

# The Impacts of the HIV / AIDS Pandemic on Agriculture, Food Security and Rural Livelihoods in Zimbabwe

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**Abstract:** This paper discusses the impacts of the HIV/AIDS pandemic on agriculture, food security and rural livelihoods in Zimbabwe. It is based on research findings from a survey of secondary sources of data. The HIV/AIDS pandemic is significantly transforming the structure of rural families and communities in Zimbabwe. It is giving rise to single-parent, female and child headed households which have implications for agricultural planning. Agricultural production is central to the rural economy in Zimbabwe. Smallholder agriculture, at one time a strong and resilient backbone of Zimbabwe's national food security strategy, is under threat from the devastating effects of the HIV/AIDS epidemic. Impacts at household level include reduced income from agricultural production and non-agricultural activities, diversion of productive labour time from agriculture to caring for the sick in the family, and reallocation of cash resources from agriculture to meeting medical expenses. Redirecting of food reserves to funerals, withdrawal of children from school to reduce household costs and to replace the dwindling farm household labour, are yet other impacts. Agricultural extension services in Zimbabwe have also been hard hit by AIDS-related illnesses and deaths, making them less able to respond effectively to the changing needs of their target farmers. The impact of HIV/AIDS on agriculture directly affects food security, as it reduces food availability through falling production, loss of family labour, land and other resources, and loss of livestock, assets and implements. It also reduces access to food through declining income for food purchases. Livelihoods derived from natural resources management have also been impacted on by HIV/AIDS. The pandemic has reduced the numbers and capacity of qualified, willing, capable and productive people in the natural resources sector. This has negatively impacted the conservation, management and sustainable utilization of natural resources. In addition, the negative effects of the epidemic have been to accelerate the rate of extraction of forest products to meet the new and increased demands of those affected and infected by HIV/AIDS. Therefore, there is need to strengthen the health delivery system in Zimbabwe to cope with the increasing burden of HIV/AIDS and chronic illnesses. At the same time, it is important to capacitate Home-Based Care programmes in terms of the training of caregivers, equipping them with appropriate care facilities as well as linking them with the national health delivery system for follow-ups. Above all, it is necessary to intensify HIV/AIDS interventions at all levels in order to continue reducing the prevalence and incidence of infections and illnesses.

## 1. Introduction

The HIV/ AIDS epidemic has at first, perhaps inevitably, been perceived internationally as primarily a health problem (Jackson, 1994). Those outside the health sector considered its relevance to them as peripheral. However, as the magnitude of the problem has become clearer, so, too, has the recognition of how far-reaching and comprehensive will be its impact in the worst affected regions, particularly sub-Saharan Africa.

HIV/ AIDS is rapidly becoming a critical issue for development in Africa. There are several reasons why the spread of the pandemic is a critical development issue, with repercussions far beyond the health sector alone (Ainsworth, 1993). First, despite

the widespread use of anti-retroviral drugs (ARVs) to suppress the symptoms of the disease, there is little hope for an early vaccine, let alone cure, while it appears that almost all those who acquire HIV, will eventually progress to full-blown AIDS and die (Jackson, 1994). Second is the age range of those principally infected. Peak infections occur in women in their teens and early twenties, and in men in their twenties and early thirties. Thus peak HIV/ AID deaths occur in women in their twenties and in their thirties, and among adults in their prime and reproductive years. They are the people on whom the young, the old and the disabled depend, and they form the backbone of the nation's economy. Third, HIV affects all income and social groups, and both urban and rural populations (Jackson, 1994). Initially it predominates in the elite in many countries, but



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later it becomes a disease of the poor who are least able to protect themselves from infection (Panos, 1992). A vicious cycle is established, whereby the poorest sectors of society, and the poorest nations, are the most vulnerable to the epidemic and therefore suffer the worst consequences. This further impedes their development and increases their vulnerability.

The HIV and AIDS pandemic continues to have a devastating impact on the health, social and economic development of Zimbabwe. With the prevalence rate estimated at over 20% of Zimbabwe's total population of 12.5 million people, HIV and AIDS remains a major challenge to the country (MPSLSW, 2006). Consequently, the government has declared HIV a national disaster.

HIV/AIDS will have a multi-dimensional impact at both the macro and micro level because of its profound effect on labour and on family caretakers and providers (Jackson, 1994). Some of the sectors affected by the pandemic are health, welfare, education and training, employment, and last but by no means least, agriculture.

The effects of HIV/ AIDS within the rural economy may include redistribution of scarce resources with an increasing demand for expenditure on health and social services; a collapse of the educational system due to high morbidity and mortality rates amongst educators and learners; and younger and less experienced workers replacing older AIDS related casualties, causing reduction in productivity (Drimie, 2002; Sehgal, 1999). Employers are also likely to face increased labour costs because of low productivity, absenteeism, sick leave and other benefits (e.g. attending funerals), early retirement and additional training costs.

The HIV/ AIDS pandemic is significantly transforming the structure of rural families and communities in Zimbabwe. The transformation of the rural families into single parent female-headed families has important implications for agricultural planning. The death of young and middle-aged adults has left families without much remittance income, which traditionally has been the major source of agricultural finance in the communal areas (Mano & Matshe, 2006). The social cost of missing rural agricultural financial markets and of poor agricultural producer pricing policies is bound to rise to considerable heights in this era of HIV/ AIDS compared to the early 1980s.

## 2. Methodology

A multi-pronged approach was adopted to identify relevant literature. A web- and e-mail based search for documentation and a desktop review of printed literature was used to enable analysis of secondary

data on the impacts of the HIV and AIDS pandemic on the rural sector in Zimbabwe. Sources consulted included government and international reports, state and non-state agency development and response plans, public research organizations' reports, and academic and scientific literature.

## 3. Results and Discussion

### 3.1 Impacts of HIV/ AIDS on agricultural production

Agricultural production is often central to the rural economy. This form of production is usefully differentiated into the commercial farming sector, where the organization and running of a farm often approximates a business, and the subsistence sector. The subsistence sector is characterized by a close relation between the general activities of a household (e.g. child care and rearing, support relations between adult members, home maintenance and food processing) and the production of crops and care of animals (Barnett, 1999).

Smallholder agriculture, once a strong and resilient backbone of Zimbabwe's national food security strategy, is under serious threat from the devastation of the HIV and AIDS pandemic. The impact of HIV/ AIDS on agricultural production is difficult to measure, and will vary in different situations. However, studies have highlighted various impacts at household level. They include reduced income from agricultural production and non-agricultural work, diversion of productive labour time to caring for the sick in the family, and diversion of cash to medical expenses (palliative and searching for a cure) (Mano & Matshe, 2006). Redirection of food reserves to funerals, and withdrawal of children from school, both to reduce costs and to increase farm and household labour, are yet other impacts of the HIV and AIDS pandemic. The increasing economic burden on both the infected and the caregivers has led to changed patterns of consumption and production in households caring for orphans. A move to less labour-intensive crops as farmers die and less agricultural labour is available, and a shift away from crops requiring heavy and costly seasonal inputs, coupled with less intensive land cultivation and a narrower range of cropping as well as reduced areas under cultivation, have resulted in rapidly declining agricultural output from the rural sector. The resultant curtailment of subsistence activities, and reduced levels of cash cropping are leading to abject poverty and severe household malnutrition (Mano & Matshe, 2006; Barnett & Blaikie, 1992).

The Zimbabwe Poverty Assessment Study Survey (PASS) (2003) found that chronic illnesses, particularly HIV/ AIDS had the greatest impact on the agricultural sector, where most households experienced agriculture-related shocks (MPSLSW,

2006). These shocks included sale of assets (67%); agricultural labour shortages (39%); increased indebtedness (35%); and reduced area planted (30%). Other shocks included agricultural input shortages (30%); withdrawal of labour from agriculture to look after orphans (20%); withdrawing children from school due to shortage of school fees, to look after sick family members, or to do agricultural work (18%); and loss of employment (10%). In the rural land-use areas withdrawals of children from school were highest in the Small Scale Commercial Farming Areas (25%), and roughly equal but significant in each of the remaining three agricultural sub-sectors, namely Communal Areas (19%), Large Scale Commercial Farming Areas (19%), and Resettlement Areas (18%). In the predominantly rural provinces, Mashonaland West had the highest (25%) prevalence of withdrawals of children from school, and Matebeleland North had the lowest (13%) (MPSLSW, 2006).

Sale of assets has a depressing impact on agricultural production because there is a consistent, positively significant correlation between ownership of agricultural assets (e.g. tractors, ploughs, scotch-carts and wheelbarrows) and agricultural performance of households (MPSLSW, 2006). Among the most important reasons gathered in a recent nation-wide survey for not fully utilizing land in the agricultural sector in Zimbabwe, were shortage of ploughing implements (assets), labour constraints, shortage of agricultural inputs (e.g. seed and fertilizer), and illness. Full utilization of land in terms of both intensity of cultivation and size of land area cultivated both affect the level of agricultural output realized by households (PASS, 2003).

Haslwimmer (1996) has emphasized that the impact of HIV/ AIDS on crop production relates to a reduction in land use, a decline in crop yields and a decline in the range of crops grown, mainly with reference to subsistence agriculture. Reduction in land use occurs as a result of fewer family members being available to work in cultivated areas and due to poverty, resulting in malnutrition and leading to the inability of members of the household to perform agricultural work (Balyamujura et al., 2000). This in turn leads to less cash income for inputs such as seeds and fertilizer.

The HIV and AIDS pandemic poses labour constraints for agriculture in Zimbabwe because household labour is the most prevalent source of agricultural labour among rural households. Poorer households in particular, who make up the bulk of the rural populace, cannot afford the cost of hiring labour, hence they depend on household members for farm labour. As labour availability declines, families resort to less labour-intensive cropping and reduced

areas of cultivation (Jackson, 2002). Livestock management tends to become less competent, resulting in greater losses and sometimes to a switch to goats and chickens and fewer cattle. The passing on of traditional farming methods and skills declines, and along with it competence in farming, similar to the loss of institutional memory and experience in a formal enterprise.

Loss of employment reduces the amount of money available for purchase of agricultural inputs through deaths and illness as a result of reduced flows of wage and remittance incomes. The 2003 Zimbabwe Poverty Assessment Study Survey found that as much as 10% of agricultural households derive their inputs from remittances.

Mutangadura et al. (1999) bring together a range of research looking at the impacts of AIDS on farming in southern Africa and, in particular, the implications for technological change. One further limitation is that agricultural extension services are likely to be hard hit by AIDS related ill-health and death, making them less able to respond effectively to the changing composition and needs of their target farmers.

Further, in particularly impoverished rural areas, most families have limited safety margins for problems such as crop failure or chronic ill-health, and whatever savings and assets they have may be spent on immediate needs of dying family members. Women and children are particularly vulnerable, having to take over traditional male roles when men die as well as fulfilling their own traditional roles, often burdensome tasks, and caring for the sick (Jackson, 2002).

Panos Institute (1992) presented a multi-faceted analysis of the impacts of HIV on households' domestic and farm labour in subsistence communities representative of the Zimbabwean smallholder sector. First, illness of a family member leads to several effects such as diversion of productive labour to care for the sick, direct loss of productive labour on the farm (which also leads to an increase in the working day and a change to less labour-intensive crops and to fewer cash crops planted), decline in parental care particularly for 0-4 year olds, reduction in crop or livestock yields, an escalation of household medical expenses and a reduction in cash income. Other factors that lead to a reduction in cash income are the illness or death of a migrant worker who used to send remittances to the household, and funeral expenses following the death of a family member. The death of a family member eventually leads to additional demands for food and cash on those households who receive the orphans.

Reduction in cash income has other ripple effects such as taking children out of school, reduction in purchased food items like meat and fish, and a reduction in purchased inputs for farmers such as fertilizers, herbicides and pesticides. Reduction in purchased foods inevitably leads to a decline in the nutritional status of household members. Decline in parental care of 0-4 year olds and reductions in crop or livestock yields are other factors that lead to a decline in the nutritional status of the household.

Multiplied over many households the result could be a serious decline in agricultural production (Barnett & Blaikie, 1992). Given that the majority of the population in Zimbabwe is rural, large numbers of families are likely to be affected.

Cattle ownership is a very important aspect to consider is assessing the impacts of HIV/ AIDS on agricultural production and food security. The HIV/ AIDS pandemic is reported in Zimbabwe to be resulting in sale and slaughter of cattle during funerals (Fosenet, 2007). Some cattle are lost especially because of the traditional inheritance practices that usually result in widows losing their livestock to the deceased husband's kinship. All this results in increased vulnerability among affected households (Fosenet, 2007). Livestock, especially cattle, play a very important role in the livelihood of poor people in Zimbabwe. Cattle are a cultural symbol of wealth among African communities and this is no exception to Zimbabwe. Cattle represent a store of wealth which can be sold or exchanged to provide for other household needs in times of need. Cattle also provide the much needed draft power in agricultural production. There are also other products that can be derived from cattle such as milk, meat, manure etc. that are very important for the livelihoods of rural communities.

Commercial agriculture is particularly susceptible to the epidemic and is facing a severe economic and social crisis in some locations in rural Zimbabwe due to its impact (Drimie, 2002). Morbidity and mortality due to HIV/ AIDS significantly raise the industry's direct costs (medical and funeral expenses) as well as directly through the loss of valuable skills and experience (FAO, 1999). The epidemic thus adversely affects agricultural companies' efficiency and productivity. Thus HIV/ AIDS is leading to falling labour quality and supply, more frequent and longer periods of absenteeism, losses in skills and experience, resulting in shifts towards a younger, less experienced workforce and subsequent production losses (Louwenson and Whiteside, 2001). These impacts intensify existing skills shortages and increase costs of training and benefits. Intensive agriculture will be severely impacted through the loss of specialized labour (Balyamujura et al., 2000).

Harvesting and processing, in particular, will be most severely affected.

Estate and large-scale agricultural production is likely to be adversely affected to some extent by AIDS because of the loss of labour, particularly if foreman, drivers and other better paid workers spend more on drink and commercial sex (Jackson, 2002). On large-scale commercial farms and estates, however, unskilled farm labour is readily replaceable and therefore poses little threat to the industry regarding recruitment, but increased morbidity and death can mean increased benefits costs.

A major problem arises for the children on estates and large-scale farms who are highly vulnerable when their parents die (Jackson, 2002). At worst, they may be forced to leave the farms and either join the ranks of the destitute and rural poor or live on the streets in urban areas. If allowed to remain on the farm, they may be at risk of exploitation as cheap farm labour, whether or not restrictions on child labour are in place. They may also face sexual abuse and exploitation by other families within the farm compound.

The insecurity and mobility inherent in seasonal farm labour, often undertaken by women, puts them at serious risk of HIV infection. In Chiredzi, Zimbabwe, for example, 70% of women seasonal sugar estate labourers were found in a recent survey to be HIV positive. Most of the women sell sex during part of the year to survive (Jackson, 2002).

Commercial farms are likely to be affected too by increased morbidity and mortality among farm labour with the resultant increase in farm orphans. There could be pressure on commercial farm to mechanise, leading to the loss of jobs over time, although with various crops seasonal labour demand will remain high. Many farmers will attempt to reduce their liability for orphaned children or destitute elderly. As well as the impoverishment of the grassroots, the national economy will be adversely affected too, if food reserves and agricultural exports decline.

### **3.2 Impacts on rural livelihoods**

Many studies conducted on the impacts of HIV/ AIDS in Africa have focused on the farm household level (de Guerney, 2001; HSRC, 2001, Mutangadura et al., 1999) where agricultural production at the subsistence or small-scale level is often embedded within multiple-livelihood strategies and systems. Over the past three decades there have been profound transformations in these livelihood strategies, set in motion by Structural Adjustment Programmes, the removal of agricultural subsidies and the dismantling of parastatal marketing boards (Bryceson and Bank, 2000). As a result of these and other issues, many



African households have shifted to non-agricultural income sources and diversified their livelihood strategies (Drimie, 2002).

However, despite the evident diversification out of agriculture, agricultural production remains an important component of many rural livelihoods (Cousins, 2001). Access to land-based natural resources remains a vital component of rural livelihoods, particularly as a safety net. In this context, land tenure becomes increasingly important for the diverse livelihood strategies pursued by different households.

Natural resources management has also been directly impacted on by HIV/ AIDS, which has important implications for non-agriculturally based multiple livelihood systems. Conservation and natural resource management are also dependent on human factors such as labour, skills, expertise and finances that have been affected by the epidemic. Therefore the reduction in the numbers and capacity of willing, qualified, capable and productive people who have managed natural resources has negatively impacted on sustainable utilization of the resources (Dwasi, 2002). In addition, the epidemic can impact natural resource conservation and management by accelerating the rate of extraction of natural resources to meet new and increased demands for those affected and infected by HIV/ AIDS.

HIV/ AIDS first affects the welfare of households through illness and death of family members, which in turn leads to the diversion of resources from savings and investments into care (Cohen, 1993; HSRC, 2001, Rugalema, 1999; Fosenet, 2007). It is expected that the premature death of large numbers of the adult population, typically at ages when they have already started families and become economically productive, can have a radical effect on virtually every aspect of social and economic life. This is clearly indicated by an increase in the number of dependents relying on smaller numbers of productive household members and increasing numbers of children left behind to be raised by grandparents or as child-headed households.

Once a household member develops AIDS, increased medical and other costs (e.g. transport to and from health services) occur simultaneously with reduced capacity to work, creating a double economic burden (LoveLife, 2000). Households with an AIDS sufferer frequently seek to keep up with medical costs by selling livestock and other assets including land (Cohen, 1997; Ayieko, 1998; Fosenet, 2007). Members who would otherwise be able to perform household and family maintenance may then be spending their time caring for the person with HIV/ AIDS.

This emphasizes an impact of HIV/ AIDS illness and death, which often results in the reallocation of livelihood tasks amongst household members. The intensive use of child labour increases as a major strategy typically used by the affected households during care provision (Rugalema, 1999). The illness affects time allocation, puts pressure on children to work, and diverts household cash and the disposal of household productive assets. HIV/ AIDS is therefore an impoverishing pandemic that leads to other problems such as malnutrition, inaccessibility of health care, increased child mortality and hence intergenerational poverty (Drimie, 2002).

Diversification out of agriculture may be compounded by HIV/ AIDS in a number of ways. These include its impact on labour, disruption of the dynamics of traditional social security mechanisms and the forced disposal of productive assets to pay for such things as medical care and funerals. In turn, local farming skills are drained and biodiversity in crop variety diminished. Indigenous knowledge systems and technology adapted by farmers to suit the particular conditions of specific areas often die with the farmers (Brough, 2001).

In Zimbabwe the death of breadwinner due to AIDS will lead to a reduction in maize production in the small-scale farming sector and communal areas of 60 percent (Bolinger & Stover, 1999; Balyamujura et al., 2000).

### **3.3 Impacts on food security**

A serious implication of agricultural decline is reduced food security, not only for families involved directly in agriculture but also for urban populations reliant on purchasing food. Yet good nutrition and adequate water are fundamental requirements for health in general, let alone for people with HIV infection (Jackson, 2002).

Food security is the ability of the household to provide adequate food for its family through market acquisitions or home production (Mano & Matshe, 2006). For a rural household, it is about having the income to acquire food or the capacity to produce it at home. HIV/ AIDS affects disposable incomes of affected agricultural families because the male head working in a distant urban labour market is often the first to contract the disease and returns home ill ( and later to die) and deny the family an important source of non-farm income not affected by vagaries of the weather (Mano & Matshe, 2006). Households not affected by HIV/ AIDS are more energetic, have greater income and more diverse sources of income, have bigger families, possess more assets, cultivate bigger acreage, and are therefore likely to be more food self-sufficient and food secure.

The impact of HIV/ AIDS on agriculture directly affects food security, as it reduces food availability through falling production, loss of family labour, land and other resources, and loss of livestock assets and implements. It also reduces food access through declining income for food purchases. In addition, the stability and quality of food supplies diminish through shifts to less labour-intensive production (Louwenson & Whiteside, 2001). HIV/ AIDS is therefore both a cause and a result of food insecurity. For example, during times of food insecurity, such as during drought, individuals or families can be forced to engage in survival strategies that increase their vulnerability to contracting HIV (WFP, 2001).

### **3.4 Awareness and knowledge about transmission and prevention of HIV/ AIDS**

The future course of what is now a worldwide epidemic depends to a large extent on the level of HIV/ AIDS awareness among the public in general, and the rural population in particular (CSO/ DHS, 1995).

There is a distinct difference in the level of knowledge and awareness about the transmission of HIV and AIDS between rural areas and urban areas in Zimbabwe. Knowledge is higher (87%) in urban areas than in rural areas (78%) (MPSLSW, 2006). Nationally, 81% of heads of households are able to correctly identify methods of HIV transmission and prevention, showing that knowledge is generally very high in the country. There are also poverty, gender and age dimensions to this knowledge. Knowledge is higher (85%) among the wealthier households than among very poor households (78%) (MPSLSW, 2006).

There are four main agricultural sub-sectors in Zimbabwe, and the levels of their knowledge and awareness are as follows: Communal Areas (78%); Small Scale Commercial Farming Areas (87%); Large Scale Commercial Farming Areas (79%); and Resettlement Areas (82%) (PASS, 2003). These high rates in the country's agricultural sector imply that the sector is fertile ground for the successful implementation of HIV and AIDS control programmes. The fact that correct knowledge is also higher among the younger heads of households (25-29 year olds) compared to the 30 years and above age-group is similarly good news for HIV/ AIDS control programmes, because the former group is more sexually active and therefore exposed to the risks of the pandemic.

### **3.6 Coping with the effects of the pandemic**

It is important to note that there is a wealth dimension of the impact of HIV/ AIDS on rural households. The poorer households, especially those with small landholdings, are much less able to cope

with the effects of HIV/ AIDS than the wealthier ones who can hire casual labour and are better able to absorb the shocks (Drimie, 2002). Individuals and households undergo processes of experimentation and adaptation when adult illness and death occurs, whilst an attempt is made to cope with immediate and long-term demographic changes. Several factors will determine a household's ability to cope, including access to resources, household size and composition, access to resources of the extended family, and the ability of the community to provide support (UNAIDS, 1999).

Household coping strategies aimed at improving food security include substituting cheaper food commodities (e.g. porridge instead of bread); reduce consumption of the item; sending children away to live with relatives; replacing food with indigenous/ wild foods, for example wild vegetables; or begging (UNAIDS, 1999). Strategies aimed at raising and supplementing income to maintain household expenditure patterns include income diversification; migration in search of new jobs; seeking loans; sale of assets; and use of savings and investment. There are also strategies that households use to alleviate the loss of labour. They include intra-household labour re-allocation and withdrawal of children from school; putting in extra hours of work;; hiring labour and draft power; decreasing cultivated area; seeking help from relatives; and diversification of income sources (UNAIDS, 1999).

## **4. Conclusions**

There is need to strengthen the health delivery system to be able to cope with the increasing HIV and AIDS and chronic illness burden. At the same time, it is important to capacitate the Home-Based Care programmes in terms of training the caregivers, equipping them with appropriate care facilities as well as linking them with the health delivery system for follow-ups. It is also necessary to intensify HIV and AIDS interventions at all levels (developmental and bio-medical) in order to continue reducing prevalence and incidence of infections and illness. Furthermore, home-based care should be intensified in order to reduce the care burden on women, children and the elderly. This should encompass the participation of men in home-based care so as to lessen the burden on women.

Measures should also be taken to improve household disposable incomes through sustained broad based economic growth and development so as to enable households to cope with the impacts of AIDS related illnesses and deaths. In addition, there is need to improve targeting as well as coordinated assistance to communities and households by various stakeholders providing safety nets with particular attention being paid to cushioning the continued decline in

agricultural production due to the HIV and AIDS related illnesses and deaths. Local support organizations should be encouraged to adopt community-based planning, implementation, monitoring and evaluation processes of development interventions. There should also be a shift from self-oriented support to a developmental and capacity-building thrust by support service providers in orphans and vulnerable children (OVC) and AIDS support organizations and programmes.

It is important to intensify HIV and AIDS prevention, mitigation, care, and treatment interventions to reduce the OVC prevalence. This can be in the form of strengthening and developing community health support systems, and linking them to service provision frameworks for HIV and AIDS affected communities. Targeting these interventions to the poor, particularly female-headed households is most likely to benefit OVCs. It is also important to continue to provide support to households with orphans, especially those with more than one orphan. Households headed by widowed females require special support, including prioritization under employment creation programmes and credit for agricultural inputs and rural small businesses, in addition to relief support. Measures should be put in place to strengthen orphan peer groups, increasing volunteer self-mobilization and networking activities, entrepreneurial skills development, and promotion of exchange visits.

There should also be an emphasis on sustainable agriculture, improved shelter, psychosocial support and advocacy. Food security initiatives should be targeted at households with those affected or infected by HIV and AIDS. These should include setting up food-for-work projects for able-bodied members of households with one or more members infected by HIV. These projects can include dam rehabilitation and construction and nutrition gardens, which can reduce households' dependence on food aid.

Measures taken to develop the agricultural sector are also likely to minimize the negative impacts of the HIV and AIDS pandemic on the sector. Given the multiplicity of problems in the agricultural sector in Zimbabwe, which include non-full utilization of land, small landholding sizes, shortage of draft power and inputs, viability problems, low yields, marketing constraints, limited outreach of extension services, etc. there is need for the design and implementation of a holistic agrarian reform programme in the country. It is therefore necessary to increase utilization of land through comprehensive agriculture input support programmes so as to increase agricultural productivity. Intensification of the resettlement programme stands out among the few possible and viable options to decongest communal

areas by deliberately moving households to larger, agriculturally productive land. This should be underpinned by comprehensive land auditing to ensure equitable land redistribution and optimal utilization.

There is also a need to expand the scope for utilizing mechanized draft power, particularly in communal and resettlement areas. In addition, livestock restocking programmes should be intensified in drier regions of the country. In order to optimally utilize the country's irrigation potential, it is essential to invest in irrigation infrastructure and farmer training. This would be intended at reducing the dependence on rain-fed agriculture and improve agricultural productivity.

Further, the balance between input and output prices in agriculture needs to be addressed so as to ensure that farming becomes a competitive industry among other sectors. This should hopefully increase the incomes of the majority of the population who are engaged in agriculture.

Access to markets for agricultural produce should be increased, as well as seeking opportunities for value addition. It is also important to invest in and revamp agricultural research and extension services so as to increase productivity. Extension service delivery should target communal and resettlement areas where the majority of the farming population resides.

Farm worker unions and other labour organizations should mobilize to support their workers on estate and large scale commercial farms in relation to AIDS as well as other work-related issues such as pay, benefits and occupational health. In Zimbabwe, as is the case in many other African countries however, unions for farm labourers are not strong, and farm workers tend to be among the poorest and most marginal of formal employees. Isolated on farms, they may also have weaker extended family networks and hence also less of a safety net when difficulties arise.

It is crucial to redress and eliminate gender imbalances in the provision of agricultural support services under the agrarian reform programme. This should be done with the specific intention of benefiting those households affected by HIV and AIDS (e.g. those which are headed by widowed females, and particularly those with orphans and vulnerable children). Finally it is important to develop comprehensive and effective partnerships around the agrarian reform programme.

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