

# Farmer Input Support Programme And The Impact Of HIV And AIDS On Maize Production In Kaputa District, Zambia

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**Abstract:-** This study was to understand how the Farmer Input Support Programme was assisting HIV and AIDS affected households in maize production and to identify the key factors hindering them from accessing the maize inputs in Kaputa district. The study focused on the farmer input support programme, the impact of AIDS on livelihood assets, the current maize production and household coping mechanisms. A case study among 20 households was conducted. The Farmer Input Support Programme had no effect on the HIV and AIDS affected households. Increased expenditure due to HIV and AIDS related illness and death, stigma and reduced labour due to loss of economically active adults were some of the factors hindering accessibility to the maize inputs. The households also lost productive assets to meet medical expenses and food requirements after the impact of the pandemic. The impact of AIDS also increased the workload of women who were already burdened with maize production by adding on the role of care giving. It was recommended to strengthen local seed systems that support low cost maize seed out-grower schemes, target affected households with alternative low cost soil fertility technologies to substitute fertilisers, form more nutritious and less labour intensive input packs and breed earlier maturing varieties to reduce their time spent in the fields.

**Keywords:** Farmer Input Support Programme, HIV and AIDS, livelihood assets, Zambia

## INTRODUCTION

The AIDS pandemic has not spared Zambia which has an HIV prevalence rate of 13.5% (UNAIDS global report, 2010). The country continues to experience a mature HIV epidemic with adult prevalence remaining high at 16%. Furthermore, the country is deeply affected and continues to face serious challenges in addressing the epidemic, including gender inequality and other drivers that enhance vulnerability. In particular, women are more vulnerable to HIV infection than men. An estimated 16.1% of females are HIV positive, compared to 12.3% of males, and prevalence in women aged 15–24 years (8.8%) is double that of men (4.4%) (CSO, 2009). Maize is the major staple food crop in Zambia and represents the largest single source of calories (JAICAF, 2008). It is predominant in terms of both production and consumption. Maize accounts for 60% of the national calorie consumption and serves as a staple food crop in both urban and most rural areas of the country (Dorosh et al, 2009). Most of this maize is grown by small scale farmers. The Ministry of Agriculture and Livestock (MAL) works with small scale farmers and provides technical advice on maize production in addition to other crops. Maize production is also crucial for small scale farmers to secure subsistence food and obtain cash income by selling it (Beaver et al, 2007). In order to ensure food security among the economically vulnerable households, the Zambian Government launched a Fertiliser Support Program (FSP) in 2002; now called Farmer Input Support Program (FISP) which was aimed at supporting resource constrained agricultural households to access subsidised maize inputs, seed and fertiliser in particular. However, there is no documentation on issues of FISP accessibility and how it is contributing to maize production and maize grain availability in these households. This information gap is critical for MAL to understand and address because maize is the staple food crop and its production is of high priority in terms of food availability among the economically vulnerable households. The objective of the study was to understand how FISP was assisting HIV and AIDS affected households in maize production and identify key factors hindering these households from accessing FISP so as to

make recommendations to the Ministry of Agriculture and Livestock pertaining to key factors that need to be taken into account as it designs input support programmes for the HIV and AIDS affected households aimed at increasing maize production.

## METHODOLOGY

### Study area

The study was conducted in Kaputa district which is located in Northern Province, Zambia. The staple crop grown is maize. FISP through MAL provides subsidised maize inputs to economically vulnerable households to ensure food availability. The area receives 1,200 mm or more of rainfall per annum and has soils that are highly leached with a low nutrient retention capacity (PaViDIA 2007). The district has a prevalence rate of 4.3% and approximately 2,092 people infected with HIV (epidemiological report, 2011).

### Selected households

Purposive sampling was done to select the respondents for reasons of comparison. Twenty in-depth interviews were conducted among two household categories: 10 with HIV and AIDS chronically ill and 10 with HIV and AIDS related deaths. Female headed and Male headed HIV and AIDS affected households were also taken into consideration. All the households interviewed were HIV and AIDS affected small scale farmers.

### Data collection

All households were visited and interviewed using a checklist. A research assistant was recruited by the researcher prior to data collection. The research assistant was there to navigate the researcher to the homes of the selected, introduce the researcher and occasionally translate what was being said.

### Data analysis

Data was clustered according to the two household categories. The sustainable livelihood framework was adapted for data analysis. The impacts of HIV and AIDS on maize production were analysed under the five livelihood

capitals. In the framework maize production was a livelihood strategy, FISP as a process and the livelihood outcomes were food security and income. These are shown in table 1. FISP was analysed by looking at accessibility and the key hindering factors through the livelihood capitals which were impacted by HIV and AIDS.

## RESULTS AND DISCUSSION

### Household characteristics

The findings indicated that those who suffered HIV and AIDS related deaths had more household members because they had to take care of the orphans of the deceased. Male headed households had more members and dependents as they usually had a source of income and it was easier for them to take care of extra people other than female headed households. This is illustrated in table 2.

### Vulnerability context

The study findings showed that HIV and AIDS had a major impact on the labour and income of households. The small scale farmers in Kaputa district rely on manual labour for their agricultural activities, specifically maize production in this study.

**Table 1: Sustainable Livelihood Framework**

Component	Aspects considered in data analysis
Vulnerability context	HIV and AIDS
Livelihood assets	Financial- cash at home, loans, savings, income sources, expenditure patterns and transfers in kind from friends and relatives. Social – gender, affiliation to cooperatives or farmer groups, caring for orphans and extended family networks. Human – household composition, household size, illness or death of household member and availability of labour. Natural – land (area under cultivation) Physical- agriculture and non-agriculture assets such as farming implements, furniture and clothes.
Transforming structures and processes	MAL FISP
Livelihood strategies	Agriculture (Maize production)
Livelihood outcomes	Food security and income

**Table 2: Household characteristics**

Household type	FHH (N=8)			MHH (N=12)		
	HH size	adults	Children	HH size	adults	Children
HIV and AIDS chronically ill (N=10)	7.3	2.0	5.3	7.7	2.1	5.6
HIV and AIDS related death (N=10)	7.8	1.4	6.4	10.2	1.8	8.4
<b>Total</b>	<b>7.6</b>	<b>1.7</b>	<b>5.9</b>	<b>9.0</b>	<b>2.0</b>	<b>7</b>

Morbidity and mortality related to HIV and AIDS reduced the labour quality and quantity as household members failed to do agricultural activities because of sickness or caring for the sick. The study indicated that for most of the affected households maize production had reduced substantially due to labour shortages caused by the impacts of the pandemic. This concurred with the ZDHS report (2007) which stated that 'labour shortages due to AIDS related illness and death is limiting the output of Zambian farmers'. The fact that HIV and AIDS reduced the economically active population made these households more vulnerable through loss of labour and income which led to food insecurity.

### Impact of HIV and AIDS on maize production

Maize production is dependent on the household status in terms of the SLF capital assets and as such the impacts were felt through these assets. Maize production requires money for the purchase of inputs and the findings of the study showed that the affected households were financially constrained due to HIV and AIDS related morbidity and mortality. Farrington and Saasa (2002) observed that most families exhausted their savings long before HIV infected members died thus having an effect on the poverty levels. They went on to note that illness and death of household members resulted in high medical costs and lower incomes which had an adverse effect on maize production.

### Impact of HIV and AIDS on livelihood assets Financial

The findings indicated that the HIV and AIDS affected households had difficulties saving money due to the high expenditure on medical and transport costs. The households with chronically ill members suffered most and had trouble recovering from the impact. The households with HIV and AIDS related deaths were reported to be recovering slowly. This disadvantaged the affected households from accessing maize inputs as they were expensive and not a priority. The MHH were seen to have some savings as they usually have a source of income

unlike the FHH who do not. It was also observed that they did not have collateral to access loans so they were forced to go to loan sharks. This is shown in table 3.

### Human

The findings from this research showed that the average household size was 8 and that the households interviewed ranged from 4 to 17 in size. These households had 1 to 3 adults while the rest were children most of whom were orphans or dependents. The average number of children per household was 6 and 13 (65%) among the 20 households were keeping orphans or dependents. The number of orphans and dependents had also increased due to deaths of parents. The households with HIV and AIDS related deaths had more children in their care as they were looking after orphans. It was observed that these orphans were being taken care of by relatives in most cases. HIV and AIDS therefore, is changing household compositions by being responsible for the death of parents and guardians, leaving young children to be taken in as orphans or dependents by relatives. The role of household head is also changing as the pandemic is leaving female headed and child headed households in its wake. The findings indicated that those who suffered HIV and AIDS related deaths had more household members because they had to take care of the orphans of the deceased. Male headed households had more members and dependents as they usually had a source of income and it was easier for them to take care of extra people other than female headed households. This research found that for withdrawal of children from school it was not girls first but usually the older ones regardless of sex.

### Social

The findings showed that with regard to social ties in the communities the biggest impact was stigma. It was observed that despite all the awareness campaigns and publicity on HIV and AIDS, there was still stigma in the communities. This was the cause of some households to leave cooperatives. The findings indicated that for those in cooperatives they usually could not find the time for cooperative activities. Extended family ties also played a major role as when in need they were ready to assist each other. The families assisted each other in various ways such as moving and living with the ill, having the ill move in with them, assisting the affected household with food or labour for farming and also through taking care of children who were left as dependents or orphans due to HIV and AIDS. The gender roles in maize production had also changed. Instead of men preparing the land and harvesting while the women plant and weed the maize. They were doing all the activities together as a result of loss of labour. The children were also involved in the planting and harvesting of maize. The women in most cases were looking after the sick, doing the household chores and taking care of the children and fields. In households where they had been bereaved, women took over the role of being the breadwinner and decision maker. From the study undertaken it was seen that the men on the other hand had also become care givers in instances where their wives were sick and there was no one to help them. The men were said to be in charge of things like generation of an income for school fees and maize inputs so when their

wives became sick they were also responsible for the day to day household expenses and making sure that things were in order at home.

**Table 3: Number of households with savings**

Household type	FHH	MHH	Total
HIV and AIDS chronically ill	0 (out of 3)	2 (out of 7)	2 (out of 10)
HIV and AIDS related death	2 (out of 5)	3 (out of 5)	5 (out of 10)
<b>Total</b>	<b>2 (out of 8)</b>	<b>5 (out of 12)</b>	<b>7 (out of 20)</b>

### Natural

All interviewed households indicated having access to land for cultivation. However, they had reduced the hectares being cultivated due to loss of labour or reduced time towards farming. In households that experienced an AIDS related death, some of the FHH had experienced loss of land after the death of their husbands.

### Physical

The AIDS pandemic has been the cause of asset depletion for many of the households interviewed in this study. Most of the households had to sell their agricultural and non-agricultural related physical assets in order to raise money to meet HIV and AIDS related expenditure. The findings showed that most of the households who had experienced HIV and AIDS related deaths were recovering and replacing assets which they had sold off. The households with chronically ill were still encountering medical costs so could not replace the assets as yet.

### Accessibility of maize inputs through FISP

The findings of this study showed that despite being members of cooperatives the HIV and AIDS affected households could not access maize inputs. Not because they did not want but because of the conditions attached to obtaining them. In order to access inputs through FISP, a household had to affiliate to a cooperative and the key conditions for accessing FISP inputs included the following, affiliation to an existing cooperative, annual subscriptions to cooperatives of K 20,000, K 50,000 cost per share annually, and also cost of fertiliser and seed pack of K 280,000. Therefore, these factors of finances and stigma were hindering HIV and AIDS affected households from accessing maize inputs through FISP. This is illustrated in table 4.

### Coping mechanisms

HIV and AIDS are having significant adverse effects on household composition, labour, and income. These in turn are having effects on the ability to produce food, schooling of children, cropping patterns, labour allocation, access to productive assets and services essential for household maintenance. Most of the households interviewed mentioned loss of labour and income due to the loss of the economically active adults. As a result the affected

households were obtaining low yields of maize and becoming food insecure before the next farming season. These households

**Table 4: Number of households accessing maize inputs through FISP**

Household type	FHH	MHH	Total
HIV and AIDS chronically ill	0 (out of 3)	2 (out of 7)	2 (out of 10)
HIV and AIDS related death	1 (out of 5)	3 (out of 5)	4 (out of 10)
<b>Total</b>	1 (out of 8)	5 (out of 12)	<b>6 (out of 20)</b>

were struggling to make ends meet through reallocation of labour, sale of physical assets, shifting from maize farming to non-farm activities and withdrawal of children from school to assist in looking after the sick. Table 5 shows a summary of the coping mechanisms compiled from the interviewees. Not all households are impacted the same by the epidemic. Some households have been impacted by HIV and AIDS and are resilient while others are still vulnerable and not coping very well especially after the death of the household head. However, Loevinsohn and Gillespie (2003) argued that the responses of households reflected that they were simply not coping. They added that distress sale of assets, long term impacts of withdrawing children from school and permanent impoverishment of households showed their response to the shock but they were not self-sufficient to recover from the shock. For this reason households were termed 'responding' and not 'coping'.

### Conclusion and recommendations

The AIDS pandemic is no longer only a health concern but it is a developmental concern. It has been proven to be a major threat to agricultural production and has suppressed development at household level especially when one considers the fact that, the vast majority of Zambia's poor live in rural areas and draw its livelihoods mainly from small scale farming. The assistance to HIV and AIDS affected households by FISP is limited. These households are not considered by the programme. The impact of HIV and AIDS on the livelihood assets which maize production is dependent on has made the problem worse. The pandemic has led to financial constraints and stigma which are hindering the affected households from accessing the subsidised maize inputs. Ministry of Agriculture and Livestock is recommended to target the economically vulnerable households that include the AIDS afflicted with alternative low-cost soil fertility enhancing technologies (green manure) that could be a substitute to mineral fertilisers in maize production. MAL should disseminate less labour demanding maize production innovations and technologies among the labour constrained AIDS affected households. The agricultural committees at district (District Agricultural Coordinating Committees) and community (Camp Agricultural Committees) level need to take into consideration having representation of the AIDS affected farmers to ensure that their concerns are heard and taken into account in the planning processes. MAL should

collaborate with other organisations such as seed companies so that the affected households are given inputs which can be paid for after harvest as they are financially constrained. Formation of input packs that consist of more nutritious and less labour intensive crops seeing as the HIV and AIDS affected households are in need of nutritious foods and incur loss of labour. Breeding of earlier maturing varieties to help the HIV and AIDS affected households spend minimal time in the fields weeding.

**Table 5: Summary of coping mechanisms**

Capital asset	Research factors	Effect of HIV and AIDS	Coping mechanisms
Financial	Cash Credit In kind	Loss of income Debt	Decrease in purchase of household essentials
			Decrease in purchase of maize inputs
			Withdrawal of children from school to engage in wage labour
			Remittances from relatives
			Borrowing of money from loan sharks
			Sale of physical assets
Social	Cooperative affiliation Gender roles Extended family	Stigma Time constraint Shortage of food	Reallocation of labour
			Decrease in number of meals in a day
			Eat low quality and less nutritious food
			Eating of wild vegetables
Human	Household composition Household size Labour availability	Loss of labour	Decrease in hectares cultivated
			Reallocation of labour
			Withdrawal of children from school to assist in caring for the sick
Natural	Land	Reduction in maize yields	Shift from maize to non-farm activities
Physical	Productive assets Amenities		Sale of assets

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