females, where 72.3% disagreed on the same item (see Table 2).

With respect to the next item, "AIDS is a disease of the poor," a highly significant result was recorded among educated males ($p < .001$) and females ($p < .001$), where more educated participants showed disagreement with the statement. With respect to the third item, "Getting AIDS is a matter of bad luck," education was found to significantly affect responses by males ($p < .05$), with 82.4% of educated males and 88% of educated females in disagreement ($p < .001$) (see Table 2).

When age and gender were considered, we found that significantly more younger men (81.9%) disagreed ($p < .001$) with the statement "AIDS is a result of our ancestors' displeasure" than older men (61%), whereas no significant differences were recorded among females. Significantly ($p < .01$) more younger men (92.0%) compared with older men (82%), and significantly ($p < .01$) more younger females (83.2%) compared with older females (68.9%), disagreed with the statement "AIDS is a disease of the poor." Age also had a significant effect with respect to the item "Getting AIDS is a matter of bad luck," where 84.7% younger males ($p < .01$) disagreed with the statement compared with 70.7% of the older males. A trend was observed in females ($p = .07$) with more women under 35 years (82.8%) in disagreement with this statement.

PERCEPTION OF RISK

No significant differences were found when gender, age, and education were examined against the dimension of perceived susceptibility as it refers to one's subjective perception of the risk of contracting HIV, as measured by the item "I feel at great, some or no risk of getting HIV." Our study revealed, however (Table 3), that there was a significant correlation between perceived risk and self-efficacy in women; these results are reported in a subsequent section. Among men, a significant association ($p < .01$) was found between risk perception and condom use (Table 4), with those men who "always use condoms" perceiving themselves to be at greatest risk of HIV infection.

PEER INFLUENCE

Two items were used to measure the effect of peer influence on males and females. Gender was found to significantly influence responses with respect to the item "People will only change their ways when a close friend or relative dies of AIDS" (see Table 2), where 66.4% males agreed with the statement as opposed to 54.9% females in agreement ($p < .01$). Education was not found to significantly influence our results with respect to this item.

The effect of gender was shown to have a significant influence ($p < .01$) with respect to responses to the statement "People will find it easier to change

Table 2. Variables by Gender and Education

Variable	Gender			Education by Gender					
			<i>p</i> value	Male			Female		
	Male (382)	Female (388)		Some (299)	None (83)	<i>p</i> value	Some (188)	None (200)	<i>p</i> value
AIDS attendance									
Attended no AIDS activities on farm	(376) 81.6%	(379) 83.4%	<i>ns</i>	(294) 78.9%	(82) 91.5%	<.01	(185) 80.0%	(194) 86.6%	<i>ns</i>
Perceived levels of understanding									
I feel I know nothing about AIDS	(381) 82.6%	(388) 83.8%	<i>ns</i>	(298) 81.8%	(83) 83.1%	<i>ns</i>	(188) 80.9%	(200) 86.5%	<i>ns</i>
Instrumental knowledge									
Agree that mosquitoes spread AIDS	(379) 47.6%	(385) 32.8%	<.01	(297) 48.5%	(82) 46.3%	<i>ns</i>	(187) 34.2%	(198) 31.3%	<i>ns</i>
Agree that chances of getting AIDS are greater if one has an STD	(381) 76.6%	(388) 56.4%	<.001	(299) 81.6%	(82) 58.5%	<.001	(188) 64.9%	(200) 48.5%	<.05
Beliefs about infection									
Disagree that AIDS is the result of our ancestors' displeasure	(381) 74.5%	(388) 67.5%	<i>ns</i>	(299) 79.3%	(82) 57.3%	<.001	(188) 72.3%	(200) 63.0%	.071
Disagree that AIDS is an old disease	(380) 68.7%	(388) 68.3%	<i>ns</i>	(298) 67.8%	(82) 72.0%	<i>ns</i>	(188) 71.3%	(200) 65.5%	<i>ns</i>

Disagree that AIDS is a disease of the poor	(378) 88.4%	(388) 79.4%	< .01	(298) 91.6%	(81) 76.5%	< .001	(188) 72.3%	(200) 63.0%	< .001
Disagree that getting AIDS is a matter of bad luck	(377) 79.3%	(378) 80.2%	ns	(295) 82.4%	(82) 68.3%	< .05	(183) 88%	(195) 72.8%	< .001
Perception of risk									
I am at great risk of getting AIDS	(381) 20.2%	(385) 20.2%	ns	(299) 19.1%	(83) 24.1%	ns	(187) 20.3%	(198) 20.2%	ns
Peer influence									
Agree that people will only change their ways when a close friend or relative dies of AIDS	(381) 66.4%	(388) 54.9%	< .01	(299) 68.9%	(82) 57.3%	ns	(188) 57.4%	(200) 52.4%	ns
Agree that people will find it easier to change their ways if their friends decide to do the same	(381) 57.7%	(387) 47.0%	< .01	(299) 61.5%	(82) 43.9%	< .075	(187) 49.7%	(200) 44.5%	ns
Condom use among men									
Disagree that using condoms affects sexual pleasure				(294) 55.1%	(79) 36.7%	< .05			
Self-efficacy in women									
Agree that even if I wanted to I have no control over my sex life							(183) 56.3%	(198) 71.7%	< .01
Agree that there is nothing I can do to prevent myself from getting AIDS							(186) 57.5%	(195) 67.2%	.059

Note. Values for (N) differ because of missing data.

Table 3. Self-Efficacy by Risk Perception (Women Only)

Variable	Great Risk (%) (N = 77)	Some Risk (%) (N = 160)	No Risk (%) (N = 143)	p Value
Even if I wanted I have no control over my sex life.				
Agree	47.3	75.0	60.6	$p < .001$
Not sure	0.0	0.6	2.8	
Disagree	52.6	24.4	36.6	
There is nothing I can do to prevent getting HIV.				
Agree	57.3	71.9	53.8	$p < .01$
Not sure	2.7	2.5	1.4	
Disagree	40.0	25.6	44.8	
I know that my partner has other sexual partners.				
Agree	74.0	40.7	51.4	$p < .01$
Not sure	14.3	44.4	30.7	
Disagree	11.7	14.8	17.9	
Most married women expect their husbands to have other sexual partners.				
Agree	71.4	51.9	43.4	$p < .001$
Not sure	5.2	8.0	7.0	
Disagree	23.4	40.1	49.6	

their ways if their friends agree to do the same," where more males (57.7%) were in agreement compared with females (47%).

A trend toward significance ($p = .075$) was observed with respect to education where more educated males (61.5%) agreed with the same statement than males with little or no education (43.9%). However, education was not found to have an effect with respect to females.

CONDOM USE AMONG MEN AND ATTITUDES TO SEX AND MULTIPARTNERING

Condom use among men was categorized "never use condoms," "use condoms with girlfriends only," and "always use condoms" and measured against age, education, and perception of risk (Table 3). Our results showed that older men ($p < .01$) and less educated men ($p < .01$) tend to "never use condoms." Those men who perceive themselves to be "at great risk" of getting

Table 4. Condom Use by Demographics and Selected Variables (Men Only)

Variable	Always Use Condoms	Only Use Condoms With Girlfriends	Never Use Condoms	Test Statistic p Value
Age (Years)	31.6	30.8	34.4	$p < .01$
Education (Years)	5.9	5.9	4.9	
Perception of Risk	1.8	2.3	2.3	$p < .01$

Note. No other associations were found when condom use was measured against all the other variables.

HIV expressed that they "always use condoms." More educated men (55.1%) disagreed ($p < .05$) with the statement "Condoms affect my sexual pleasure." We observed that, among men, 82.2% agreed with the statement that "men expect to get an STD sooner or later," and 77.4% agreed with the statement that "most men have more than one partner these days."

SELF-EFFICACY

Self-efficacy was measured by four items. When education was examined against the statement "Even if I wanted, I have no control over my sex life," there was a significant correlation ($p < .01$), where uneducated women were more in agreement (see Table 2). Significantly ($p < .01$) more older women agreed with the statement. A trend toward significance ($p = .059$) was found among uneducated women who agreed with the statement "There is nothing I can do to prevent myself from getting AIDS." Significantly ($p < .05$) more older women (72.3%) agreed with this statement.

A highly significant correlation ($p < .001$) was found between those women who agreed (75%) with the statement "Even if I wanted to, I have no control over my sex life" and felt that they were at "some risk of infection with HIV" (see Table 4). Similarly, 71.9% of women who agreed with the statement "There is nothing I can do to prevent myself getting HIV" also felt "at some risk of getting HIV" ($p < .01$). A significant association ($p < .01$) was found among those women who agreed with the statement (74.0%) "I know my partner has other partners" and also felt themselves "to be at great risk." Women who agreed that "most married women expect their husbands to have other partners" also felt they were "at great risk" ($p < .001$).

DISCUSSION

There is little evidence from our study to suggest that the impact of the "community approach," widely promoted in Zimbabwe AIDS prevention programs, has strengthened the capacity of poor rural farm worker communities to respond to the epidemic. In reality, decisions which require much wider reference to the community are made by landowners who show a willingness to support AIDS prevention activities providing they do not take up too much time. Our study showed that farm worker communities are loosely organized and have limited decision-making power. Seasonal workers who characterize most farm worker communities, are under no obligation to comply with community norms. They play no role in decision making and are therefore unlikely to actively participate in a community initiative that promotes the prevention of STDs.

Although these historical trends may be difficult for a community level intervention to influence, they should not be ignored. In order for AIDS prevention programs to be "owned" by farm worker communities, the capacity for participation by the workers must be strengthened. This implies a devolution of responsibility for AIDS education and condom distribution and those in authority to change agents within the community and that the nature of the intervention facilitates debate and decision making.

INSTRUMENTAL KNOWLEDGE OF HIV AND AIDS

In sharp contrast with reports that levels of AIDS awareness are high in urban communities of Zimbabwe, our results show that farm worker communities, which are characterized by fewer educated people, particularly educated women, have had little exposure to AIDS prevention activities. There was high agreement among farm workers in our study that they lack information about AIDS. We found that fewer men attend education activities, and on selected items of knowledge, males showed less correct information about transmission. However, we also found that educated men and educated women showed an ability to understand the link between STDs and HIV transmission. This was possibly due to personal experience. Those with STDs would be likely to visit health centers where staff are trained to reinforce the dangers of repeated episodes of an STD.

Our study also showed that beliefs that AIDS is brought about by luck or divine or ancestral retribution are not widely upheld by younger educated rural farm workers. We found that older uneducated men and women in these communities were more likely to agree with the idea that factors exogenous to the individual such the belief that "AIDS is an old disease" or is a result of "luck, ancestral spirits, or poor people." Outsiders may be tempted to see such local beliefs as haphazard and illogical, but Mutambirwa (1991) stressed that, in fact, these beliefs often represent a coherent belief system which is defined from a local point of view. In as much as it is known that lay beliefs can act as powerful filters of AIDS prevention messages (Homans, Aggleton, & Warwick, 1987), interventionists must derive their messages from a greater understanding of the sociocultural context influencing AIDS-related beliefs and how people interpret the epidemic. Interventions must, therefore, aim to legitimize discussion around these issues and facilitate debate in a way that demonstrates that an understanding has been reached concerning the way that "people are socially constructed" (Taylor, 1990, p. 1023).

SOCIAL NORMS AND SUSCEPTIBILITY TO HIV INFECTION

Our study revealed a significant interaction between perceived risk to HIV infection and low self-efficacy in uneducated women who articulated helplessness and an inability to protect themselves from HIV infection or to exercise control over their sexual lives. Although this may be seen as an inability of women to negotiate protective relationships with men, the powerlessness of women in farm communities must be observed within the larger context of economic insecurity whereby women place higher value in securing food, shelter, and protection for the children than on asserting themselves sexually. Refusal to engage in sexual relations risks anger, outrage, marginalization, eviction, and survival in a harsh economic environment. As pointed out by other researchers (Airhihenbuwa et al., 1992; Bassett & Mhloyi, 1991), women who demand protected sex also risk suspicion by the implication that they are permissive. These actions may in no way be related to ignorance of the facts, which is often suggested; there are more critical factors that guide behavior. Among more educated men, we found acknowledgment about multipartnering and an acceptance that infection with an STD is something to "expect sooner or later." There was also agreement among men that changes in behavior were more likely to come about as a result of changes in normative values. Condom

use, which is probably the most effective available barrier against STD transmission, was shown to be more likely among younger educated men. However, in a community that is dominated by uneducated, impoverished people with limited access to free supplies, the failure to use condoms may have more to do with access and economics than to a lack of knowledge.

This configuration of responses would seem to indicate that social acceptance of high-risk behavior will continue in impoverished farm communities until there is a change of social norms within dominant reference groups, which are more likely, at the outset, to be men. These changes will be closely linked to the socioeconomic situation of the workers and their perceptions of the advantages of change. To these barriers, we must add the influence of seasonal workers, whose transience excuses them from a personal commitment to change. Although a peer-directed approach to behavior change, which embraces free condom distribution, is likely to act as a more powerful force in shaping behavior than one that attempts to target the individual through fear induced messages, these issues must be considered.

CONCLUSIONS

Historically, most AIDS prevention programs in Zimbabwe begin and end with efforts to persuade people to understand or "do" something. Little is known about the process of interventions in marginalized rural communities, and few, if any, measure impact. There is little reason to believe that the inflexible nature of traditional AIDS education programs that rely heavily on print media as the panacea for change will equip these communities to organize and respond to the epidemic.

The receptivity of marginalized communities to AIDS prevention interventions is often determined by factors that are beyond the scope of even the most innovative program. Our findings suggest, however, that there is a need to develop a comprehensive AIDS prevention intervention for farm worker communities taking into account a long history of nonparticipation in community issues. The intervention should also use a multilevel, multicomponent approach to raise dialogue and address a number of interacting factors that predispose misunderstanding and negative attitudes to women and sexuality. The intervention would also need to address the wide range of powerful social forces arrayed against behavior change in communities that are educationally and economically impoverished. Although the farm health worker is the acknowledged reference point for primary health care on commercial farms, the intervention needs to raise her self-esteem and equip her with skills and resources to become an effective agent of change. However, this is unlikely to occur unless the linkage system between the farm owner and the community is strengthened and a better understanding of the need to equip the community with organizational and decision making abilities is reached.

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