

**Influence of donor-support on primary food crop production
in HIV/AIDS - affected rural households.**

A case study of World Vision, Nyarutovu ADP - Rwanda



A Research project Submitted to Van Larenstein University of Applied Sciences in partial fulfilment of the requirements for the degree of Master in Management of Development,

Specialisation in Rural Development and HIV/AIDS.

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Dedication

To the Almighty God

*To my beloved wife Jeannette Souvenir and
Children: Thierry, Lionnel, Herbert and Yves Marrius*

I dedicate this thesis.

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List of acronyms

ADP	= Area Development Program
AIDS	= Acquired Immune Deficiency Syndrome
ARV	= Antiretroviral
CBO	= Community Based Organisation
CCC	= Community Care Coalition
CHK	= Central Hospital of Kigali
DFID	= Department for International Development
FAO	= Food and Agriculture Organisation
FGD	= Focus Group Discussion
HIV	= Human Immunodeficiency Virus
NGO	= Non-Governmental Organisation
MHH	= Male Headed Household
NISR	= National Institute of Statistics of Rwanda
MINAGRI	= Ministry of Agriculture and Animal Resources
MINECOFIN	= Ministry of Economic Planning and Finance
MTCT	= Mother To Child Transmission
OHH	= Orphan Headed Household
OVC	= Orphan and Vulnerable Children
PLWHA	= People Living With HIV/AIDS
RGB	= Rwanda Governance Board
VCT	= Voluntary Counselling Test
VHL	= Van Hall Lareinstein
UN	= United Nations
UNAIDS	= United Nations for AIDS
WHH	= Widow Headed Household
WrHH	= Widower Headed Household
WVR	= World Vision Rwanda

Abstract

This study is about Influence of donor-support on primary food crop production in HIV/AIDS - affected rural households. It was conducted in Gakenke district, with a case study of Nyarutovu Area Development Program (ADP) that covers three sectors: Gakenke, Nemba and Karambo. Four categories of household were considered, females 51.8% and males (48.2%) made the sample.

In the process of collecting data on field, four Focus Group Discussions were organised, key informants (Nyarutovu ADP Manager, Sector Development Facilitator in charge of Health and HIV in the ADP, Executive Secretary of Buranga Cell and Social worker at Nemba hospital, organizer of PLWHA) and twenty-two respondents were interviewed.

Rwanda, one of the countries in east-Africa, has experienced a generalised HIV epidemic for years since HIV cases were first seen at the Central Hospital of Kigali (CHK) in 1983. The epidemic was exacerbated by the genocide of Tutsi that took place in 1994 whereby thousands of survivors were infected through sexual violence against women, while others were infected due to the consequences of war and much mobility which occurred in Rwanda.

Though the prevalence rate was reduced due to the efforts of the Government of Rwanda, it has remained constant (3%) from 2005, though. Gakenke district accounts 3.6% of HIV prevalence rate, higher than the rate at the national level. AIDS related impact has been a lot on individuals and households in Rwanda, therefore World Vision Rwanda decided to intervene in this area. Through Nyarutovu ADP, WVR implements a project of Health and HIV/AIDS, among others, and therefore provides support to households affected by HIV/AIDS in this area.

The rural population of Gakenke district live mainly of agricultural crop production. The household beneficiaries of this project have been experiencing less crop production compared to their daily needs to feed properly their households' members. Despite the support that the project beneficiaries have been receiving, food has been always too little in their households.

This study investigated about the factors that cause the primary food crop production to reduce in the households affected by HIV/AIDS under this project, while WVR provides them with support. The outcome is that this limited food crop production is due to a double impact, one being related to AIDS and another to general situation in rural agriculture, especially in Gakenke district. Factors related to AIDS impact are mainly less labour compared to the labour required to produce enough food for the household as a result of sickness and death of some household members, physical weakness due to regular sickness and ARVs, and weak base of other household assets.

However, the general factors found out in this study are mainly lack of agricultural inputs: selected seeds and fertilisers, among others, because of their direct impact in food production. In addition, male and widow headed households are found to cope more than widower and orphan headed households. These differences result from different assets owned, productive labour and landholdings' size.

For the support provided by WVR to address the situation of limited food in the households affected by HIV/AIDS, the project beneficiaries suggested strategies whose the main one is providing them with selected seeds on time, fertilisers and trainings in agriculture.

As WVR will leave while the project beneficiaries must continue their life in a sustainable manner, they suggested how they may be helped to build their independence and resilience to the impact of AIDS. The main suggestion is of training HIV/AIDS affected households' members (children and those who are still able) in technical skills: sewing, masonry and carpentry.

In order to sustain HIV/AIDS affected households' livelihoods in this area, WVR may consider the differences of the categories of households while supporting them, because they do not necessarily have the same problems, needs nor strong points in specific coping mechanisms which can be developed. An advocacy is also necessary for selected seeds and fertilisers that WVR seems not to have influence on.

CHAPTER I. INTRODUCTON

1.0 General Introduction

This thesis is in line with the study to be carried out in partial fulfilment of the requirements for the professional master degree in Rural Development and HIV/AIDS at the Van Hall Larenstein University of Applied Science in Wageningen, the Netherlands. It is aiming to contribute to better support strategy of World Vision Rwanda to HIVAIDS affected households for primary food crop production, in Nyarutovu ADP.

HIV/AIDS refers to the whole continuum from HIV infection up to phase whereby opportunistic diseases come in and people start undergoing illness and even death related impacts, which results into difficult situation for individuals and households' livelihoods. However, AIDS related impacts is about the consequences, be it social or economic that occur when people infected are suffering the harm from sickness and death due to AIDS.

This chapter looks at the background of the problem in this study and discusses HIV/AIDS epidemic in Rwanda. It further presents the situation of food crop production in Rwanda as well as in Gakenke district which hosts Nyarutovu ADP. In the same chapter, the problem of this study, questions used and the research conceptual framework make points of consideration.

1.1 Background information

In the last ten years, the landscape of national HIV epidemics has changed dramatically, for the better in most countries, especially in sub-Saharan Africa. Countries are making historic gains towards ending the AIDS epidemic: 700 000 fewer new HIV infections across the world in 2011 than in 2001. Latest data show that a 50% reduction in the rate of new HIV infections (HIV incidence) has been achieved in 25 low- and middle-income countries between 2001 and 2011 (UNAIDS, 2013). The national declines in HIV incidence in populations show that sustained investments and increased political leadership for the AIDS response are paying dividends.

In Rwanda however, though the government has committed to invest effort and a lot of resources, HIV prevalence rate has remained constant since 2005, being 3% (Republic of Rwanda, 2012).

Rwanda is a small landlocked country in East Africa; bordered in the north by Uganda, south by Burundi, East by Tanzania and in the west by the Democratic Republic of Congo. It has an estimated population of 10.7 in 2011 (NISR, 2011), and it is divided into four Provinces: North, South, East, West and Kigali City and counts 30 districts.

This study was conducted in Gakenke District, in the Northern Province where the rural population relies mainly on food crop-livestock activities for their livelihood. For centuries, in this province these activities have been adapted to the changing environment, as spatial and time variability (seasonal and inter-annual) because rainfall have always been specific traits of this agro-ecological zone. This part of the country is defined to be bordering 5 volcanoes and Rwanda Volcanoes Park, characterized by enough and reliable annual rainfall, usually between 1100 and 1500 mm per year (Nyarutovu ADP, 2009).

Considering the climate conditions in this part of the country, it was expected to have households with satisfying levels of livelihoods. Nevertheless, the situation of HIV has left a quite number of households affected by AIDS related impacts. World Vision Rwanda has

framed its support to the households affected in Nyarutovu, part of Gakenke district to help them mitigate AIDS related impact. They have done so over the last ten years. It is generally recognized that food insecurity in rural settings results from the fragility of agriculture and livestock production, and compounded by impact of AIDS.

The Government of Rwanda considers agricultural and rural development to be crucial for national poverty reduction and improving the welfare of the vast majority of Rwandans (MINECOFIN, 1999). Therefore, comprehensive strategies for structural reform of the agricultural sector and the enhancement of food security have been formulated. However, despite these efforts even supplemented by World Vision Rwanda in terms of food crop production, the challenges for households affected by HIV/AIDS in Nyarutovu ADP remain observable.

1.2 The HIV/AIDS epidemic in Rwanda

Rwanda, one of the countries in east-Africa, has experienced a generalised HIV epidemic for years since HIV cases were first seen at the Central Hospital of Kigali (CHK) in 1983 (Republic of Rwanda, 2013). Since then, the virus has spread widely, affecting both urban and rural populations in the aftermath of the genocide.

1.2.1 The HIV/AIDS epidemic at the national level

The Rwandan genocide of 1994 exacerbated the country's HIV situation, as thousands of survivors were infected through the systematic sexual violence against women. HIV prevalence data collected in 1996 from 10 sentinel sites showed a sharp rise in HIV prevalence after the genocide. The infection rates were estimated to be 27.0% among the urban population, 13.0 % among the semi urban population, and 6.9% among rural population (USAID, 2012). From then onwards, the Government of Rwanda has shown its commitment to address this epidemic, designing a lot of programs, allocating budgets and implementing donor-supported projects in this area. It was therefore found, in the Demographic Health Survey (DHS) with HIV testing carried out in 2005, that the national HIV prevalence was measured to be 3.0% in people aged between 15 and 49 (Republic of Rwanda, 2005). In the following population-based survey of 2010, this was still the case. HIV prevalence is higher among women than among men (3.7% compared to 2.2%). The highest HIV prevalence is among women aged 35-39 (7.9%) and among men aged 40-44 (7.3%) (Republic of Rwanda, 2010). According to the same survey, HIV prevalence varies widely between urban and rural areas, urban areas having a total HIV prevalence of 7.6% (8.7% in women and 5.4% in men) and rural areas with a total prevalence of 2.3% (2.8% in women and 1.6% in men).

1.2.2 The HIV/AIDS epidemic at Gakenke district level

The District of Gakenke, like other parts of the northern part of the country which experienced the war, genocide and related mobility has a high HIV prevalence rate. It has the highest in the province (3, 6%), which is even higher than the national HIV prevalence of 3% (Nyarutovu ADP, 2013). Nyarutovu ADP counts 421 households that are affected by HIV/AIDS out of 11880 households, representing 3.6% of the households registered in Nyarutovu, part of Gakenke district.

1.3 Agricultural food crop production in Rwanda

In Rwanda, the agricultural sector contributes over 45% to GDP, 80% to exports, and employs 91% of Rwandans. Approximately 92% of Rwandans live in rural areas. The vast majority are engaged in subsistence agriculture conducted on small family plots (UNDP, 2000).

However, despite the predominance of this sector, the country has always suffered from varying levels of food insecurity, because of less professionalism and financial means to make it more productive.

Agriculture remains the backbone and the most important sector of the Rwandan economy though. It is dominated by small-scale, subsistence-oriented family farming which are households. These households produce a range of food crops such as cereals, roots and tubers, bananas, and vegetables, with approximately 66% of production destined for home consumption. The remaining 34% of production finds its way to local markets. Food crops dominate the land area harvested because they are easier to grow, in terms of inputs' costs and level of processing, reflecting subsistence-oriented agriculture of Rwanda (Bizimana, et.al, 2012)

1.4 Agricultural food production in Nyarutovu, Gakenke district

Nyarutovu Area Development Program (ADP), operates in Gakenke district in the northern province of Rwanda and comprises three sectors (smaller divisions of the district): Gakenke, Karambo and Nemba, while the whole district counts 19 sectors.

The major sources of food and income for Nyarutovu community are crop production and livestock. Based on the evaluation findings report of 2007 for example (Nyarutovu ADP, 2007), the households cultivated land in three agricultural seasons very differently.

Season A starts in September and ends up in December. This season corresponds to the short rain season in Rwanda.

Season B starts in March and ends up in May. It corresponds to the long rain season.

Season C starts in June and ends up in August. It corresponds to the long dry season whereby only marchand cultivation is successful.

Table 1: Land cultivation per season

Seasons	Households (%)	Plot cultivated each season
A and B	20%	<0.1ha
	38-39%	<0.2ha
	40-41%	0.5ha
C (marshland cultivation)	50%	0.5ha

Source: Nyarutovu ADP Report, 2007

This table 1 above shows how much size the households cultivate to further relate it with the production. In fact, a lot of households have small land, reason why they cultivate little and this can therefore lead to a little harvest.

This ultimately accounts for increased food insecurity in the community, while the most affected people including HIV/AIDS affected households. According to Gakenke (2012), the households affected by HIV/AIDS are reported to have registered a decline of 8% in crop production over the last three years compared to non-HIV/AIDS affected households.

1.5 The role of World Vision in Rwanda in Nyarutovu

World Vision began working in Rwanda in 1994, as millions fled after the genocide started. World Vision initially provided emergency help to those displaced, and care for unaccompanied children, and then helped people resettle as they returned home. Since 2000, World Vision has been working with communities in Rwanda to find long-term solutions to poverty and injustice. As Rwandans are still recovering from Africa's worst genocide of modern times, World Vision is

supporting more than 466,588 people through 31 long-term, child-focused Area Development Programmes (ADPs).

World Vision Rwanda has been carrying out its battle against malnutrition and cares for orphan and vulnerable children (OVCs) living with HIV and AIDS. World Vision Rwanda aims to improve the nutritional status of children under the age of five, and pregnant and lactating mothers. Prevention of HIV infections among children, care and support for people living with HIV and AIDS, and community level advocacy for OVCs is also a focus area for World Vision Rwanda. During 2011, 205 community care coalitions (CCCs) were formed and trained on HIV prevention and AIDS impact mitigation. About 450 home visitors were also trained in caring for OVCs and young people living with HIV (WVR, 2013).

Gakenke district was chosen for this study among districts with high HIV prevalence rate as it counts 3.6% which is higher than the national HIV prevalence rate of 3%. The project was developed in Nyarutovu since 2002 and supposed to end in 2017. It has been providing to 421 households affected by HIV/AIDS some basic needs such as livestock, shelter, supplementary food, seeds, health insurance (mutuelle de santé), mattresses, kitchen and hygienic kits as relief service (Nyarutovu ADP, 2010). Some items like seeds and livestock are meant to maintain and/or improve food crop production in the households. All households that are undergoing any impact from AIDS (illness or death) in this area are eligible for the support.

1.6 Choice of primary food crop production for this study in Gakenke district

As discussed above, the majority of households in Rwanda are currently engaged in some sort of crop or livestock production activity. Rural households in Gakenke district diversify their livelihoods through agriculture, formal employment, business, rent, and transfers. However, according to NISR (2010-2011), agriculture is the major source of income and livelihoods (56% against 44% for the remaining 4 other options).

This shows how rural households in Gakenke district rely on agricultural food production. Four main food crops as reported by Gakenke district (2013) are maize, beans, wheat and cassava.

The District has selected the four main food crops to be developed as per their adequacy in the region to give enough yields and ensure food security for the population of the district. This is the reason for the researcher to conduct his study about these crops.

1.7 Research problem

HIV/AIDS negatively impacts on households' livelihoods assets. Therefore, households most affected by HIV/AIDS need support. The rural households affected by HIV/AIDS of Nyarutovu, in Gakenke district have been receiving support from World Vision Rwanda over the last 10 years to help them improve their lives and therefore mitigate AIDS related impact. However, it has been noticed that the project beneficiaries (households) have been experiencing limited agricultural primary food crop production over time. This trend may result into increased vulnerability of the households to the AIDS-related impact as it affects their food security.

1.7.1 Problem owner

World Vision Rwanda / Nyarutovu ADP.

1.7.2 Research objective

To contribute to better support strategy of World Vision Rwanda to HIV/AIDS affected households for primary food crop production, in Nyarutovu ADP.

1.7.3 Research main questions

- What are the factors that cause reduced primary food crop production in the households affected by HIV/AIDS in Nyarutovu ADP?
- What strategies are required to support the households affected by HIV/AIDS to improve primary food crop production and live more sustainably?

1.7.4 Research sub-questions

From main question 1:

1. What was the situation of households affected by HIV/AIDS before the intervention of WVR?
2. What support did World Vision Rwanda give to the households affected by HIV/AIDS for primary food crop production?
3. What change occurred in primary food crop production since households affected by HIV/AIDS have been receiving support from World Vision Rwanda?
4. What are other parties involved in addressing the problem of reduced food crop production in HIV/AIDS-affected households in Nyarutovu ADP?

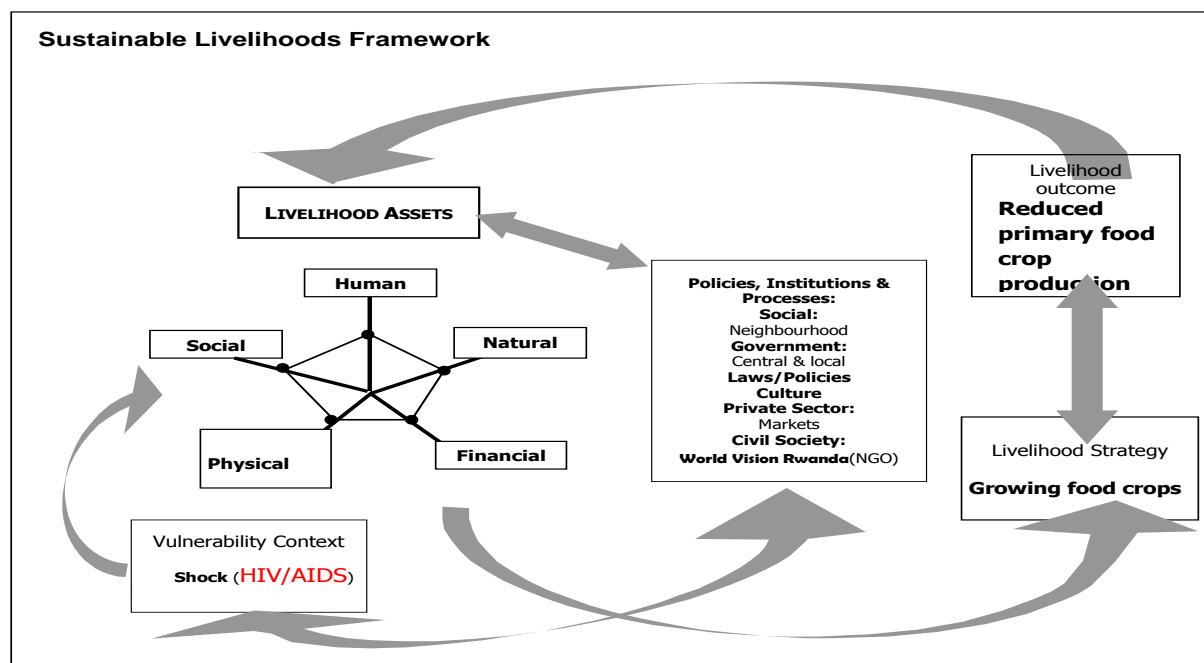
From main question 2:

1. Which new support strategies are required to improve primary food crop production in households affected by HIV/AIDS?
2. What can WVR do in order to sustain households affected by HIV/AIDS' livelihoods for future better lives?

1.8 Conceptual framework

The Sustainable Livelihood conceptual framework presented below gives an illustration of the thoughts in linking primary food crop production and the impact of AIDS in the community. It brings the theoretical thinking of the relation between the socio-economic situation of households affected by HIV/AIDS, the intervention by the donors on different household's assets and the outcomes as a result of their livelihoods strategies. To apply it, an adaptation to the real situation in the area of the study will be done.

Figure 1: Research conceptual framework



Source: Adapted from DFID: Sustainable Livelihoods Guidance Sheets, 1999.

1.9 Definition of key concepts

The following words have been given their operational definitions in line with this study:

1.9.1 Primary food production

In this study, primary food production refers to the cultivation of land, growing of crops, harvesting, and collection of food for consumption and sale of immediate produce.

1.9.2 A household

In this study, a household is a group of persons who normally live and eat together. These people may not be related by blood, but make common provision for food or other essentials for living and they have only one person whom they all regard as the head of household.

1.9.3 Livelihood

In this study, looking at sustainable livelihoods involves recognizing not just what assets (financial, human, social, physical, and natural) people own, but also how useful and successful they use their capacities to make them base and end of their needs.

1.9.4 Livelihood assets

In this study, livelihood assets are important as we will explore the stock of capital owned by the households affected by HIV/AIDS, with emphasis on human and natural capital and the influence on HIV/AIDS over them in the perspective of primary food crop production.

1.9.5 HIV/AIDS affected households

These are households caring for chronically ill person (s), orphans or those which have experienced death of member (s) from HIV/AIDS related illness. HIV/AIDS affected households experience a series of impacts, and the level of vulnerability will depend on assets owned by the household and their level of coping mechanism.

CHAPTER II. LITERATURE REVIEW

2.1 Introduction

This following chapter highlights interactions between the concepts that are being referred to in this study. It presents different views from different researchers in the literature they have used while gathering the information for their works. Along the chapter, a variety of concepts shall be discussed: impact of HIV/AIDS on household assets whereby the capital are mentioned: human, financial, natural, physical and social, Gendered impact of HIV/AIDS on the household, Impact on women and children, Female-headed households, The impact of AIDS on Food production, Resilience to the impact of AIDS, Transforming processes, Household livelihood strategies, Donor-Support for AIDS impact mitigation, Livelihood outcomes, Relationship between Food production and Food security. All these concepts will help to understanding how HIV/AIDS and Primary food crop production can affect each other, depending on the magnitude of them.

2.2 Impact of AIDS

Of the 36, 1 million people living with HIV/AIDS, an overwhelming 95% live in developing countries. And within those countries, AIDS is becoming a greater threat in rural areas than in cities. In absolute numbers, more people living with HIV reside in rural areas. According to UN (2004), the burdens of HIV/AIDS on families and households are staggering. During the long period of illness, the loss of income and the cost of caring for family members may impoverish the household. Adult deaths, especially of parents, often cause the break-up of households, with children being sent to live with relatives or even becoming homeless. The epidemic is spreading with alarming speed into the remotest villages, cutting food production and threatening the very life of rural communities. HIV/AIDS was considered mainly as a health issue, and all the programs for combating the epidemic were based on health and medical sciences, but it is now being considered as an important cross sector developmental issue bearing far reaching implications for policies and programming. The loss of breadwinners due to the epidemic is leading to increased poverty and food insecurity among affected families in sub-Saharan Africa. (Kalim, 2003). In this study, this definition applies as this situation now prevails in Sub-Saharan countries and in Rwanda in particular.

The AIDS epidemic is destroying the lives and livelihoods of millions of people around the world. The situation is worst in regions and countries where poverty is extensive, gender inequality is pervasive, and public services are weak. In fact, the spread of HIV at the turn of the twenty-first century is a sign of under-development - an indicator of the failure to create more equitable and prosperous societies over large parts of the world (Holden, 2003). AIDS impacts on households' human, social, financial, physical and natural assets (see Table 1.2) are multiple and often interrelated (Gillespie and Kadiyala, 2005) as it will be discussed in this chapter.

2.3 Impact on household livelihoods' assets

Like man-made disasters, natural disasters and other diseases, the HIV/AIDS epidemic adversely impacts people's livelihoods. However, unlike other causes of sickness, death and related impacts, HIV/AIDS is a different livelihood shock. It is unique in that it usually attacks prime-age adults; thereby it reduces household labour availability and household income (Wiegiers, 2008). HIV/AIDS affects rural households most of whom depending on agriculture as a source of livelihood. Shapouri and Rosen (2001) state that HIV/AIDS is a major threat to agriculture and food security because it reduces agricultural productivity and diminishes the

availability of food through direct loss of family labour, reduction in time allocated to farming, sales of farm assets, cultivation of marginal land and marginalisation of surviving widow from land ownership by customary land tenure system. For this reason, Mutangadura (2005) says that the major impact of AIDS on agriculture includes serious depletion of human resources, diversions of capital from agriculture, loss of farm and non-farm income and other psycho-social impacts that affect productivity

By focusing on the five livelihood assets at the household level, some light is shed on the degrees and levels of household vulnerability due to the HIV/AIDS epidemic.

2.3.1 Impact on Human Capital

Human capital consists of skills, knowledge, the ability to work and good health, all of which are important for pursuing livelihood strategies. At a household level, human capital is a factor of the amount and quality of labour available; this varies according to household size, skill levels, leadership potential, health status, education and nutritional levels (DFID, 1999). As an example of impact of AIDS on human capital, the death of a parent in a household will affect children's attendance in school, resulting in increased school dropouts (Smith et al., 2011). This will further hinder human capital development and future opportunities for the individual who has dropped out of school and the role they could play in their parents' household.

The food security situation of a rural household greatly depends on the gender and age of the household head. Literatures highlight that the differences between a female and male-headed household are evident in their livelihoods because each of them has a specific role through which some skills are developed and become beneficial for the household. Child and elderly headed households are perceived to be the most vulnerable to the impacts AIDS because of their fragility in terms of physical resistance and less skills for children while elderly households heads tend to miss out force and courage. In analysing the impact of AIDS on the human capital base, this study looks at the dependency ratio, the number members who can work productively, to compare them to the production of food currently registered in the households.

The dependency ratio in particular may be taken to represent the different economic commitments arising from having to take care of dependent members of a household. This has implications on the availability of food and hence vulnerability of a household to food insecurity. According to Wiegers (2008), AIDS affects the household labour force both directly, through sickness and death of productive members of the household, and indirectly through household labour needed to care for the sick. This reduction in the household labour force often results in a decrease in area cultivated, a shift from cash to low-labour subsistence crops, poor management of crops and an overall decline in agricultural production. The death of adults in their prime-age also disrupts the transfer to the next generation of gender-specific agricultural knowledge and skills as well as values, norms and beliefs.

As a result of premature death, children are unable to "learn by doing" under the supervision of their experienced parents (Haddad and Gillespie, 2001). AIDS related illness and death cause household composition changes whereby different types of households are born: one parent headed household or widow (er)-headed household, child or orphan headed household, grandparent headed household. A study conducted in Limpopo province, South Africa for example, documents the impacts of AIDS on households, with consistent change in household structure, including an increase in female-headed households, smaller households with fewer children, and more households with orphaned children (Madhavan and Schatz, 2007).

This study explores agricultural primary food crop production in the following households affected by HIV/AIDS: female headed households, child/orphaned headed households, widow (er) headed households and male headed households (two parents' households).

2.3.2 Impact on Financial Capital

Financial capital includes the cash and other liquid resources (e.g. savings, credits, remittances, pensions, etc.) which are essential to people's livelihoods. The forms of financial capital are cash at home or in pocket, cash at bank, formal and informal credit, and transfers in kind from relatives and friends (AATF, 2009). HIV/AIDS affects a household's financial capital asset base due to enormous cost related to medication and nutritious food for the sick. The epidemic tends to divert labour away from productive activities of the household to unproductive activities that are costly such as taking care of the sick member. This results in losses of potential income thus shrinking the household financial capital asset base. The death and incapacitation of the breadwinner of a given household due to HIV and AIDS means that the household can no longer access the cash income that was coming from formal employment (Vinck & Bell, 2011).

In fact, the financial assets that households possess, like money, credits, stocks and flows of income, are put under severe strain as households with people living with HIV/AIDS face significant challenges in trying to pay for medical treatment, funerals, and related transport expenses (Wiegers, 2008). In this study, the researcher explore the relationship between the financial assets and primary food crop production in the households affected by HIV/AIDS.

2.3.3 Impact on Natural Capital

Natural capital consists of the natural resource stocks from which households derive their livelihoods. Natural capital is especially important for rural households as production of food and income relies on it. Natural capital includes all the biophysical components which include land quantity and quality. AATF (2009) says that land is a natural asset that man can only own for the sake of producing some vital goods and services needed to improve their livelihood HIV and AIDS can result in serious deterioration in the natural capital as the declines in human and financial capital due to illnesses and deaths could limit household's ability to invest in maintaining and improving their land base (Stokes, 2002). Despite the fact that land is the most important primary natural asset that rural households possess, adversely affected households sometimes end up being disposed off their land especially after the death of the household head because of the cost of funerals and different sales sometimes due to lack of others means for survival. AIDS undermines agricultural systems and affects the nutritional situation and food security of rural families. As adults fall ill and die, families face declining productivity as well as loss of knowledge about indigenous farming methods and loss of assets.

This study explores the change in landholdings and related primary food crop production in the households affected by HIV/AIDS.

2.3.4 Impact on Physical Capital

Physical capital includes the basic infrastructure (transport, shelter, energy, communications and water systems), production equipment and tools that enable households to maintain and enhance their relative level of wealth. Household physical assets are defined by Stokes (2002) as those tangible assets and producer goods such as housing, household goods, furniture, tools and equipment, as well as livestock. According to DFID (1999), Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods:

- Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive.
- Producer goods are the tools and equipment that people use to function more productively.

In this study, the definition of physical capital that will apply comes from Ellis (2000): Physical assets comprise capital that is created by economic production processes. So, buildings, irrigation canals, roads, tools, machines, so on are physical. In this study, physical assets are agriculture related tools and equipment needed to produce primary crop food. These assets include animals and woods in some cases and can sometimes be overrun by AIDS related impact, depending on the household's level of resilience. Once impacted, the production of crop food becomes impacted as well and this causes a circle of vulnerability in the household. A look is then taken to physical assets owned in the households affected by HIV/AIDS to relate them with the current situation of food production.

2.3.5 Impact on Social Capital

Social capital comprises the social resources that people draw on in pursuit of their livelihoods, such as networks, membership of groups, exchange relations and access to wider institutions in society. This is shown by the affiliation of household members to social associations like women groups and farmer cooperatives (DTMA, 2011). The illness and death of household members due to HIV/AIDS can disrupt a household's links to their extended family and the larger community due to the stigma that is attached to HIV/AIDS and the people who have passed away. This can also expose affected household to the risk of food insecurity by limiting the household's ability to access community resources or receive family support. Membership to various social groupings or clubs within a community is also key to enhancing an affected household's resilience to the impacts of HIV and AIDS.

Households derive a number of benefits from community social clubs ranging from monetary to emotional and spiritual support. Thus, social networks of rural households operating through their relationships with extended kin and the community are critical to their ability to recover from the illness and/or death of a household member due to HIV and AIDS. As per Ellis (2000) definition, the social capital attempts to capture community and wider social claims on which individuals and households can draw by virtue of their belonging to social groups of varying degrees of inclusiveness in society at large.

Social resources are developed through:

- networks and connectedness, either vertical (patron/client) or horizontal (between individuals with shared interests) that increase people's trust and ability to work together and expand their access to wider institutions, such as political or civic bodies;
- membership of more formalised groups which often entails adherence to mutually-agreed or commonly accepted rules, norms and sanctions; and
- relationships of trust, reciprocity and exchanges that facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor. Again, according to Wiegiers (2008), social capital refers to the networks, group memberships and exchange relations that people draw on to secure their livelihoods. This definition aligns with what this study intends to explore in the households affected by HIV/AIDS, in relation with primary food crop production.

In Rwanda, like in many other Sub-Saharan countries, AIDS is causing a wide range of economical, health, educational, communal and agricultural problems. These problems are resulting in various impacts, though they may not be the same in all regions or districts. Gakenke is one of the districts where AIDS has caused a vast number of impacts on agriculture, especially in Nyarutovu ADP, the case of this study. The household livelihoods' assets are important for the households to resist the impacts of AIDS when available. Different researchers have shown how each and every capital can help the household members make appropriate

responses to the impact of AIDS and defeat them. However, when they have depleted and or they are weakened, the households are likely to suffer much harm caused by illness or death due to AIDS. Concerning agricultural primary food crop production, these assets are all important in order to support households to maintain or improve it. In the absence of one or some of them, the households are likely to have difficulties in their livelihoods. This study explores all the household assets in context of HIV/AIDS and primary food crop production.

2.4 Gendered impact of HIV/AIDS on the household

Gender is an integral and inseparable part of rural livelihoods. As HIV disproportionately affects people of productive and reproductive ages, the population structure features fewer mature adults, and more of the young and the elderly, leading to the loss of valuable labour as well as livelihood skills and knowledge. This has serious implications for the household on agricultural and livestock production and other strategies they may undertake. In this regard, Musi (2005) in his example of Swaziland case study of the impact of HIV/AIDS and drought on local knowledge confirmed that the pandemic erodes gendered local knowledge: the death of the man in the household usually meant the disappearance of knowledge and skills related to maize and cotton production, while the death of the woman affected the household's knowledge of legume production. Villarreal (2006) further exemplifies crop production where if women are affected the area of food crop production is reduced while if it is the men, the area under cash crop production is reduced.

Other impacts of HIV and AIDS on rural households include the dispossession of women and children of assets after the death of the male household head; loss of capacity and disruption of service delivery of rural institutions such as extension workers; increased workload for women, because the burden of care comes in addition to other tasks; and increased care burdens for the elderly. According to the UN Secretary General's Task Force Report on Women, Girls and HIV/AIDS in Southern Africa (2004), as the death from AIDS is mounting, many widowed women are experiencing dispossession in rural areas. The overall result of these impacts of HIV and AIDS is a decline in agricultural production that was the main source of their livelihood. In addition, because of loss of knowledge, skills and experience of people who have passed away, other assets will be affected and finally depleted because of the costs that AIDS will have caused.

2.5 The impact of AIDS on Food production

The great majority of the population in the countries most affected by HIV/AIDS live in rural areas. In many African countries, farming and other rural occupations provide a livelihood for more than 70 per cent of the population. Hence, it is to be expected that the HIV/AIDS epidemic will cause serious damage to the agriculture sector in those countries, especially in countries that rely heavily on manpower for production (UN, 2004). It is in this regard that FAO (2010) says that households with PLWHA experience longer periods of food insufficiency from their own produce than non-affected households.

Epidemic impacts are history-changing events. They terminate some lives, incapacitate others and stunt the capabilities of those who have to divert energy and time into care (Barnett & Whiteside, 2006). So, many communities whose source of livelihoods is agriculture register negative growth due to HIV/AIDS (FAO Uganda, 2002).

In Rwanda like in other developing countries, as said by UNFPA (2003), there is a reciprocal relationship between HIV/AIDS and development. Rural livelihoods are based on an agricultural production system that is characterized by small family farms of less than 1 hectare (ha), practising mixed farming that combines rainfed grain crops, traditional livestock-rearing and some vegetable production. This situation gives doors to HIV infection and AIDS-related

impacts because many people are in poverty that drives HIV-infection which at the end stains them to have bad livelihoods. More people are affected by HIV/AIDS, less they are productive, and therefore assets are impacted and food production declines.

This study explores the status of livelihood assets for rural households affected by HIV/AIDS in Nyarutovu ADP, the primary food crop production situation over the last two years (2011 and 2012), and how HIV/AIDS impacts on them.

2.6 Household livelihood strategies

Livelihood strategies include the different activities households undertake on the basis of the different assets they have access to in order to generate a livelihood. They might comprise a range of activities, including paid work and unpaid work, food and livestock production, accumulation and investments, borrowing, etc. Livelihood strategies denote again the range and combination of activities and choices (including on production and investment) made by households in order to sustain themselves and contribute to the economic capital of the household (Vinck & Bell, 2011).

The term livelihood strategy implicitly refers to long-term strategic planning of activities that is based on a careful consideration of a household's access to diversity of assets and of the desired outcomes. The level of mitigating the AIDS-related impacts will then depend on the quality of strategies they have chosen. In this regard, the level of mitigation is proportional to the level of household assets. There is usually change in strategies because there has been change in assets, to mean that when some of them are depleted, the households manage otherwise, and can succeed or not depending on the efficiency or not.

2.7 Livelihood outcomes

According to Farrington *et al.* (1999), livelihood outcomes are the achievements or outputs of livelihood strategies by drawing on a range of assets. Generally, people pursue a range of livelihood outcomes such as food security, income security, good health, well-being, high status, and so forth. The actual interpretation of these livelihood outcomes is subjective and varies among people and households. Livelihood outcomes are not the end of a one-way track but rather part of a dynamic process, whereby livelihood outputs can strengthen or weaken the resource-base of a livelihood system (Niehof, 2010). In this case of HIV/AIDS affected households, the process of food production seems not to be as dynamic as they should be, therefore resulting in endangered livelihoods because they mostly lack good assets base.

This study explores the situation of primary food crop production in the households affected by HIV/AIDS as their achievement and the relation it has with the support from WVR they have been using in their livelihood strategies. So, these two definitions from other researchers enlighten the findings of this study.

2.8 Coping mechanisms

Coping mechanisms or strategies are employed by households in situations considered to be causing an impact on household goals and are more controllable, the household uses more proactive coping mechanisms. Coping mechanisms vary greatly within the household across different situations and also between households (Ouwehand *et al.*, 2006). According to Ellis (2000), coping mechanisms of a household are defined as the sequence of survival responses to a crisis or a disaster that we can call impact of AIDS in this study. Coping mechanisms that rural households affected by HIV/AIDS may use are for example those for maintaining

consumption when confronted by disaster, such using saved up materials or items, sale of assets, receiving gifts from relatives, temporary migration, use of hired or exchange labour, and transfer of roles as for Ellis (2000). These are means for survival and not to sustain the future livelihoods as said by Ellis (2000): “coping is an involuntary response to a disaster of unanticipated failure in major bases of survival”. For example, Semali, Edwin and Mboera (2011) reported that in Dar es Salaam, Tanzania households affected by the pandemic were using coping strategies which included borrowing money, taking less preferred foods, taking smaller food portions, skipping meals, selling household assets and sending children to work. Donahue (1998) says the same because he categorises such fragile coping mechanisms as reversible strategies using protective assets, strategies which are difficult to reverse, using productive assets and strategies used when a household is reaching a level of destitution. To him, none of these strategies can sustain the household, that is why in this study, coping mechanisms are explored in a bid to see what the rural households affected by HIV/AIDS in Nyarutovu ADP do in order to survive, when primary food crop production has declined.

2.9 Differential vulnerability to AIDS related impact

As it has been discussed, households do not have the same assets. For example, some of them might have large landholdings, wage earner, while others may only have small animals and labour in the household, etc. The difference in quantity and quality of these household assets makes also difference in the way different households will cope with AIDS related impact. In this respect, Barnett and Whiteside (2006) say: “in exactly the same way as not all people or communities are susceptible to HIV infection, so not all will be affected in the same way or the same degree, there is a differential vulnerability to the impact of the disease”. They further say that relative wealth reduces vulnerability at all levels from individual to the nation. Again they say that the resources are not purely financial; they may include skilled labour, or access to care; or even strong, cohesive and compassionate civil society. This study explores the difference in household assets among male headed households, widow headed households, widower headed households and orphan headed households that are and compares the difference in coping with the situation of reduced food crop production. This look makes an analysis as per which strategy may be used in each individual category of household.

2.10 Donor-Support for AIDS impact mitigation

According to Mutangadura, et.al (1999), it is important to time the support meant for strengthen household and community responses, because once signs of recovery appear, relief support can be gradually replaced with mitigation support for longer-term needs. The emphasis should be on helping families avoid jeopardizing long-term survival to meet short-term needs, the most obvious examples being withdrawal of children from school and sale of remunerative assets. There is need, therefore, to involve communities in developing systems to enumerate and assess the needs of families, to determine the extent of problems, to raise awareness, and to promote informed decision-making (Donahue, 1998). Support to HIV/AIDS-affected households is more effective when channeled to the needy households with infected people, widow (ers) and orphans to prevent them from falling into permanent destitution, but also to upgrade their level of living allowing them to sustain their lives. This was also confirmed in Rwanda Vision 2020, that in the long run, both government and donor efforts need to focus on long term sustainable support in agriculture and other domains to build people who are resilient and independent in terms of production processes and decisions. Indeed, this is true because otherwise they may remain dependent upon the whims and wishes of the donor.

2.11 Agriculture in Gakenke district as main source of livelihoods

In recent years, the Government of Rwanda has implemented several ambitious programmes to increase the productivity of the agriculture sector. The motivation behind these actions is reflected in the Ministry of Agriculture's vision: 'Our Vision is to modernise Agriculture and Livestock to achieve food security. One of the key pillars of this vision is the transformation of Agriculture from subsistence to a productive high-value, market-oriented farming that is environmentally friendly and has an impact on other sectors of the economy (NISR, 2010-2011). In this study, it is important to explore the use of land and farming practices as the two are the pillars of agricultural food crop production.

2.11.1 Land and farming practices

One of the major inputs in agricultural food production is land. The EICV3 collected detailed data on land use and the agricultural activities of Rwandan households. The classification distinguishes households which cultivate land into the following categories; very small cultivators (under 0.3 ha), small cultivators (0.3 to 0.9 ha), medium cultivators (0.9 to 3 ha) and large cultivators (more than 3 ha). For Gakenke district, the mean size of land cultivated per household is 0.62 ha, which is above the national average (0.59 ha), rural average (0.6 ha) and urban average (0.46 ha) (NISR, 2010-2011).

This mean size of land cultivated (0.62 ha) per household in Gakenke district is more than the one given in 1.4 that varies between 0.2 and 0.5 in Nyarutovu ADP, in 2007. This study would also explore reasons for this difference. The percentage of land that has been reported as protected against soil erosion in Gakenke district is 92.2%. However, farmers themselves say that growing crops on hill sides, swampy valleys, soil erosion, floods, and lack of sufficient fertilisers are some of the outstanding challenges facing them (Mukombozi, 2009). This study looks at the factors which cause reduced food crop production, and confirms whether erosion is also one of them.

2.11.2 Roles of men and women in agricultural primary food crop production

Agriculture can be an important engine of growth and poverty reduction. But the sector is underperforming in many countries in part because women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity (SOFA & Doss, 2011). According to the same study, women in developing countries play a significant role in the agricultural labour force and in agricultural activities. Consequently their contribution to agricultural output is undoubtedly extremely significant, although difficult to quantify with any accuracy. It has often been claimed that women produce 60-80% of food. It can be attempted to allocate output by gender by assuming that specific crops are grown by women and others by men and then aggregating the value of women's and men's crops to determine the share grown by women.

In the context of Gakenke district as it is in Sub-Saharan countries, men have a big say over cash crops as they admit to be owning right to control them, and the legitimate demands a wife can make are therefore limited (Duflo & Udry, 2001). Concerning food crop production, women contribute a lot using their time and energy as a result of intra-house gendered labour distribution. For example activities like cultivation, seeding, weeding, harvesting mainly belong to women. However, when it comes to storing, men tend to have control over, and if there is a need to sell some crop products men will play a greater role because they reserve authority for themselves over money in the household.

FAO (2009) confirms that women make major contributions to crop production, producing up to 80% of basic foodstuffs for both the household and sale, in sub-Saharan Africa. In home

gardens, rural women grow vegetables that are important to household nutrition. In home gardens, rural women grow vegetables that are important to household nutrition. Women's roles in crop production are expanding: the out-migration of young men from rural areas has led to permanent changes in women's responsibilities and tasks.

This study also explore how men and women participate in primary food crop production, to see if each and everyone's role could be one of the factors for the current situation of food in the households affected by HIV/AIDS.

2.12 Conclusion

In Rwanda as well as in sub-Saharan Africa, HIV/AIDS is causing a wide range of economical, health, and agricultural problems. A number of problems in the households' livelihoods occur due to the AIDS-related impacts. As the majority of Rwandan relies on agricultural food production requiring labour force, a lot of households are likely to suffer the harm brought by AIDS because it first incapacitate people who no longer work productively. This scenario creates imbalance between food crop production and need in food, which results into weak means of living. This study will explore the impact AIDS on households assets, the intervention by World Vision Rwanda, the households livelihoods strategies and the livelihoods outcomes in order to clear factors that finally cause reduced agricultural primary food crop production. The findings will be verified on basis of this literature explored about the topic as it contains facts and findings on similar or almost same topics.

CHAPTER III. RESEARCH METHODOGY

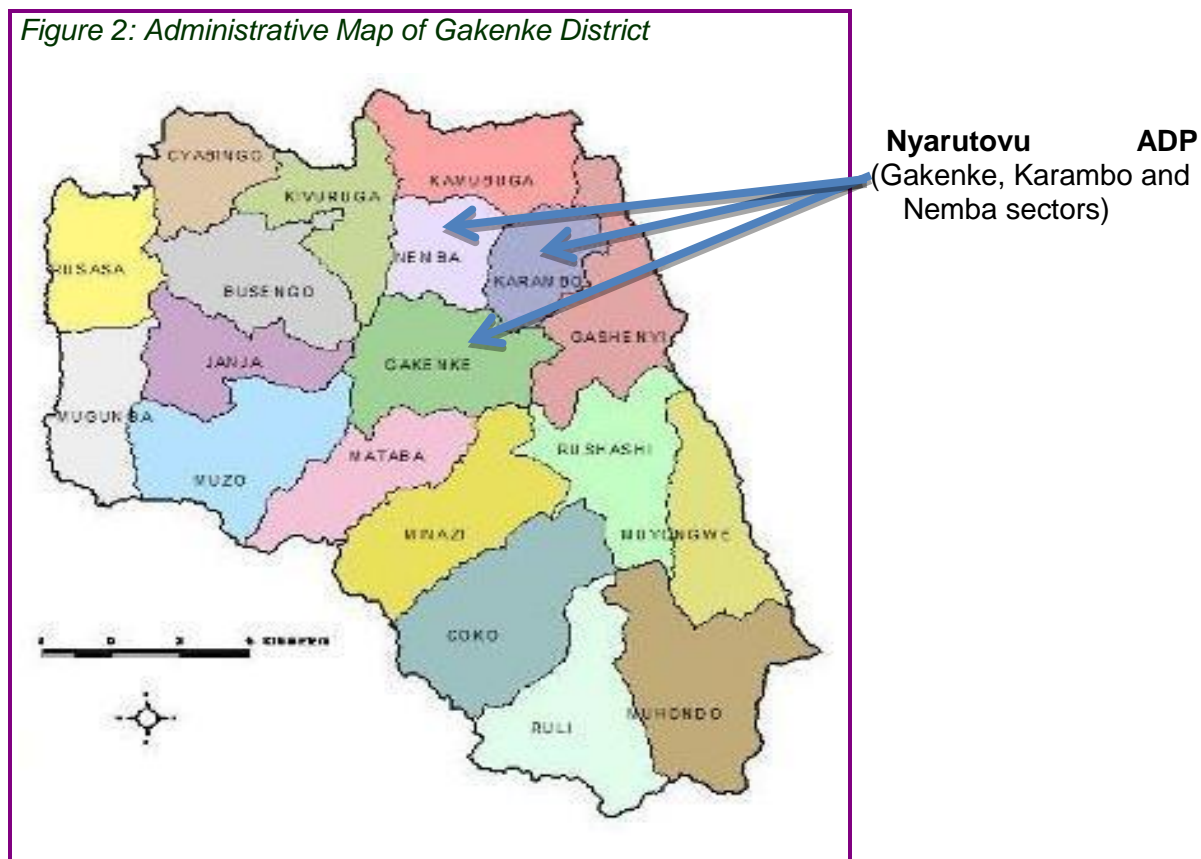
3.1 Introduction

This study used a qualitative method in data collection. It was applied during interviews and focus group discussions in order to get diverse information across different respondents. During data collection, attention was paid to every answer from respondents to prevent any loss of relevant information.

World Vision Rwanda was already aware of the research as they had authorised me to conduct it in Nyarutovu ADP, but the preliminary task was to plan together with the Project coordinator on how to get to the respondents according the schedule.

3.2. Description of the study area: Nyarutovu ADP, Gakenke district

Figure 2: Administrative Map of Gakenke District



Source: Nyarutovu Final Report, 2008

Location

Gakenke District; home of Nyarutovu ADP is situated in the Northern Province of Rwanda and is made up of 19 Sectors as shown in Figure 1.

Nyarutovu ADP operational zone comprises Gakenke, Karambo and Nemba sectors whose total population is estimated to be 14.5% of the district's population which is 316,025.

Criteria for selection of Gakenke district

Gakenke district makes part of the northern province of Rwanda, bordering with Uganda. This part of the country has recognized a lot of movement of the population because of the war that took place from 1990 to 1994. As one other drivers of HIV-infection, mobility caused a lot of infection so that Gakenke has HIV prevalence rate of 3.6% which is higher than the national HIV prevalence rate of 3%. The research considered this criteria to select this district from others to make area of his study, with the case study of Nyarutovu ADP.

3.3. Research strategy

The research strategy consisted of key activities that were done to ensure success of the data collection process. The activities included a desk-study (secondary data) and the primary data collection that involved Focus Group Discussions (FGDs), and individual interviews which were done with individual respondents and key informants. In this study, a case study was chosen to be used in order to explore and understand issues in depth as per the definition of a case study given by Johnson (2006): "It can be considered a robust research method particularly when a holistic, in-depth investigation is required. Recognised as a tool in many social science studies, the role of case study method in research becomes more noticeable when issues are with regard to community based problems".

3.3.1 Desk study

A desk study was carried out prior to primary data collection to review existing literature on HIV/AIDS related impacts to the households' livelihoods and interventions for impact mitigation. The literature was further done to look at agricultural primary crop production as a household strategy and how different researchers view its effect on HIV/AIDS and vice versa. The desk study or secondary data collection, also facilitated the designing of the research framework and the methodology for the study.

3.3.2 Primary data collection

The primary data was collected using qualitative information. A case study was conducted to gather data from HIV/AIDS affected households' heads through focus group discussions, individual interviews and key informants to get to the information needed, in line with primary food crop production in the households affected by HIV/AIDS.

3.3.2. 1 Focus Group Discussions (FGDs)

Focus Group Discussions are defined as "carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment." (Krueger & Casey, 2009). In this study, four FGDs were conducted with HIV/AIDS affected households' heads, while this method was used just to collect information discussed and sure because people cannot lie when they speaking openly together with others. Each of them counted 8 households' heads as per the literature from Wilkinson (2003) who indicates that the number of focus group discussions (FGDs) should be between seven and eight because beyond this number participants might not interact successfully as they would not have enough time to communicate their ideas. The following categories of households were concerned: widow headed households, orphan headed households, widower headed households and male headed households (both parents' households), and were chosen from others because they are the most dominant and active categories of households which can discuss socio-economic

related issues. As this study was to explore causes of reduced primary food crop production, it was important to involve all these types of households in order to make easier, balanced and insightful analysis of findings in this regard. Each category of household (cluster) was represented by 2 people of different sex in case this was applicable. One of the community facilitator in charge of Health and HIV/AIDS from the staff of Nyarutovu ADP helped the researcher to facilitate the discussions at the beginning of the process, just to get both parties introduced to each other and ready for the discussions. The selection of respondents (HIV/AIDS affected households' heads) was done randomly according to the four clusters above mentioned, taking into consideration the gender dimension among others. The process of selection was facilitated by staff of WVR in charge of Health and HIV/AIDS together with the researcher.

3.3.2.2 Respondents in individual interviews

Respondents in individual interviews were selected from participants in FGDs to make sure the information needed is given in depth and correctly. In this line of thought, Yin, (2009) says that a case study is the methodology that permits the researcher to gain deep insight in complex social setting or social processes in order to have the holistic and meaningful characteristics of the real events. The aim of this study was to get deep and accurate information, so it was better to concentrate on the same respondents and at different times. From 32 respondents who participated in the FGDs, only 22 were maintained for individual interview. They were selected according to their openness, willingness, but gender and location considerations were also a point. In fact, the number was reduced to 22 to allow time of deepening the information provided par respondents as per the aim of this methodology.

An open-ended interview questionnaire was used in order to explore information about subjects under study as per the questionnaire in the annex. Respondents provided answers and while the researcher tried to bring them to feel free in order to give as much information as possible, but also watching over the topics for discussion. This kind of interview was done in a free atmosphere whereby the interviewer had room to speak out their ideas about the topics concerning HIV/AIDS and Agricultural food crop production in HIV/AIDS affected households in Nyarutovu ADP.

3.3.2.3 Key informants' interviews

Key informants who were interviewed comprised 1 Local leader, Nyarutovu ADP Manager, 1 Sector development facilitator in charge of Health and HIV/AIDS, and the representative of PLWHA. These informants are called key informants because of their responsibilities in relation with HIV/AIDS affected households, and their level of perceptions of the problem of agricultural primary food production in Nyarurovu. Because the researcher wanted to probe and get as much information as possible, open ended questions were used to bring informants to feel free to talk about all issues that are related to the current situation of agricultural primary food crop production in HIV/AIDS affected households. The research had prepared to interview 1 caregiver in addition to the four ones mentioned above, but this type of post was found no longer existing in the structure of WVR.

Table 2: Key informants interviewed and main topics of focus

Informants	Main topics
Nyarutovu ADP Manager	1.Situation of households affected by HIV/AIDS before WVR intervention 2.Criteria for selection of the project beneficiaries 3.Support provided by WVR to HIV/AIDS affected households 3.Change occurred in primary food crop production with the support 4.Resons for reduced food production in HIV/AIDS affected households 5.New perspectives for the project beneficiaries to improve food production and live sustainably
Sector Development Facilitator, in charge of Health and HI/AIDS	
Representative of PLWHA	
Executive Secretary of Buranga cell (Local leader)	

3.4 Data analysis

The qualitative data that was collected has been systematically analysed by categorizing and discussing the findings under different topics, altogether aiming at finding out the factors that cause reduced primary food crop production in HIV/AIDS affected households in Nyarutovu ADP, Gakenke district. The findings were finally interpreted in texts, tables and figure in order to get the new strategy suggested to WVR by respondents for their future sustainable livelihoods, draw conclusions and possible recommendations.

3.5 Ethical issues

Given the sensitivity of the topic, conducting research on HIV/AIDS affected households raises several ethical issues. The researcher was, in some instances, reluctant to ask questions concerning illness and death of households' members, the household' members and AIDS related impact. It is because some respondents were looking a bit surprised to be taken back into their past which is not good at all. It was again difficulty to ask them why they were late when the time of appointment was surpassed, because some of them were not in a good mood because of taking ARVs and hunger in some cases.

It was necessary to discuss the purpose and the methods to use with all stakeholders before the research started, to get the consent from respondents and assure them to use the information for what it was collected for. Again, the confidentiality and privacy of the information provided by the stakeholders must be respected and kept anonymously.

3.6 Limitation of the study

The data collection took place when it was very sunny and dusty in Gakenke district, and it was not easy to access some corners of the area of study to conduct the research more closely to the project beneficiaries' households.

Because PLWHA are always taking ARVs and most of the cases obliged to go to the hospital as frequently as possible, some interviews were forced to delay, to speed up or to be postponed in order to allow respondents to respect instructions given for their health. In this case, the flow of information was cut off and the quality of information could be also impacted. The researcher conducted the study at 40 km from home. Going there every day could not be practical as he had to pay for the transportation and lunch. Because the time for data collection was somehow reduced, therefore he was obliged to speed up the process.

CHAPTER IV. PRESENTATION AND ANALYSIS OF FINDINGS

This chapter presents the results obtained from the field research conducted in Gakenke district, Nyarutovu Area Development Program of World Vision Rwanda. The findings are gathered from different sources: Focus Group Discussions (FGDs), and individual interviews with program beneficiaries and key-informants. Participants in individual interviews were considered to deliver information in its fullness, therefore their answers constitute the basis for this chapter. However, this information was confirmed by participants in FGDs' information as well as information from key informants who, in addition to this, elaborated more on Health and HIV/AIDS project conception and organisation, as well as on future perspectives of World Vision Rwanda (WVR) for the project beneficiaries.

4.1 General characteristics of respondents

This section presents the characteristics for all participants in the study as per the tables below:

Table 3: Participants in the Focus Group Discussions

Type of household	Sex		Total
	Male	Female	
Both parents' hhd	3	5	8
Widow headed hhd	-	10	10
Widower headed hhd	8	-	8
Orphan headed hhd	2	4	6
Total	13	19	32

Hhd: household

The Focus Group Discussions gathered 32 participants in four sessions, each one hosting 8 participants. Male headed household (both parents' household), widow headed household, orphan headed household and widower headed household were chosen to be considered because they are the most noticeable types of household. As in table 3 above, females participated more than males. According to Nyarutovu ADP's report, female headed households affected by HIV/AIDS in this area are a lot more than male headed ones. For this reason, the category of widow headed households was the most represented. Indeed, Rwanda counts a great number of widows after the genocide of Tutsi that took place in 1994. Being more vulnerable, they also dominate such gatherings that look at their socio-economic development. The information provided in the FGDs was not kept separately, it completed the one from individual interviews as they were almost the same.

Table 4: Key informants

Informant	Responsibilities in relation with HIV/AIDS affected households
Nyarutovu ADP Manager	Coordinator of all programs run in the ADP
Sector Development Facilitator	In charge of Health and HIV/AIDS in Nyarutovu ADP
PLWHA Representative	Coordinating PLWHA, and social worker at Nemba hospital
Local leader	Executive Secretary of Buranga cell; in charge of socio-economic development of the population in the Cell (administrative entity smaller than a sector)

The key-informants were chosen according to their responsibilities. Their knowledge about the situation and experience they have with HIV/AIDS affected households were considered for reliable inputs in this study.

Table 5: Distribution of respondents in individual interview according to their sex and categories of household

Category of households	Sex		Total
	Male	Female	
Both parents' hhd	4	3	7
Widow headed hhd		7	7
Widower headed hhd	3		3
Orphan headed hhd	1	4	5
Total	8	14	22

The respondents were considered according to the types of households they come from as well as their sex, in order to get balanced information. In this regard, the table above shows that female respondents were the majority, while the category of widow headed households was most represented as well as male headed households. As said earlier, women (all females included) tend to dominate men in number in several public gatherings, and this is mainly due to the history of Rwanda. However there are more female orphans heading households, and this is due to more age compared to males in the households. The responsibilities they assume for their siblings may therefore retain at home and preventing them from opening other horizons of life including studies among others.

4.2 The situation of HIV/AIDS affected households before they were supported by WVR

This section presents the impact of AIDS on the selected households before WVR started supporting them. As a fact, the quality and quantity of household assets determine the level of the household's livelihoods and ability to cope with adverse impact of AIDS.

4.2.1 Assets owned in the households and who among the household members controls them

This question investigated about quantities of household assets owned by the project beneficiaries that can contribute to primary food crop production, in order to relate them with the problem of reduced food. As it can be seen in the following six tables, decision making is also talked about as one of the factors that make easier the management of household assets meant to make household members' living.

Table 6: Availability of labour according to the categories of household

Category of household		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Quantity of labour						
No labour		-	-	1	2	3
Less labour		6	5	-	1	12
Not enough		-	1	1	1	3
Enough		1	1	1	1	4
Decider on labour	M	7	-	3	1	11
	F	-	7	-	2	9

This question was asked to clarify the relation between labour owned in the households and the current status of crop food production. Three types of interpretation were given to quantify labour in the households affected by HIV/AIDS, according to answers from respondents: No labour, not enough labour, acceptable labour and enough labour. The comparison made between the number of people who are able to participate in the primary food crop production and the total number of the household members was the basis to interpret the quantity of labour. As table 6 above presents, the majority of households have not enough labour. This situation has a close relationship with the situation of reduced primary food crop production that prevails in the households affected by HIV/AIDS supported by WVR. Male headed households and widow headed households proved to have this situation more than others. This would imply that these households have a lot of members to care of but whose ability to contribute in the production is little. They mostly have small children who are still at school and who cannot help in farming activities. About the decision making on available labour, males in male headed households tend to decide more than females. In the households without labour (3), there is no decision making as per the table above.

Table 7: Access to land

Capital	Quantity	Number of respondents	Decider on the land use		
			M	F	Hhd members all together
Land (natural)	Very small land	10	4	5	1
	Small land	4	1	2	1
	Acceptable land	5	4		1
	Sufficient land	3	1	2	-

As shown in the table 7 above, land is the most important type of natural capital owned in Nyarutovu ADP, though a lot of respondents proved to have a very small land. Very small land refers to land under 0.3 ha of land, that can contain a house and home garden, small land refers to land between 0.3 and 0.9 ha of land that can only contain house and some crops, whereas enough or large land refers to more than 3 ha of land whereby required crops can be grown. Very small land was mostly reported in orphan headed households, some widows and widowers who have sold land while their partners were sick and after their death.

Small landholdings and less labour as in the table 7 place HIV/AIDS affected households in the position of vulnerability, because rural households in Rwanda normally rely mostly on agricultural production whose most important factors are labour and land. Apart from orphan headed households wherein children try to decide together upon their land use, and widow headed households where decisions are always taken by the heads themselves, the data confirms that other households are slightly more dominated by males than females while deciding on the use of their land.

Table 8: Financial capital

Capital	Type	Number of respondents (n=22)	Decider on money		
			M	F	Hhd members all together
Financial	Own or other hhd member' s income generating activity	6	5	1	
	Bank savings	0	-	-	-

Table 8 above presents answers of respondents whose majority do not have any income generating activity in the household. This would result from HIV/AIDS affected household's level of knowledge and skills to create options for their livelihoods. They all said that they do not have any savings in banks. However, this could not be totally true, because people are now sensitised enough to keep their money in banks which are now closer to them than before. Regarding decision making on finances, they said that males decide upon household finances more than females. One female who said to decide upon household finances is a widow

household head. But respondents (from both parents' households) said that when it happens to have money in bank, men decide upon as heads of the households. This gender imbalance in decision making upon finances would also be a barrier to the process of improving household members' lives, since one-way decision can sometimes be wrong.

Table 9: Social capital

Capital	Type	Number of respondents (n=22)	Decider on the connections		
			M	F	Hhd members all together
Social	Individuals	3	1	2	
	Organisations	22	8	14	

In the table 9 above, three respondents said to have individuals who help them. Individuals in this case refers to a particular person or family who can intervene for households affected by HIV/AIDS. Individuals may include relatives, neighbours or other people. However, all respondents proved to have organisations that can provide help to them. One them said PAPSTA as a project under the Ministry of Agriculture and Animal Resources and Higa Ubeho, an organisation which usually provides students with materials. When asked about organisation like community based organisations (CBOs), NGOs, Religions, etc., all respondents responded to only connect cooperatives for PLWHA and different churches.

Though the cooperatives coordinate and bridge between HIV/AIDS affected households, the hospital and WVR, this situation of social capital seems not to be strong as the households needs support for their livelihoods' betterment. It could be better if there were other CBOs and NGOs that support them. About the decision of belongingness or participation to any of the two organisations, it is highlighted by the number of men and women who participated in this study, the same for the connection with individuals who support them.

Table 10: Physical capital

Capital	Type	Number of respondents	Decider animals and wood		
			M	F	Hhd members all together
Physical	Reared animals	12	7	4	1
	Wood	1		1	
	None	9	-	-	-

Only two reared animals and wood are owned in households affected by HIV/AIDS who participated in this study, as per the table 10 above. A few cattle and some small animals constitute owned by a number of respondents this category of reared animals, while wood seems to be rare in these households. In addition to this, a lot of households mainly including orphan and widow headed ones said to have no animals reared. This resulted from the sales

made when parents or partners were sick or died. However, males still represent the majority for decision making upon this kind of asset which gives impression of unilateral utilisation of them. In case reared animals are sold without consent of both partners, while fertiliser they provide is important to make good crop production. The household therefore undergoes risks of continuous hunger.

Table 11: Five assets summarized, before WVR intervention

Access to resources		Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Labour	None			1	2	3
	Not enough	6	5		1	12
	Acceptable		1	1	1	3
	Enough	1	1	1	1	4
Land	Very small	4	3	1	2	10
	Small	1	2		1	4
	Acceptable	3		2	1	6
	Sufficient		2		1	3
Financial	IGA	3	2		1	6
	Savings at bank					0
Social	Individuals			1	2	3
	Organisations	7	7	3	5	22
Physical	Reared animals	7	4	1	1	13
	Wood		1			1

This table 11 above is just summarising the whole situation whereby HIV/AIDS affected households prove to have insufficient assets as a factor to suffer a lot of harm caused by AIDS related impact. It is an overview to allow the reader to comprehend clearly why different categories of households may suffer differently from less food, depending on the quantity of assets they have. Each number in the table represents the number of households from each category which have the quantity of asset as indicated in the columns' titles.

4.2.2 Role of males and females in the primary food crop production in the household

This table below presents the issue of roles in the households, in order to link the situation with food crop production whereby both men and women should normally have a joint efforts.

Table 12: Roles of males and females in primary food crop production

Type of activity	Respondents (n=22)		Helped by others
	M	F	
Land cultivation	1	18	3
Growing crops	2	17	3
Weeding	2	17	3
Harvesting	2	17	3

The question about the roles that both males and females perform in the primary food crop production investigated whether labour division in HIV/AIDS affected households could be a factor for reduced food production. In this regard, the respondents let the researcher record that females work on farm from the land cultivation up to the final stage of collecting food for consumption as can be observed in the table 12 above. It was affirmed by 18/22 respondents for land cultivation and 17 for growing crops, weeding and harvesting. Contrary to this, only a few males accept to get involved in these activities. This would derive from an attitude that a lot men, especially rural ones, have in their mind that to be head of the household means to supervise what the household members are doing. Females become therefore more responsible than males in the activities related to primary food crop production. This imbalanced division of labour in the households, whereby females are left all responsibilities concerning the work on farm, is also a factor to incompleteness of the work and therefore reduced production. Women have a lot of roles; reproductive and productive which make them so overloaded that some tasks cannot be well performed. Working on farm alone and expecting desired production from her is a burden that in some instances results into failure and reduced production as of this situation.

Three respondents, two from orphan headed households and one widower said to be helped by grandparents and other neighbours respectively. This implies lack of land, less labour for the widower and young age for the orphans, and therefore they cannot cope successfully with impact of AIDS alone, either.

4.2.3 Impact (effect) that occurred on the household assets in case of less food

The respondents in this study disclosed about the change brought on household's assets by the fact that food was less. The following table presents this situation in a more clear way.

Table 13: Impact of limited food on household assets

Assets	Situation occurred	Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Human capital	One child dropped out of school		2		2	4
	I dropped out of school myself				1	1
	Unable to work properly	7	5	1		13
	Nothing happened			2	2	4
Financial capital	Money was used up to buy food	7	7	3	3	20
	No money				2	2
Social capital	Too much burden on relatives who provide help	1			2	3
	We do not have any social connection that can be beneficial	6	7	3	3	19
Land	Some or all land was sold	2	1	2	2	7
	Nothing changed	5	6	1	3	15
Physical capital	Some or all animals we reared were sold	1	2	1	2	6
	Wood was sold		1		1	2
	Nothing changed	6	4	2	2	14

To explore the impact occurred on owned household assets in relation with reduced food crop production in the households affected by HIV/AIDS, the respondents let the researcher record that there was always an impact when food was insufficient in the household. A number of striking impacts score higher as in the table 13 above, while some respondents said that there was not any change in their assets, maybe because they have been more defensive than others, due to other coping strategies. As said in the section 4.2, the level of coping with AIDS related impact depends on the quality and quantity of household assets owned. However, a lot of households affected by HIV/AIDS in Nyarutovu ADP disclosed to have critical situation of assets in this study, due to the AIDS related impact that was translated in reduced food in the household. As a matter of fact, this caused less resilience to AIDS related impact, source of their vulnerability. As the table shows it, orphans dropped out of school drastically, especially from orphan headed households who do not have care from parents, and from widows headed households with less means and labour.

4.3 Support received from World Vision Rwanda by the households affected by HIV/AIDS for primary food crop production

This section presents what respondents acknowledged to have received as support and how it was decided upon for use. It further shows how respondents know their cooperation with World Vision Rwanda (WVR) and all the changes that have occurred during their cooperation.

4.3.1 Support received and who received it

The support received from WVR is presented in the following two tables, just to know which types of households received which item and why not others.

Table 14: Support received and who received it

Type of support received	Categories of households				
	MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Seeds of beans	3	2	-	1	6
Vegetable seeds	2	1	-	-	3
Cow	1	1	-	-	2
Pig	1	-	-	1	2
Flour for porridge	-	4	1	2	7
Small fish	-	3	1	2	6
Sugar	-	3	1	2	6
House	-	-	-	1	1

The question to know all items received in support was asked in a bid to relate it to HIV/AIDS affected households' needs, and their contribution to primary food crop production. Through the discussions held and individual interviews conducted, it was recorded that the support received from WVR during 2011 and 2012 comprised seeds of beans, vegetable seeds, a few cows and pigs, flour for porridge, small fish, sugar and only one house as can be seen in the 14 table above. In addition, seeds of beans, flour for porridge, small fish and sugar are the most received support whereas house, cow and pig were rarely provided.

All respondents further said that the support was always received by the head of the household. In this study, females received support in 21 cases whereas males received it in 12 cases. In fact, as can be seen in the same table, flour for porridge, small fish and sugar were most received. Among the households, orphan and widow headed households received more food items than other types of support. A possible explanation for this could be in relation with people being on antiretroviral treatment (ARVs), needing food for taking the drugs and needs ranking.

Furthermore, flour for porridge, small fish and sugar were given to more females than males. This could result from the number of respondents whereby females are more than males. In this regard, more women could be taking ARVs. It is also well observed that the households with both parents received more sustainable support (seeds of beans, vegetable seeds, cow, and pig) whereas the rest received more food aid. This could be dependent on possible exchange of advice due to household composition. It is known that men tend to decide upon the household assets, especially when they can generate money. It could therefore be possible that to express needs and choice of support the households headed by men can opt more for sustainable support than other type of support.

Table 15: Support received according to each sector

Sector	Type of support received							
	Seeds of beans	Vegetable seeds	Cow	Pig	Flour for porridge	Small fish	Sugar	House
Gakenke (n=8)	4	1	2	-	1	1	1	1
Nemba (n=9)	1	1	-	2	5	4	4	-
Karambo (n=5)	1	1	-	-	1	1	1	-
Total (n=22)	6	3	2	2	7	6	6	1

Nyarutovu Area Development Program comprises Gakenke, Nemba and Karambo sectors. This study investigated about the distribution of the support over the whole area to see whether locations were considered differently by the project team. In fact, Nyarutovu ADP has its office in Gakenke sector, but very closely to Nemba sector. As per the table 15 above, the study shows that Nemba has more respondents who received support while Karambo is the last among the three. This More important support was received in Gakenke and Nemba, and this would mean that more chance was given to those staying near the office. The table shows again that more food aid was received in Nemba sector, maybe because they have a higher number of widows and females in general than others. In addition, this situation might imply a lot of people on ARVs who need proteins from vegetables, fish and energy from porridge, in Nemba compared to Gakenke and Karambo sectors. However, this study cannot confirm these assumptions above because it did not go further to look into existing data which could give more light in the numbers per location in terms of households affected by HIV/AIDS, people on ARVs, widows, widowers and orphans.

4.3.2 The use of support received and who decided upon the use

Receiving support is important, but deciding on a proper use in a household like HIV/AIDS affected households which have been suffering from AIDS related impact is more important. The following table presents the situation in detail.

Table 16: The use of support received and who decided upon the use

Type of support	Cases where support was received	What they were used for		Who decided upon it	
		The same purpose	Other	Male	Female
Seeds of beans	6	6	0	1	5
vegetables seeds	3	3	0	2	1
A cow	2	2	0	1	1
A pig	2	2	0	-	2
Flour for porridge	7	7	0	2	5
Small fish	6	6	0	2	4
Sugar	6	6	0	2	4
House	1	1	0	-	1
Total	33	33	0	10	23

To link the current situation of HIV/AIDS affected households and the support they received, this question was asked. Among the households heads interviewed, more females (66.6%) received support than males did (33.4%). As can be seen in the table 16 above, all respondents testified that the support they received from WVR was used for the purpose it was provided, that is to produce beans, vegetables, to rear cow and pig, to make porridge for consumption, and others as indicated in the table. However, key informants in this study argued that some project beneficiaries may sell the support received in case a follow up is not made properly. This could be justified by the fact that living with a chronically ill person you might have instant need for cash, whereas the households already have less financial means to solve such an issue.

Having more females who decided upon the use of support than men in this study results from the higher number of female heads of households who participated, but also as result of the general situation whereby females dominate males in number as said in the section 4.1. This therefore confirms the abilities that females also have to make decisions for their households when they do not have husbands around, but also can exercise the same in case they are trusted by their husbands if any.

4.3.3 Sufficiency of support received

In 33 cases where support was received, all respondents who received it said that it was not sufficient compared to what they needed for food production and their survival. In fact, most households have a lot of members compared to their capacities to care properly of them. As an example, when the researcher asked about the households' members numbers, two respondents said to have seven members, whereas only two of them in each household can work. One staff of WVR, in Nyarutovu ADP explained the type of support that they provide in this regard:

“WVR does not however have quantities of support items that can solve all problems that are found in the households we support, it is only a small aid to supplement their own resources. This program is no longer of priority in WVR, it is progressively withdrawing the focus as per the policy of the government whereby people are to shift from external supports to their self-reliance.”

This shows how difficult it is for HIV/AIDS affected households to produce required crop food, because even the support they receive is little compared to their needs in the food production process.

4.3.4 Other support WVR has been providing to HIV/AIDS affected households besides tangible support they receive

Psychological and technical support is also needed for people undergoing impact of AIDS in their households.

The research, through this question, investigated about the support other than what the households affected by HIV/AIDS receive in kind, to supplement and reinforce the tangible one. This was to link the outcome and the prevailing situation of food crop production. All the respondents (22) gave a negative answer when they were asked about training in good practices and improvement of primary food crop production, training in management of the production, as well as in psychological counselling. One respondent however acknowledged to have seen WVR staff following up how the primary food crop production was going on in their household. It is widow household head who lives closely to the ADP office, and this would perhaps result from the regular contact she has with the staff.

AIDS related impact places people in a position of hopelessness, discouragement and therefore in idleness that cloud over the vision for the future. Working hard or undertaking new techniques in farming and other things do not come easily unless one is closely assisted. For HIV/AIDS affected households in this study, this has not been the case and it could be one of the reasons for reduced primary food crop production in their households.

4.4 Change occurred in primary food crop production since households affected by HIV/AIDS have been receiving support from World Vision Rwanda

This section puts forward the answers given by respondents as far as production of maize, beans, cassava and wheat is concerned. The situation of these four crops before and during the support of WVR was discussed through questions and their results together with the roles played by each and every one (males and females) in the household are presented.

4.4.1 The production of the 4 selected crops in Gakenke district before the support of WVR

The table below is all about the categories of households affected by HIV/AIDS and which types of crops among maize, beans, wheat and cassava they used to grow and their estimated production.

Table 17: The production of maize, beans, wheat and cassava before the support of WVR

Crops	Production	Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Maize	Did not grow	5			2	7
	Not enough	2	7	2	4	15
	Enough					0
Beans	Did not grow	1	1		3	5
	Not enough	7	7	2	3	19
	Enough					0
Wheat	Did not grow	7	7	1	5	20
	Not enough		1			1
	Enough					0
Cassava	Did not grow	4	5		3	12
	Not enough	3	3	1	3	10
	Enough	1				1

This question was asked in order to set up a baseline in production of Maize, beans, wheat and cassava as four main crops that the district of Gakenke has chosen over the last years for the population to give attention to, and boost the production in order to reach food security. The table 17 above contains data gathered, leading to know that 7/22 respondents did not grow maize, 5 among them did not grow beans, 20/22 respondents did not grow wheat, while 12 did not grow cassava. This would mean that people did not like these crops, or just land size could not allow it. However, even the respondents who used to grow them did not have enough production, this would also question the quality of agricultural inputs; labour, land itself, fertilisers, etc. Only one household headed by a widow grew wheat, maybe she lives near the part of the district whereby this crop fits, otherwise it is not appropriate for this case study. One male headed household got enough production of cassava while others hardly grew it or harvested from it. It might be a cause of their land or skills in this specific crop. In general production of these crops were low and therefore giving reason to the problem of food and related weighing impact of AIDS in their households.

4.4.2 Change occurred on farming land size in the course of WVR support and its reasons

Indeed, landholdings changed in the households affected by HIV/AIDS. This table illustrates it as per each category of household.

Table 18: Change occurred on farming land size and its reasons, during 2011 and 2012

Change	Reason for change	Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Increase	Plot bought for cultivation	2	1			3
Decrease	Sickness/death	1		1	3	5
	Giving inheritance to children	1				1
	Erosion		1			1

To investigate if reduced crop food production was or not due to land size decrease, this question was asked. It was therefore recorded that land size for many respondents did not change in 2011 and 2012, but they further said that before this period land sales had been a lot because of sickness and sometimes death of households' members. However, 7 respondents said that their land decreased while only 3 had their land slightly increased. This reduction in land size impacts a lot on the crop food production, and HIV/AIDS affected households suffer more as they do not have food for their survival. As a lot of them regularly take ARVs, less food weakens them and make them more incapable to produce for their households members and themselves.

4.4.3 The production of the 4 selected crops in Gakenke district in 2011 and 2012, while benefiting from the support of WVR

The following table presents the status of production in the period considered in this study in order to further locate what the support brought to the usual level of production.

Table 19: The production of maize, beans, wheat and cassava in 2011 and 2012

Crops	Production	Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Maize	Increased	6	5	2	2	15
	No change	1	1		1	3
	Decreased		1			1
Beans	Increased	6	5	1	2	14
	No change	1			1	2
	Decreased		1			1
Wheat	Increased					0
	No change	1				1
	Decreased					0
Cassava	Increased	2	2	2	2	8
	No change	1				1
	Decreased		1			1

This question was asked to trace change in production and the real contribution of support from WVR. Compared to the years before 2011- 2012, the production of maize and beans increased as it was witnessed by the respondents. As presented in the table 19 above, 15/22 respondents gave this response for maize while 14/22 respondents did the same for beans, and 8 for cassava. The respondents explained the increase in production as double or one and half of the usual production per season. On the other hand, the households did not grow wheat in these two years, except one of them which tried it and failed to realize any change in comparison to what they were used to before this period. One household did not have a visible change in production because they did not have any money to buy any kind of fertiliser. Though wheat makes part of the four selected crops, it is grown specifically in the neighbouring sectors.

However, respondents explained that the increase in production of beans and maize was mostly due to the efforts of the Government in the area of crop production and not to the support of WVR. Indeed, food aid dominated the support from WVR, while other support that can contribute to the production of food was very small. In addition, this increase does not mean that households affected by HIV/AIDS have attained required production. It is only in comparison with the previous situation and efforts that were made, especially by the government. Due to

less labour caused by sickness of people and always on ARVs, small land ownership and the number of people to feed, mostly composed of children who cannot work, less financial means not allowing to buy required agricultural inputs, the production remained insufficient in the households throughout the year, therefore perpetuating their vulnerability.

4.4.4 Reasons for the change occurred in production in 2011 and 2012

The production changed, but households motivate it differently as per the following table.

Table 20: Reasons for the change occurred in production in 2011 and 2012

Change	Reasons	Categories of households				
		MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Increased production	Government support (advice, CIP and LUC programs)	4	3		1	8
	WVR support		1			1
	Use of fertilisers	3	4		2	9
	Selected seeds		1			1
Decreased production	No fertilisers	1	1		3	5
	Lack of knowledge and skills	1				1
	Physical weakness/illness	1	2			3
	Crop diseases	2			1	3
	Erosion / river water/Climate	2	1			3

This question was asked in order to link each individual crop among maize, beans, wheat and cassava to the current situation of food crop production in HIV/AIDS affected households. According to the participants in the research, the production of maize, beans and cassava increased because of the use of fertilisers and government support: advice, Crop Intensification Program (CIP) and Land Use Consolidation (LUC). Regarding the decrease in production, the most presented reason is the absence of fertilisers, followed by physical weakness and crop diseases. The new programs introduced to improve agricultural production (CIP&LUC), made some slight change though the households affected by HIV/AIDS did not reach a satisfactory level of food production compared to their needs in foods for their survival. This is because though the Government has set and availed programs, farmers have to be able to buy fertilisers themselves whereas the majority of households affected by HIV/AIDS in this area are still short

of such means, and yet the government does not guarantee any special support in terms of cost reduction or free donation to them.

Maize and beans increased mostly in male headed households (with two parents), and widow headed households, while the majority of widower and orphan headed households did not realise any difference in production compared to previous seasons. This may be justified by the difference in assets, especially active labour and landholdings, even knowledge and skills in terms of crop production.

4.4.5 Reasons for reduced primary food crop production in households affected by HIV/AIDS

To link the situation with new perspectives for HIV/AIDS households, the following table presents a number of reasons behind the reduction of crop food.

Table 21: Reasons for reduced primary food crop production

Reasons	Respondents (n=22)				
	Male headed hhd N=7	Widow headed hhd N=7	Widower headed hhd N=3	Orphan headed hhd N=5	Total
No fertilisers	7	6		3	16
Prolonged sickness	1				1
Loosing courage/hope for future	1	3	1		5
Lack of selected seeds	4	3		2	9
Physical weakness (because of ARVs)	3	5	2	1	11
Climatic conditions	7				7
Less financial means	1	1			2
No or less labour		3		3	6
No or too small land for cultivation		1	2	1	4
Erosion				1	1
Less small animals for rearing		1			1
Loosing parents				2	2

This study was interested in finding out why primary food crop production is reduced while WVR has not stopped to provide support. As this analysis was key to put out cause and effect relationship with regard to reduced primary food crop production, data collected allowed to know that lack of fertilisers, physical weakness because of illness and ARVs sometimes as a consequence of lack of food, and lack of selected seeds are the main reasons. Lack of

agricultural input (selected seeds and fertilisers) has been pointed out by the majority of respondents, and mostly by male headed households (both parents) and widow headed households. They have more labour and landholdings than other households, but also willing to produce more for the households' members. It is contrary to widower headed households whose responses did not include fertilisers and selected seeds. They proved to have less labour force and courage to work, but also a lot of them are elderly and this confirms continuous insufficiency in their households

4.5 Other parties involved in addressing the problem of reduced food crop production in HIV/AIDS-affected households in Nyarutovu ADP

This following section highlights experiences of respondents with the Government in terms of support to address the issue of reduced primary food crop production. It further presents answers provided about other individuals and organisations that intervene for them like WVR.

4.6.1 Support of the local government to HIV/AIDS affected households in primary food crop production

The following table presents the experience of households with the government in their situation of reduced production.

Table 22: Support of the local government in primary food crop production

Type of answers	Respondents (n=22)
Advice in agricultural practices and production improvement	6
Availing selected seeds and chemical fertilizer	2
They only give instructions, not advice	2
They do not care of us	1
Nothing is provided	12

In a bid to have information about what the local government does to insure their population succeeds primary food crop production, this question was asked and the majority of respondents said that there is nothing done for them in this regard. However, 6 out of 22 respondents, as presented in the table 22 above, witnessed to benefit advice in agriculture practices and production improvement. Only one respondent said that they do not care of them. People who said advice in agricultural practices and production improvement referred to the programs of CIP and LUC talked about in sub-section 4.4.4, and availability of selected seeds as well as chemical fertiliser initiated by the government and implemented by the local government.

Nethertheless, the respondents who said that the local government does not do anything for them might have referred to free donation and direct support like food aid and other free things they were expecting to. This mind-set mirrored how far a lot of households in this case are situated in terms of both individual and general development.

4.5.2 Other organisations or individuals who support HVI/AIDS affected household in Nyarutovu to address primary food crop production related problems

To shed light about who else intervened for the households affected by HIV/AIDS in Nyarutovu, a table was conceived.

Table 23: Other organisations and individuals which intervene in primary food crop production

Supporters	Types	Respondents (n=22)
CBOs and/or NGOs	PAPSTA, Higa Ubeho	1
	None	21
Individuals	Neighbours	1
	Grandparents	2
	None	19

The data collected put out that a lot of respondents did not receive any support from either organisation, they only know WVR. PAPSTA and Higa Ubeho are two organisations that only one respondent acknowledged to have received support from. Regarding support from individuals, as per the table 23 above, almost all the respondents did not recognise any person who gave them either support. For people who still need joint efforts for their release, this is critical situation of parties that may support these households. Only two small orphans heads of households and an old widower head of household receive support from their grandparents and neighbours respectively.

4.6 New support strategy to improve primary food crop production in households affected by HIV/AIDS and sustain their livelihoods

This section presents the way forward suggested by the respondents for them to have future sustained livelihoods. From their coping strategies when crop production has reduced, HIV/AIDS affected households' heads suggested strategies for intervention that WVR would use to strengthen and sustain them.

4.6.1 Coping strategies in HIV/AIDS affected households when the production of crop food is reduced

HIV/AIDS affected households' coping strategies were linked to the perspectives meant to build their resilience. The table below illustrates them per categories of household.

Table 24: Coping strategies in case of reduced food in the household

Coping strategies	MHH (n=7)	WHH (n=7)	WrHH (n=3)	OHH (n=5)	Total (n=22)
Selling milk from own cow	1				1
Making and selling banana beer	2				2
Work casually for others (in farming) to survive	4	4	1	3	12
Eating less food and less times	1				1
Selling trees	1	1			2
Selling land	2	1			3
Selling reared animals	1	1	1		3
Carrying others' goods on head	1				1
Motorbike taxi job	1				1
Children's activity generating money (computer use)		1			1
Using saved money		1			1
Contracting a small credit		1			1
Own or children's small business		1	1		2
Bicycle taxi job				1	1
Begging			1	1	2
Withdrawing children from school		2		3	5
I did not have such a problem		1	1		2

The respondents revealed other mechanisms they use to cope with the situation whereby has reduced in their households. In the table 24 above, some households undertake some **activities that generate money**: selling milk from own cow, making and selling banana beer, motorbike taxi job, bicycle taxi job and children's activity of using computer. However, the rest of strategies are referred to when households are progressively becoming vulnerable: **Reversible strategies using protective assets**: working for others in farming in order to survive and carrying others' goods on head. **Strategies which are difficulty to reverse, using productive assets**: eating less food and less times, selling trees, selling land and selling reared animals, and withdrawing children from school.

Strategy used when a household is reaching a level of destitution: begging.

It has been recorded only two households; one for a 33-widow-headed household and a 52-widower-headed household which did not recognise this problem of reduced crop food production. This would question why WVR selected such households to be part of support beneficiaries while the rest of households very needy. But referring to different information received, people generally do not want to miss free support when the opportunity is present

even though they are able to manage themselves. This would however depend on people's level of mind-set and transparency. In addition to this, it is also possible that the criteria used by WVR to select the project beneficiaries were not profound enough to examine all the cases before the support was provided. Working for others was reported is also referred to by a lot of respondents for their survival. This would show admit their incapacity to afford other strategies, and this gives idea of their level of coping with AIDS related impact, which is indeed low for the majority of these households.

4.6.2 Other HIV/AIDS affected households' needs for primary food crop production improvement

The households affected by HIV/AIDS expressed their needs as per the table below.

Table 25: Needs for primary food production improvement

Needs expressed	Respondents (n=22)
Selected seeds	17
Fertilisers (organic and chemical)	19
Training and regular advice in agriculture	6
Small animals for rearing	4
Materials and products to fight crops invaders	1
Health insurance	1
Land	1
Foods	1

This question was to put forward respondents' concern while expressing their needs to improve primary food crop production in their households. Their answers on this question, as can be seen in the table 25 above, are mainly: fertilisers (organic and chemical) and selected seeds that they said WVR does not address. In fact, it has always been said in the respondents' answers that the crop produce is meagre when fertilisers have not been used. Small animals listed in their needs also serve in providing fertiliser. Though WVR staff in Nyarutovu ADP have also confirmed the crucial role of fertilisers in this region, they bear with the researcher that this issue has not been addressed so far by either stakeholder. It is then obvious that households affected households, with their few means, could not easily buy fertilisers themselves. As a matter of fact, their crop production remains hindered. The same is for selected seeds, training and regular advice expressed to be other major needs in this regard. Indeed, a combination of selected seeds, fertilisers, technical training and advice would undoubtedly improve primary food crop production in the households.

4.6.3 Suggested parties to intervene in parallel to WVR in addressing primary food crop production related problems

The table below presents a very few stakeholders that the households affected by HIV/AIDS could know and suggest for their future support together with WVR.

Table 26: Other institutions that may provide support in primary food crop production

Suggestions	Respondents (n=22)
Government	16
Global Fund	1
Compassion International	1
Do not know any	5

This table above presents what the respondents said why the research wanted to know about the cooperation and collaboration that can be between WVR and other parties, just to liaise and find together a sustainable solution to the problem of reduced food in the households affected by HIV/AIDS. The majority of respondents said the Government while a number of them proved not to know any organisation that can provide support in this regard. This may give an image of HIV/AIDS affected households' openness and knowledge about the outside of them. They almost exclusively think of the Government which is closer to them. Only two respondents said Global Fund and Compassion International that they said respectively to support their children and one church around.

4.6.4 New strategy suggested by HIV/AIDS affected households to WVR to improve primary food crop production

A strategy is needed to increase the crop production. The project beneficiaries suggested strategies that are presented in the table below.

Table 27: New strategies suggested to WVR to improve primary food crop production in HIV/AIDS affected households

Strategy suggested	Respondents (n=22)
Provide fertilisers, regular advice and materials to fight crop diseases	2
Provide selected seeds on time, fertilisers and trainings in agriculture	12
Provide small animals, follow up farming activities and provide regular advice in agriculture	3
Provide selected seeds, fertilisers and channel every support in the cooperatives of HIV/AIDS affected households	6
Doing advocacy for HIV/AIDS affected households for fertilisers and selected seeds	1
Provide selected seeds, fertilisers and psychological counselling	1

This question was meant to bring respondents to formulate a suitable strategy that WVR can promote and implement for HIV/AIDS affected households to get primary food crop production improved. Most participants in this research, as per the table 27 above, pointed out the provision of selected seeds on time, fertilisers and training in agriculture to HIV/AIDS affected households. Indeed, as discussed in section 4.6.2, Gakenke district is reported by a majority to

be successful in food crop production when farmers have used fertilisers. This need would also be justified by the fact that the soil of this district is mostly acidic. Six respondents who added channelling their support in their cooperatives referred to their groupings that know them better and usually organise them for follow up and advice at hospital. Indeed, cooperatives are one of the best ways to link up and benefit common support while seated together.

4.6.5 Suggestions expressed by HIV/AIDS affected households to WVR, to sustain their livelihoods for a better and independent future life

A table was conceived to present suggestions from HIV/AIDS affected households for their sustainable livelihoods.

Table 28: Suggestions expressed for sustaining HIV/AIDS affected households' livelihoods

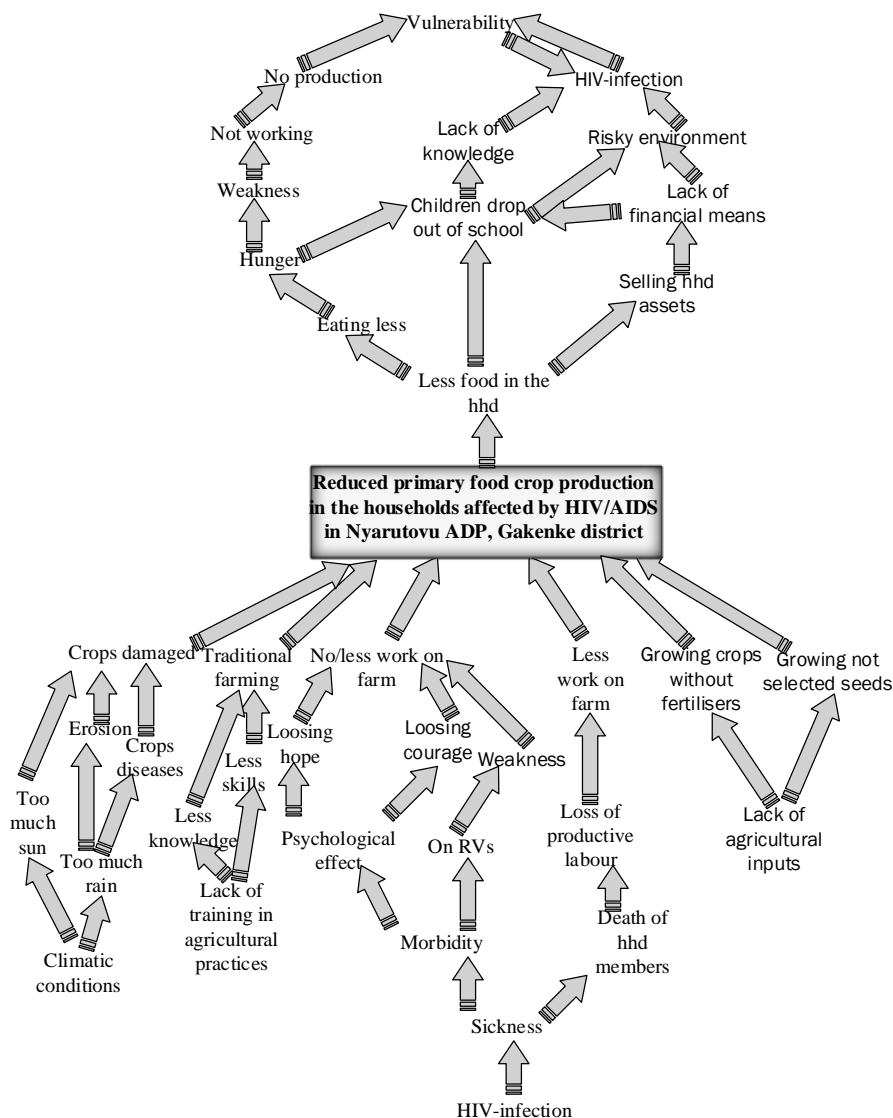
Suggestions expressed to WVR	Respondents (n=22)
Equipping HIV/AIDS affected households with knowledge and skills in agriculture	5
Train HIV/AIDS affected households' members (children and those who are still able) in technical skills : sewing, masonry and carpentry	16
Training HIV/AIDS affected households in seeds multiplication	1
Provide a grain mill to every cooperative of HIV/AIDS affected households	8
Give jobs to HIV/AIDS affected households' children who have completed their studies	4
Providing some materials that can generate money, like sewing machines	1
Promote HIV/AIDS affected households' small businesses and jobs	5
Support HIV/AIDS affected households' children who have not studied to do so	4
Provide cattle and small animals	7
Provide a house to those who are still troubled by shelter	1
Support in creating income generating activities	1

World Vision Rwanda will not support HIV/AIDS affected households endlessly in Nyarutovu ADP. For this reason, there is a need for the project beneficiaries to have their own mechanisms for their survival after WVR's departure. Probing about how WVR could make them independent and more resilient even in the time they will be fully caring of themselves, the suggestions mostly given, as in the table 28 are headed by "Training HIV/AIDS affected households' members: children and those infected who are still able to use them in technical skills (sewing, masonry and carpentry)". This suggestion, like more others, shows that the project beneficiaries need to have revival and skills in order to produce more productively and sustainably for strong mitigation of the impact of AIDS.

4.7 Summary of the findings presented in the form of cause-effect relationship

In order to show clearly which problems have been the source of reduced food crop production and its effects on the households, this figure is presented.

Figure 3: Field data summarised in a problem tree



As presented in the figure above, the field work let the researcher record thoroughly a number of causes to the problem prevailing: reduced primary food crop production in the households affected by HIV/AIDS in Nyarutovu ADP, Gakenke district. In addition, further investigation revealed different consequences to the problem that in combination result into vulnerability to the impact of AIDS in the households. It is however difficult for WVR alone to address all these causes, as they can only provide support in the form of relief service and prevention of HIV infection. For the project beneficiaries to have improved primary food crop production, a combination of efforts is important as influence of WVR on this complexity of problems is limited.

CHAPTER V. DISCUSSION OF FINDINGS

5.1 Introduction

In this research conducted in Nyarutovu ADP (Gakenke, Karambo and Nemba sectors), Gakenke district, information needed was gathered in depth as per the case study process in any research, and triangulated between different stakeholders who participated in the study. The problem of limited food in the households affected by HIV/AIDS was confirmed in this study and existing factors for it were identified. The participation of females was 63.6% while men were 36.4%, and this is justified by Nyarutovu ADP report 2012 whereby women are more affected by HIV/AIDS than men in this area. In the same line, Rwanda gender statistics show that women are 51.8% of the total population, while men 48.2% (NISR, 2013).

5.2 Situation of HIV/AIDS affected household before intervention from WVR

This section discusses the situation of household assets, putting more emphasis on labour availability and land access as the major assets for rural households. In most cases, the participants in this research proved not to have enough of each of the household assets.

5.2.1 Assets owned according to the categories of households

From the table 11 that summarises the status of assets in different categories of households, HIV/AIDS placed the houses in a precarious situation of livelihoods. It is normally true that availability of labour as well as access to land are quite preliminary conditions to livelihoods in rural households living of agricultural production. However, this study revealed that households in this area have been characterized by less labour than required and less land size for farming which, together with other factors, have resulted into less food for subsistence. It is a situation that is also confirmed by Wiegers (2008) who says that AIDS affects the household labour force both directly, through sickness and death of productive members of the household, and indirectly through household labour needed to care for the sick.

To put emphasis on the underlying factors to this situation, Mutangadura (2005) also adds that the major impact of HIV/AIDS on agriculture includes serious depletion of human resources, diversions of capital from agriculture, loss of farm and non-farm income and other psycho-social impacts that affect productivity.

Less household assets has placed households affected by HIV/AIDS in a position whereby food is less compared to the requirements in food for people on ARVs and other household members for their survival throughout the year. This situation is in line with the findings of Shapouri and Rosen (2001) who state that HIV/AIDS is a major threat to agriculture and food security because it reduces agricultural productivity and diminishes the availability of food through direct loss of family labour, reduction in time allocated to farming, sales of farm assets and cultivation of marginal land.

Widow headed households, widower headed households and orphan headed households are categories of household resulting from death of households' members in many cases, in Sub-Saharan countries where AIDS has highly endangered people's lives. This situation is reflected in a study conducted in Limpopo province, South Africa, which documents the impacts of AIDS on households, with consistent change in household structure, including an increase in female-headed households, smaller households with fewer children, and more households with orphaned children (Madhavan and Schatz, 2007).

Contrary to the study by Ellis (2000) who says that the social capital attempts to capture community and wider social claims on which individuals and households can draw by virtue of their belonging to social groups of varying degrees of inclusiveness in society at large, this study found out that the households affected by HIV/AIDS in Nyarutovu are short of social connections. They proved to belong mainly to PLWHA's cooperatives and churches, while only one out of twenty-two respondents connected with PAPSTA and Higa Ubeho, two organisations that intervened only once for them.

Their financial capital was disclosed to be low, and only a few households can have some small income generating activities. Wiegers (2008) tells the same story in her findings that HIV/AIDS puts a severe strain on households' financial capital through high medical bills, funeral costs and related transport expenses.

In fact, male headed households (with both parents) and widow headed households were recorded to have more labour and landholdings than other categories of households, but still their quantity remains not enough compared to what is required to produce food that can feed properly the households' members.

This is a result of HIV/AIDS impact in the households whereby members are reduced and therefore the production is reduced too. UN Secretary General's Task Force Report on Women, Girls and HIV/AIDS in Southern Africa (2004) says in this regard for the case of female: "as the death from AIDS is mounting, many widowed women are experiencing dispossession in rural areas. The overall result of these impacts of HIV and AIDS is a decline in agricultural production that was the main source of their livelihood".

Orphan headed households are very sensitive to this situation, the table 12 also shows how they do not have labour, nor farming land. They are helped by relatives and most of the time drop out from school because they do not have care or materials, nor enough food to make them at ease for their activities in life. As an experience of impact of AIDS given on human capital and related new orphan headed households, as per the findings of Smith et al., 2011, the death of a parent in a household will affect children's attendance in school, resulting in increased school dropouts. Widowers have also proved to have low quantity of assets as result of loneliness management level. They do not have labour, nor farming land required, and one of them is even at the level of destitution whereby he lives only of begging.

5.2.2 Role of males and females in primary food crop production

In exploring labour division in HIV/AIDS affected households, it was recorded that females work on farm from the land cultivation up to the final stage of collecting food for consumption as it is presented in the table 12. It was however realized that only a few males can work when it comes to weeding of maize and harvesting, therefore giving more responsibilities related to primary food crop production to females. FAO (2009) confirms the same scenario that women make major contributions to crop production, producing up to 80% of basic foodstuffs for both the household and sale, in developing countries by playing a significant role in the agricultural labour force and in agricultural activities. This situation whereby females are overloaded because of full time work on farm in addition to other tasks they have to accomplish in the household, becomes a of the factors of incompleteness of the work and therefore less production. Especially for this case of HIV/AIDS affected households, females on ARVs who are left these activities alone make it as the household members would expect. Such a situation is also confirmed by Sofa and Doss (2011) who say that the sector of agriculture is

underperforming in many countries in part because women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity.

As found in this study, sickness and physical weakness due to regular ARVs and less food impact a lot on the work of food production. In the same line of thought to justify the cause, Stokes (2002) says that HIV and AIDS can result in serious deterioration in the natural capital as the declines in human and financial capital due to illnesses and deaths could limit household's ability to invest in maintaining and improving their land base.

The limited primary food crop production is considerably fuelled by sickness and death of either the husband or wife in the household, and loss of knowledge as well as skills they had in particular areas that used to help the household survive. This is also illustrated in the example of Swaziland, a case study of the impact of HIV/AIDS and drought on local knowledge which confirmed that the pandemic erodes gendered local knowledge: the death of the man in the household usually meant the disappearance of knowledge and skills related to maize, while the death of the woman affected the household's knowledge of legume production (Mutangadura and Sandkjaer 2009).

5.2.3 Gender and decision making on households assets

The findings of this study show that in most of the households affected by HIV/AIDS in Nyarutovu ADP, males tend to decide more than females can do on the household assets. This situation is quite similar to what happens to other households not impacted by AIDS. Apart from households that are headed by females, others are subject to follow what males say on the household possession, especially when it is a productive resource. As presented in the sub-section 4.2.1, more males decide over labour available in the household, money generated from income activities, land sale or allocation and household social connections. This imbalance of power in decision making upon the use of household's assets normally meant to assure the household survival, becomes a barrier to food production in a more effective manner, as males cannot always be right in their decision alone. It can then perpetuate impact of AIDS as such unilateral decisions are likely to create misunderstanding in the household and therefore become a barrier to productive work on land.

The same situation is talked about the research of Duflo & Udry (2001) that in Sub-Saharan countries, men have a big say over cash crops as they admit to be owning right to control them, and the legitimate demands a wife can make are therefore limited. They continue saying that concerning food crop production, women contribute a lot using their time and energy as a result of intra-house gendered labour distribution. For example activities like cultivation, seeding, weeding, harvesting mainly belong to women. However, when it comes to storing, men tend to have control over, and if there is a need to sell some crop products men will play a greater role because they reserve authority for themselves over money in the household.

In the same line of idea, Mutagandura & Sandkkaer (2009) say that gender inequality in the access to, control of, and ownership of productive resources has been an issue in the rural setting where people live of food production they run themselves according to their possession.

In addition to this, in the households that have been much impacted by AIDS and lost their heads (men), women take over their responsibilities even when they do not have experience with them. They then exercise the role of household head and therefore take decision for the

sake of the household members. This gives reason of why a number of women respondents in this study decide on household assets.

5.2.4 Impact (effect) that occurred on the household assets in case of limited food

The households affected by HIV/AIDS in Nyarutovu have been experiencing a lot of harm from the effects of sickness and death due to AIDS. This was proved through the findings of this study whereby respondents said that the problem of limited food in their households due to less productive assets caused them many problems. As presented in the table 13, school drop outs of children, physical weakness caused by hunger and therefore unable to work properly, money reserved used up to buy foods are some of the major problems. They also added that land and reared animals were sold. According to UN (2004) to confirm the existence of such a situation says in their findings that the burdens of HIV/AIDS on families and households are staggering and that during the long period of illness, loss of income and cost of caring for family members may impoverish the household and then cause severe impact along with.

5.3 Support received from World Vision Rwanda by the households affected by HIV/AIDS to cope with the problem of reduced food

For rural households, agriculture is the main livelihood option to make their living. Households affected by HIV/AIDS in this case study however proved to have insufficient resources to produce enough food for their households. Because of their living setting and standards, rural people are bound to live of agricultural. The comment by (Vinck & Bell, 2011) in this regard is that livelihood strategies denote the range and combination of activities and choices made by households in order to sustain themselves and contribute to the economic capital of the household. However the respondents in this research said to have only agriculture as the activity that makes their livelihoods' strategy, though food production has been reduced due to HIV/AIDS related impact which caused less financial means to buy agricultural inputs and arrange other required conditions for succeeded production.

This study shows the intervention of WVR in this regard, supporting the households affected by HIV/AIDS in dealing with the situation of limited primary food crop production. However, it was found out that the support items received comprise seeds of beans, vegetables, cow, pig, flour for porridge, small fish, sugar and house. Among them, seeds of beans, vegetables, cow, pig could help in primary food production, while others are direct food aid, just for direct consumption. This support, as the respondents said, was quite insufficient because it was little, irregular and given to a small number of households, and could not improve their food production as it was expected. They said that they could feel comforted if they were receiving both food aid and productive support at the same time. The quantity of support was also confirmed by one staff of WVR, Nyarutovu ADP when he narrated:

“WVR does not however have quantities of support items that can solve all problems that are found in the households we support, it is only a small aid to supplement their own resources. This program is no longer of priority in WVR, it is progressively withdrawing the focus as per the policy of the government whereby people are to shift from external supports to self-reliance.”

According to the Republic of Rwanda (Vision 2020), both government and donor efforts need to focus on long term sustainable support in agriculture and other domains to build people who are resilient and independent in terms of production processes and decisions. In this respect

however, HIV/AIDS affected households still need to be adjusted to the level from where they can themselves make active responses that enable them to avoid the worst effects of AIDS at different levels or to recover to an acceptable normal level.

5.4 Reduced primary food crop production; livelihood strategy outcome

As discussed earlier, more people received food aid, while support that can contribute to food production was very small. Though some increase especially in production of maize and beans was talked about by a number of respondents, this does not mean that households affected by HIV/AIDS have attained required food production for their households throughout the year. It is only in comparison with the previous situation and efforts that were made, especially by the government. Through advice and new programs in agriculture (CIP and LUC), accompanied by availability of selected seeds and chemical fertilizer for those who have money to buy them, the Government has been the promoter of this increase (see sub-section 4.4.4). Despite these efforts, the production remained insufficient in the households throughout the year, therefore perpetuating households' vulnerability. This links with the findings of Niehof (2010) who says that livelihood outcomes are not the end of a one-way track but rather part of a dynamic process, whereby livelihood outputs can strengthen or weaken the resource-base of a livelihood system. This is also due to less labour caused by sickness of people, taking ARVs without enough food, while caring for the most sick as (Barnett & Whiteside, 2006) in their research admitted that epidemic impacts terminate some lives, incapacitate others and stunt the capabilities of those who have to divert energy and time into care. Other factors are small landholdings and the number of people to feed, mostly composed of children who cannot work and less financial means not allowing to buy required agricultural inputs. It is in this regard that FAO (2010) says that households with PLWHA experience longer periods of food insufficiency from their own produce than non-affected households.

The respondents went further showing other reasons for food reduction in their households, including loss of courage and hope for future, climatic conditions (too much rain or too much sun), erosion, selected seeds, fertilisers, and less small animal for rearing that provide organic fertiliser. They are among important activities required for success in food production as per RGB (2012) which states eight activities under CIP including i) use of selected seeds, ii) use of chemical fertilizers, iii) crop rotation, iv) irrigation, v) mulching, vi) soil and water conservation, vii) use of manure and viii) adoption of priority crops.

So, missing out these activities equals to miss out food production required in the household. Indeed, without good asset base, it becomes difficult to build resilience and cope successfully with HIV/AIDS related impact as it is confirmed by Farrington *et al.* (1999) in their findings: "livelihood outcomes are the achievements or outputs of livelihood strategies by drawing on a range of assets".

5.5 New support strategies to improve primary food crop production in the households affected by HIV/AIDS

This section discusses the study findings about the coping strategies used by households affected by HIV/AIDS when their livelihood strategy (growing food crops) has failed to give a positive outcome (required food crop production) despite the support they receive from WVR. New formulated strategies that WVR can use for them to improve primary food crop production are further discussed, as well as suggestions for their sustainable livelihoods.

5.5.1 Coping strategies in HIV/AIDS affected households when the production of crop food is reduced

To try some possible solutions to the problem of food in their households, people affected by HIV/AIDS proved to cope through other strategies in order to survive. The table 25 presents all their strategies, which line up with categories of coping strategies categorized by Donahue (1998) as follows:

- **Activities that generate money** (helping in buying food): selling milk from own cow, making and selling banana beer, motorbike taxi job, bicycle taxi job and children's activity of using computer. However, the rest of strategies are respectively referred to when households are progressively becoming more vulnerability:
- **Reversible strategies using protective assets**: working for others in farming in order to survive and carrying others' goods on head.
- **Strategies which are difficulty to reverse, using productive assets**: eating less food and less times, selling trees, selling land and selling reared animals.
- **Strategy used when a household is reaching a level of destitution**: begging.

Activities that generate money were reported in male and widow headed households, while reversible strategies and those difficult to reverse are found in all categories of household. However, the strategy like begging that shows the high level of vulnerability (destitution) was reported in the category of widower headed households, who hardly manage this status.

Wiegiers (2008) in her study, confirms this situation saying that households remain food insecure if these mechanisms fail to result in regular access to adequate food. In addition, these strategies are used differently, according to each category of household and their level of coping. Ouwehand et al. (2006) confirm this difference in coping by saying that coping mechanisms vary greatly within the household across different situations and also between households. However, these are means for survival and not to sustain the future livelihoods as confirmed by Ellis (2000) in his study: "coping is an involuntary response to a disaster of unanticipated failure in major bases of survival".

5.5.2 New strategies suggested by HIV/AIDS affected households to WVR to improve primary food crop production

The sub-section 4.6.2 presents different needs expressed by HIV/AIDS affected households for food crop production improvement. Selected seeds, fertilisers (organic and chemical), training and regular advice in agriculture, small animals for rearing are the most repeated needs. The donor does not address them however, whereas they seem to be the pillars for food production. This was also confirmed by RGB (2012) in eight activities of CIP

New strategies were suggested to WVR as an actor who has been intervening in this area, for the households affected by HIV/AIDS to have food security and become able to mitigate AIDS related impact. As in the table 27, "Providing selected seeds on time, fertilisers and training in agriculture" is the most formulated strategy. Indeed, the same strategy has been the weapon of the Government of Rwanda to boost food production throughout the country, since six years ago. It then lines up with Integrated Development Program which mainly tackles increase of

agricultural produce and empowers farmers to undergo sustainable agricultural transformation (MINAGRI, 2010).

Cooperatives for HIV/AIDS affected households are also of great impact in their usual struggle to lead their lives. In this respect, a strategy meant to utilise these cooperatives as a channel of their support was also formulated by a good number of respondents: “Providing selected seeds on time, fertilisers and channel every support in the cooperatives of HIV/AIDS affected households”. Some respondents added “Providing small animals, following up farming activities and providing regular advice in agriculture” as another strategy WVR can use in their support to the project beneficiaries.

5.5.3 Sustaining HIV/AIDS affected households’ livelihoods for better future lives

World Vision Rwanda will not always provide support in Nyarutovu, nor will remain there endlessly. The problem of reduced primary food crop production is an issue, but well-structured way forward that can strengthen existing coping strategies and sustain HIV/AIDS affected household’s livelihoods can be opened up. In this research, it was realized that the project beneficiaries do not know that WVR will leave one day. WVR has neither started to prepare the households under their support to their departure though time has not come yet. However they need to build resilience to HIV/AIDS related impact and become able to lead their lives sustainably, as per Republic of Rwanda (2000), in the vision 2020 whereby people of Rwanda need to be resilient and independent in terms of production processes and decisions.

The respondents expressed the need to have sustainable livelihoods and therefore requested WVR to train them in technical skills, among other requests. This would build capabilities and assets for the households and prepare them to the departure of WVR. It is in this same line of idea that Chambers and Conway (1992) say: “a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term”.

These important suggestions made by households affected by HIV/AIDS can transform their fragile lives into resilient and independent ones as a desired outcome. Niehof (2004) speaks the same language from his research findings that livelihood outcomes are not the end of a one-way track but rather part of a dynamic process, whereby livelihood outputs can strengthen the resource-base of a livelihood system.

CHAPTER VI. CONCLUSION AND RECOMMENDATIONS

This last chapter is a wrap-up of the outcome from the case study in this research. The conclusion is drawn and recommendations are made after findings are presented in chapter 4, followed by a thorough discussion in chapter 5. While recommendations are about what is proposed to different scales of stakeholders in order to address the problem of reduced primary food production and to sustain future lives for HIV/AIDS affected households' members, the conclusion is all about a brief over view of the results and discussions held about the problem in this research.

6.1 Conclusion

This study was conducted in Gakenke district, Nyarutovu Area Development Project of WVR. It reveals the precarious situation of livelihoods of households affected by HIV/AIDS due to the status of their households' assets before WVR intervened for them. The research recorded that labour availability as well as access to land which are the major factors for succeeded primary food crop production in a rural setting are quite insufficient. This situation has therefore placed households affected by HIV/AIDS in a position whereby food is less throughout the year compared to the requirements in food for people on ARVs and the number of household members for their survival. The categories of households considered in this study, especially widow headed households, widower headed households and orphan headed households result from death of households' members. However depending on the quantity and quality of assets owned, all the categories of households are not homogeneous, they cope and suffer differently the impact of AIDS.

During 2011 and 2012 as the time considered in this study, WVR provided support to these households as their project beneficiaries. However, it was found that more support was in the form of food aid that was directly consumed, whereas support which could sustain food production was quite little. This support was received differently and on irregular and very scattered basis so that tracing its influence could not be possible. There was some increase however in production of maize and beans, but the respondents in this study attributed it to the efforts of the government which introduced CIP and LUC programs and availed some selected seeds and chemical fertilisers to the community.

In this study, it was found that despite some increase in the production of maize, beans and cassava in some households, limited food remained in the households due to a double impact, one being related to AIDS and another to general situation in rural agriculture, especially in Gakenke district. Factors related to AIDS impact are mainly less labour compared to the labour required to produce enough food for the household as a result of sickness and death of some household members, physical weakness due to regular sickness and ARVs, and weak base of other household assets. However, the general factors found out in this study are mainly lack of agricultural inputs: selected seeds and fertilisers, among others, because of their direct impact in food production.

Labour division in the household proved to be imbalanced between females and males in the primary food crop production. Females are invested in the process from land preparation and cultivation up to food harvesting and collection. Contrary, males tend to supervise the work, and just say they provide advice and money for labour in some cases. Some of them can only

participate in weeding and harvesting of maize. When it comes to decide on the use of household assets, especially productive resources, males take the lead and dominate the decisions. Only female heads of households can decide on their possessions.

The households concerned with the project expressed the need to see the problem of reduced primary food crop production resolved in their households. It is in this respect that they formulated strategies that WVR can use in order to help them improve the production. Providing selected seeds and fertilisers on time, accompanied by regular advice and training in agriculture to HIV/AIDS affected households is the strategy most repeated by respondents, among others as presented in the table 27.

To lead their lives sustainably, in a more independent and resilient manner in the future, the project beneficiaries suggested that WVR would invest in the activities like training HIV/AIDS affected households members in technical skills: sewing for females, masonry and carpentry for young males and other males who still have strength, as well those who are not infected by HIV. They added providing them with cattle and small animals for rearing and a grain mill to each of their cooperatives, and strengthen some other income generating activities that some of them deal with in their usual lives.

6.2 Recommendations

Based on empirical findings and discussions held with the problem owner, the researcher suggests some practical recommendations that he thinks can have feasible action. Recommendations are of a one-way directed, but with a two-way practicability. In fact, WVR, through Nyarutovu Area Development Program, implements Health and HIV/AIDS project among others. However, in the package for this project as this study found out, the support to the project beneficiaries can mainly be in the form of food aid, sensitisation for MTCT, and home garden for people under ARVs. This form of support cannot improve primary food crop production in HIV/AIDS affected households which have proved to be short of household assets that can help them in this regard.

For this reason, in parallel to what the project beneficiaries have suggested in this study, recommendations to WVR, Nyarutovu ADP are formulated:

- ❖ A training of all the project beneficiaries in good utilisation of support items received and self-reliance mechanisms would prepare them successfully to the departure of WVR.
- ❖ Providing aid on a timely basis and in a more informed manner, preferably through HIV/AIDS existing cooperatives could avoid some thoughts that support is not equally provided.
- ❖ Promoting motorbike taxi job, commercial activities and animals rearing for male headed households (both parents' households) which are demonstrated to be their strong points would play an important role to supplement their food crop production.
- ❖ Small commercial activities, rearing animals in which the households headed by widows show their strengths if promoted may supplement their food crop production.
- ❖ Widower headed households proved to have more problems. If rearing animals was promoted in their households, better would be their coping mechanisms.
- ❖ Bicycle taxi job, rearing and small commercial activities could enhance livelihoods for orphan headed households as they demonstrate their ability to deal with them in case they are promoted.

- ❖ Doing advocacy for HIV/AIDS affected households in the following way could have a positive result and therefore improve their food crop production (see the problem tree of cause relationship: figure 3 and the detail in annex 3):

Issue for advocacy: Lack of agricultural inputs (selected seeds and fertilisers: chemical and organic from animals-provide animals in this respect) - The households affected by HIV/AIDS in this area of study do not have access to regular fertilisers because they do not have enough financial means to buy them, nor they rear enough animals that can provide organic manure. Therefore, they cannot produce enough crop food for their survival.

Target for advocacy:

Primary target: Mrs Agnes Matilda Karibata, Minister of Agricultural and Animal Resources

Secondary target: Mr James Musoni, Minister of Local Government and Social Affairs

Allies in the advocacy: 1. WVR-Country Director
2. PLWHA Associations

Possible opponent: Local leaders

Strategy for conveying the message: Lobbying

Message to convey in advocacy: "Vulnerability is not a choice, but a matter of circumstances. New family structure has given existence to 421 widow headed households, widower headed households and orphan headed households among others, in Nyarutovu of Gakenke district over the last years. Agricultural production is the mainstay for rural livelihoods, but primary food production has for a long time been drastically reduced in their households, mainly due to lack of selected seeds and fertilisers (organic and chemical). With regard to the fragility of their lives, an urgent support in this regard would save their livelihoods from danger."

REFERENCES

- AATF, 2009. Baseline Study of Smallholder Farmers in Striga Infested Maize Growing Areas of Eastern Uganda. African Agricultural Technology Foundation. Kenya
- Adger, W., 2000. Social and ecological resilience: are they related? Progress in Human Geography.
- AustLII's, 2013. FOOD ACT 2003 - SECT 7. [Online] Available at <http://www.austlii.edu.au/au/legis/nsw/consol_act/fa200357/s7.html> [Accessed on 23 June 2013]
- Barnett T. & Whiteside A., 2006. AIDS in The Twenty-First Century: Disease and Globalisation, Palgrave MacMillan, New York.
- Bizimana, C., Usengumukiza F., Kalisa J. and Rwirahira J., 2012. Trends in Key Agricultural and Rural Development Indicators in Rwanda [Online] Available at <<http://www.resakss.org/index.php?pdf=53112>> [Accessed on 8 June 2013]
- Bonny Mukombozi, 2009. Agriculture transformation boosts food production, New Times. [Online] Available at <<http://www.newtimes.co.rw/news/index.php?i=13811&a=13482>> [Accessed on 2 July 2013]
- Chambers, R. and Conway R., 1992. Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, *IDS Discussion Paper*, No.296
- DFID, 1999. Sustainable Livelihoods Guidance Sheets. [Online] Available at <<http://www.eldis.org/vfile/upload/1/document/0901/section2.pdf>> [Accessed on 27 June 2013]
- Donahue, J. (1998). 'Community-based Economic Support for Households affected by HIV/AIDS'. Discussion Paper on HIV/AIDS Care and Support no 6. Arlington, VA: USAID.
- Duflo, E. and C. Udry., 2001. Intrahousehold Resource Allocation in Cote d'Ivoire: Social Norms, Separate Accounts, and Consumption Choices. Processed. Department of Economics, MIT, Cambridge, MA. [Online] Available at <http://academia.edu/2411706/Intrahousehold_Resource_Allocation_in_Cote_dIvoire_Social_Norms_Separate_Accounts_and_Consumption_Choices> [Accessed on 3 July 2013]
- ELLIS, F., 2000. Rural livelihoods and diversity in developing countries, Oxford, Oxford University Press.
- Engberg, L.E., 1990. 'Rural households and resource allocation for development: An ecosystem perspective'. Rome: FAO.
- FAO (2005) Rwanda Country Report, FAO, Kigali
- FAO, 2001. AIDS – "A Threat to Rural Africa" [Online] Available at <<http://www.fao.org/focus/e/aids/aids1-e.htm>> [Accessed on 21 June 2013].

FAO, 2010. FAO/WFP Crop and Food Security Assessment mission To Zimbabwe [Online] Available at <http://www.fao.org/docrep/012/ak352e/ak352e00.htm> [Accessed on 11 July 2013]

FAO Uganda, 2002. The impact of HIV/AIDS on agricultural production and mainstreaming HIV/AIDS messages into agricultural extension in Uganda. [Online] Available at <http://www.fao.org/docrep/005/ac912e/ac912e00.htm> [Accessed on 13 June 2013]

Farrington, J., D. Carney, C. Ashley and C. Turton, 1999. 'Sustainable Livelihoods in Practice: Early Applications in Concepts in Rural Areas'. Natural Resource Perspective no 42. London: ODI.

Franklin S. and Kinkingninhoun M.F, 2011. The impact of HIV/AIDS on labor markets, productivity and welfare in Southern Africa: A critical review and analysis. <<http://www.academicjournals.org/ajar/abstracts/abstracts/abstracts2011/18%20May/Simtowe%20and%20Kinkingninhoun-Medagbe.htm>> [Accessed on 21 June 2013]

Gakenke district, Data base z'ubuhinzi [Online] Available at <<http://www.gakenke.gov.rw/index.php?id=802>> [Accessed on 3 July 2013]

Goldman, I., Carnegie J., Marumo, M. Munyoro, D. Kela, T. Ntonga, S. and Mwale, E., 2000. 'Institutional Support for Sustainable Rural Livelihoods in Southern Africa: Framework and methodology'. Natural Resource Perspectives no 49. London: ODI.

Haddad, L. and Gillespie S., 2001. 'Effective Food and Nutrition Policy Responses to HIV/AIDS: What We Know and What We Need to Know'. Discussion Paper no 112. Washington, D.C: IFPRI.

Holden S., 2003. AIDS on the Agenda. Adapting Development and Humanitarian Programmes to meet the challenge of HIV/AIDS. [Online] Available at <<http://archive.org/stream/aidsonagendaadap00holdrich#page/292/mode/2up>> [Accessed on 23 June 2013]

IFRC, 2013. What is a livelihood [Online] Available at <<http://www.ifrc.org/en/what-we-do/disaster-management/from-crisis-to-recovery/what-is-a-livelihood/>> [Accessed on 2 July 2013]

IPAR, 2012. Against the Odds: Achieving the MDGs in Rwanda. Institute of Policy Analysis and Research, Kigali, Rwanda.

Gillespie, S. and S. Kadiyala, 2005. 'HIV/AIDS and Food and Nutrition Security: From Evidence to Action', Food Policy Review no 7. Washington DC: IFPRI. [Online] Available at <www.ifpri.org/pubs/fpreview/pv07/pv07.pdf> [Accessed on 7 July 2013]

Johnson, M.P., 2006. Decision models for the location of community corrections centers. Environment And Planning B-Planning & Design 33 (3): 393-412 May. [Online] Available at http://eprints.utm.my/8221/1/ZZainal2007-Case_study_as_a_Research.pdf [Accessed on 5 July 2013]

Krueger, R.A., & Casey, M.A., 2009. Focus groups: A practical guide for applied research (4th Ed.). Thousand Oaks, CA: Sage Publications. [Online] Available at

<<https://inside.fammed.wisc.edu/sites/.../focus-group-resource-guide.pdf>> [Accessed on 6 July 2013]

Loevinsohn, M. & S. Gillespie, 2003. HIV/AIDS, food security, and rural livelihoods: Understanding and responding. FNCD Discussion Paper no 157. Washington DC: IFPRI.

Madhavan, S. and Schatz, E.J., 2007. Coping with change: Household structure and composition in rural South Africa, 1992-2003, *Scandinavian Journal of Public Health*, vol. 35

Maxwell, S. and T. Frankenberger, 1992. Household Food Security: Concepts, Indicators, Measurements. A Technical Review. New York and Rome: UNICEF and IFAD. [Online] Available at <www.ifad.org/hfs/tools/hfs/hfspub/hfs_toc.pdf> [Accessed on 3 July 2013]

MINAGRI, 2010. *Agriculture Sector Investment Plan*, 2009-2012, 40 p

MINAGRI, 2011. Annual Report FY 2010/2011 [Online] Available at <http://www.minagri/index.php?option=com_docman...> [Accessed on 8 June 2013]

Mukurazita and H. Jackson, 1999. A Review of Household and Community Responses to the HIV/AIDS Epidemic in the Rural Areas of Sub-Saharan Africa. Best Practice Collection. Geneva: UNAIDS.

Murphy, L.L., P. Harvey & E. Silvestre, 2005. How do we know what we know about the impact of AIDS on food and livelihood insecurity? A review of empirical research from rural sub-Saharan Africa. *Human Organization* 64 (3): 265-75.

Mutangadura G.B. & Sandkjaer B., 2009. Mitigating the impact of HIV and AIDS on rural livelihoods in Southern Africa, *Development in Practice*, 214-226

Madhavan, S. and Schatz, E.J., 2007. Coping with change: Household structure and composition in rural South Africa, 1992-2003, *Scandinavian Journal of Public Health*, vol. 35

Niehof, A., 2004. 'The significance of diversification for rural livelihood systems', *Food Policy* 29(2004): 321-338.

NISR, 2010-2011. EICV3 District profile. Gakenke [Online] Available at <www.statistics.gov.rw/system/files/user_uploads/files/books/Gakenke.pdf> [Accessed on 2 July 2013]

NISR, 2011. Rwanda Statistical Year Book 2011, Available on [<http://statistics.gov.rw/publications/rwanda-statistical-yearbook-2011>] [Accessed on 1 June 2013]

NISR, 2013. National Gender Statistics Report – 2013 [Online] Available at <<http://statistics.gov.rw/publications/national-gender-statistics-report-2013-0>> [Accessed on 5 September 2013]

Nyarutovu ADP, 2007. Document report

Nyarutovu ADP, 2009. Program Design Document, RWA-00498, PHASE 2 (2010-2014)

Ouwehand, C., De ridder, D. T. D. & Bensing, J. M., 2006. Situational aspects are more important in shaping proactive coping behaviour than individual characteristics: A vignette study among adults preparing for ageing. *Psychology & Health*, 21, 809-825.

RGB, 2012. Rwanda's rational land use through the implementation of land use consolidation policy, crop intensification and rural settlement "imidugudu" programs. A citizen perception survey. Final report

Republic of Rwanda, Country Progress Report, 2012. [Online] Available at <[http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_RW_Narrative_Report\[1\].pdf](http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_RW_Narrative_Report[1].pdf)> [Accessed on 31 May 2013]

Republic of Rwanda, 2005. Rwanda Demographic and Health Survey [Online] Available at <<http://www.measuredhs.com/publications/publication-FR183-DHS-Final-Reports.cfm>> [Accessed on 1 June 2013]

Republic of Rwanda, 2010. Demographic and Health Survey. Final Report [Online] Available at <<http://www.measuredhs.com/pubs/pdf/FR259/FR259.pdf>> [Accessed on 5 June 2013]

Rurangwa E, 2002. Land Policy and Land Reform in Sub-Saharan Africa, Perspective of Land Reform in Rwanda, FIG XXII International Congress, Washington, D.C. USA, April 19-26 2002

Semali, I.A., Edwin, T. and Mboera, L.E.G., 2011. Food Insecurity and Coping Strategies Among People Living With HIV in Dar es Salaam, Tanzania. [Online] Available at: <<http://www.ajol.info/index.php/thrb/article/viewFile/69160/59921>> [Accessed 12 July 2013]

Shapouri S. and Rosen S., 2001, I in Food Security: Toll on Agriculture from HIV and AIDS in Sub-Saharan Africa, Agricultural Information Bulletin Number 965-9, United Nations Department of Agriculture

SOFA & Doss, 2011. The role of women in agriculture [Online] Available at <<http://www.fao.org/docrep/013/am307e/am307e00.pdf>> [Accessed on July 2013]

Stokes, S.C., 2002. 'Measuring impacts of HIV/AIDS on rural livelihoods and food security'. Rome: FAO.

United Nations, 2004. The impacts of the HIV/AIDS epidemic on Agriculture [Online] Available at <http://www.un.org/esa/population/publications/AIDSImpact/8_Chap_V.pdf> Accessed on 13 June 2013]

UNFPA, 2003. *The Impact of HIV/AIDS: A population and development perspective*. Population and Development Strategies Series 6. New York: United Nations Fund for [Population. Online] Available at <http://www.unfpa.org/webdav/site/global/shared/documents/publications/2003/hiv_impact.pdf> [Accessed on 15 June 2013]

USAID Rwanda, 2012. HIV/AIDS Health Profile [Online] Available at <allafrica.com/view/resource/main/main/id/00031643.html> [Accessed on 3 June 2013]

UNDP Rwanda, 2000. Common Country Assessment, Paper 4 [Online] Available at <[http://www.undg.org/archive_docs/1686-Rwanda_CCA - Rwanda 1999-2000.pdf](http://www.undg.org/archive_docs/1686-Rwanda_CCA_-_Rwanda_1999-2000.pdf)> [Accessed on 13 June 2013]

UNAIDS, 2004. Facing the Future Together: Report of the Secretary General's Task Force on Women, Girls and HIV/AIDS in Southern Africa, Geneva.

United Nations, 2004. The impacts of the HIV/AIDS epidemic on Agriculture [Online] Available at <http://www.un.org/esa/population/publications/AIDSimpact/8_Chap_V.pdf> Accessed on 13 June 2013]

Villarreal, M., 2006. Changing customary land rights and gender relations in the context of HIV/AIDS in Africa. Wageningen, s.n. [Online] Available at <<http://www.edepot.wur.nl/121957>> [Accessed on 21 June]

Wiegers, E. S., 2008. Gendered vulnerability to AIDS and its research implications. Proefschrift

Wilkinson, S. (2004). Focus groups: A feminist method. In S.N. Hesse-Biber & M.L. Yaiser (eds.), *Feminist perspectives on social research* (pp. 271–295). New York: Oxford University Press. [Online] Available at <www.sagepub.com/upm-data/39360_978_1_84787_909_7.pdf> [Accessed on 6 July 2013]

Yin, R.K. (2009). *Case study research. Design and methods*. 4. ed. Thousand Oaks, California. [Online] Available at <http://moodle.fhs.cuni.cz/pluginfile.php/22496/mod_resource/content/0/YIN_K_ROBERT--1.pdf> [Accessed on 5 July 2013]

ANNEXES

Annex 1. Questionnaire

Informed Consent Form

You are invited to participate in a research entitled Influence of donor-support on primary food crop production in HIV/AIDS affected rural households, in Nyarutovu, part of Gakenke district.

This research will provide information that will be beneficial for HIV/AIDS affected households. The researcher, the University (Van Hall Larenstein) and World Vision Rwanda through Nyarutovu ADP hope to learn how primary food production has been going on in your households. You were selected as possible participants in this research because your households are among many others affected by HIV/AIDS.

If you decide to participate, the researcher will engage you in conversations, discussions and interviews. All these activities shall be interactive in order for the researcher to get a deeper understanding of the issue at hand. In order to collect comprehensive information to be used in this research, the researcher shall use a short-hand note book. You are free to inform the researcher in case you are not comfortable at any time about this method. The data collection process is in form of a case study, therefore the researcher will engage for 2 days or 3 if your information has not finished, but on separate dates and not more than that. The results of the finds will help World Vision Rwanda through Nyarutovu ADP to frame the support they give you in a better way to make your primary food crop improved. Your identity as well as the information you give as respondent shall remain anonymous and confidential, so if you feel free to participate in this case-study, we request that you provide as accurate information as possible.

Your decision whether or not to participate will not prejudice your future relation with World Vision Rwanda. If you have any questions, please do not hesitate to contact me. If you have any additional questions later, please contact **Simeon Uwiringiye on +250788776181 or email address: usimeon@yahoo.fr**, you will get a satisfying answer.

You are making a decision whether or not to participate. Your signature indicates that you have read the information provided above and have decided to participate. You may withdraw at any time without penalty or loss of benefits to which you may be entitled, after signing this form if you decide to discontinue.

Signature

Date.....

NB: I am not an employee of World Vision Rwanda, so these questions are not meant to solve problems you have. Instead, it is a study that will use your information independently from WVR, and the outcomes will be communicated to WVR afterward for consideration, and will be important for the cooperation you have with WVR.

General information from households' heads

Sex:

Category of household:

- Male headed household (both parents' household)
- Widow headed household
- Widower headed household
- Orphan headed household

Number of household' members:

Sector:

Topics and questions

Part I. Factors that cause reduced primary food crop production in the households affected by HIV/AIDS

I. What was the situation of HIV/AIDS affected households before they were supported by WVR?

1. Assets owned in the households and who among the household members controls them
2. Roles of males and females in the primary food crop production in the household
- 3 Impact (effect) occurred on the household assets in case of less food
 - social capital,
 - financial capital,
 - physical capital,
 - natural capital,
 - human capital.

II. What kind of support was received from World Vision Rwanda by the households affected by HIV/AIDS for primary food crop production?

1. Support received and who received it
2. The use of support received and who decided upon the use
3. Sufficiency of support received
4. Other support WVR has been providing to HIV/AIDS affected households besides tangible support they receive

III. Which change occurred in primary food crop production since households affected by HIV/AIDS have been receiving support from World Vision Rwanda?

1. The production of the 4 selected crops in Gakenke district before the support of WVR:
 - maize
 - beans
 - wheat
 - cassava
2. Change occurred on farming land size in the course of WVR support and its reasons
3. The production of the 4 selected crops in Gakenke district in 2011 and 2012, while benefiting from the support of WVR:
 - maize
 - beans
 - wheat
 - cassava
4. Reasons for the change occurred in production in 2011 and 2012
5. Reasons for reduced primary food crop production in households affected by HIV/AIDS.

IV. What other support did WVR provide to HIV/AIDS affected households besides tangible support they receive?

V. Which parties other than WVR are involved in addressing the problem of reduced food crop production in HIV/AIDS-affected households in Nyarutovu ADP?

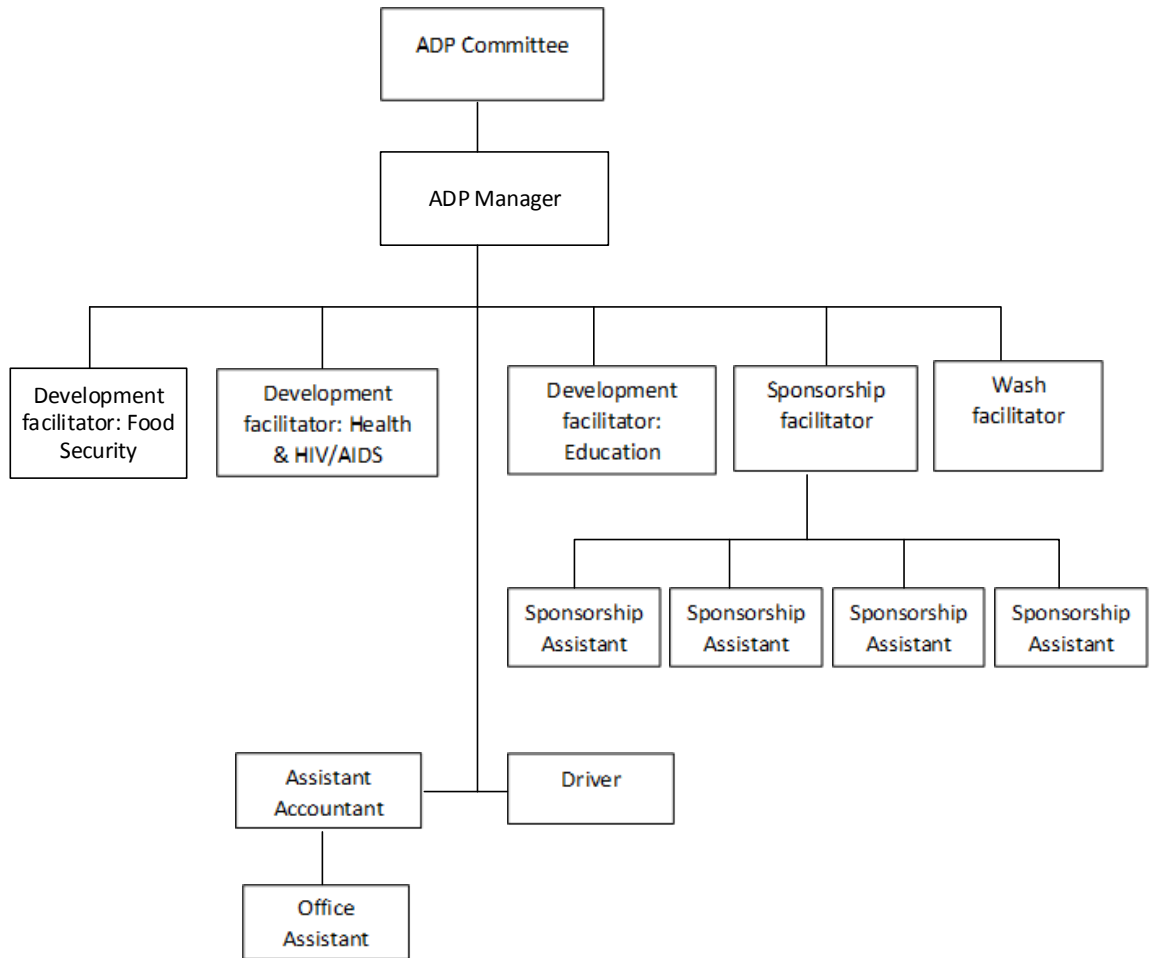
1. Support of the local government to HIV/AIDS affected households in primary food crop production
2. Other organisations or individuals who support HIV/AIDS affected household in Nyarutovu to address primary food crop production related problems

Part II. Strategies required to support the households affected by HIV/AIDS to improve primary food crop production and live more sustainably

VI. What new support strategies are required to improve primary food crop production in households affected by HIV/AIDS and sustain their livelihoods?

1. Coping strategies in HIV/AIDS affected households when the production of crop food is reduced
2. Other HIV/AIDS affected households' needs for primary food crop production improvement
3. Suggested parties to intervene in parallel to WVR in addressing primary food crop production related problems
4. New strategy suggested by HIV/AIDS affected households to WVR to improve primary food crop production
5. Suggestions expressed by HIV/AIDS affected households to WVR, to sustain their livelihoods for a better and independent future life

Annex 2. Nyarutovu ADP organisational chart



Annex 3. Analysis and prioritisation of issue for advocacy, using standard criteria

Issues for advocacy

An issue for advocacy is a problem out of your influence; not in the core of your business that needs external help to be addressed. It is selected among many others, according to analysis and ranking following a number of criteria (see the table of analysis).

Problem prevailing: The rural households affected by HIV/AIDS of Nyarutovu, in Gakenke district have been receiving support from World Vision Rwanda over the last 10 years to help them improve their lives and therefore mitigate AIDS related impact. However, it has been noticed that their situation has resulted into reduced agricultural primary food crop production.

Goal for advocacy

To reduce the number HIV/AIDS-affected households who suffer too much harm from the effects of sickness and death due to AIDS.

Objective

To put in place a special fund that will subsidise in selected seeds and fertilisers for HIV/AIDS-affected households in Nyarutovu, Gakenke district, to enable them to produce required crop food in order to have better livelihoods.

Identifying Targets

<i>Targets</i>	Possible power and role in the advocacy for the issue
Primary target: <i>Mrs. Agnes Matilda Karibata, Minister of Agriculture and Animal Resources</i>	Mister Agnes Matilda Karibata, the minister, is targeted because her approval for this special fund would solve the problem at hand as it is in his capabilities. Secondary, She could not kick back an issue brought on table by her colleague Minister. Her power is undeniable because agriculture and related issues are under her. She is also known start up new programs for the population welfare, so she is reliable to put this issue on the agenda and make the change needed
Secondary target: <i>Mr. James Musoni, Minister for Local Government and Social Affairs</i>	Minister James Musoni is committed to promoting socio-development of the people he has in his responsibilities. He may accept to put the problem of agricultural inputs for HIV/AIDS affected households in Nyarutovu on table together with his homologue Minister Agnes Karibata and get a positive feedback. He would also welcome this advocacy that would be backed up by

	the WVR Country Director at this level, because of the usual collaboration they have. A proof is the President of World Vision USA, Mr Richard STEARNS who came in Rwanda for a one week-long visit to World Vision Rwanda, from 20th to 25th May, 2013 and received by “Minister James MUSONI on 25 th May 2013 in his office. He disclosed himself that the Government is happy with the partnership with the World Vision as an International NGO which managed to align its activities with the current governance principles and structures, especially through the Joint Action Development Forum” (Igihe.com, as accessed on 25 th May 2013).
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Identifying Allies

Allies	Possible reason and role in the advocacy
<i>World Vision Rwanda</i>	This International organisation has been supporting vulnerable families including HIV/AIDS affected households. Specifically for Health and HIV/AIDS, a project is implemented at the level of ADPs. Though ADPs are autonomous at some level, the Country Director would feel proud to back up Nyarutovu ADP for this innovation and initiative. The advocacy would also be much easier because the Government is in good terms with WVR for their participation in socio-economic development of the country, and they have recently thanked for it (May 21 st , 2013 by Minister James Musoni of Local Government and Social Affairs).
<i>PLWHA Association at Gakenke district level</i>	The district association for people living with HIV/AIDS can attract attention from leaders because of their status. Sympathising with them would attract more action for this fund. Again, this association has interest to invest their energy in this advocacy because their concern is normally advocating for HIV/AIDS affected people.

Identifying opponents in this advocacy

Opponent	Possible reason for resistance to the advocacy for the issue
<i>Local leaders</i>	Local leaders are in charge of promoting socio-economic development for the people they lead. They may then oppose this advocacy because they would feel ashamed to see the problem of agricultural inputs for their population solved without their input of participation and effort. Their lack of concern and failure could therefore lead to jealousy against the success.

The strategy to use in conveying the message

(Annex 3, ctd)

For this advocacy to achieve the objective, **a lobbying** will be used as a strategy

This strategy consists of a series of strategic activities planned to advocate for putting in place a fund that will subsidise in selected seeds and fertilisers for HIV/AIDS-affected households in Nyarutovu, Gakenke district, to enable them to produce required crop food in order to have better livelihoods.

Procedure:

- Gaining attention, interest and cooperation from PLWHA association in Gakenke district, WVR Country Director, and Mr James Musoni, the Minister of Local Government and Social Affairs for the issue to advocate for.
- Getting preliminary conviction and approval from Mr James Musoni, the Minister, as he is the one who will be intermediate in this advocacy.
- Putting the issue on table with the Mrs Agnes Matilda Karibata, the Minister of Agriculture and Animal Resources, by Mr James Musoni, the Minister of Local Government and Social Affairs.
- Following up the outcome for a final implementation.

The message for advocacy

“Vulnerability is not a choice, but a matter of circumstances. New family structure has given existence to 421 widow headed households, widower headed households and orphan headed households among others, in Nyarutovu of Gakenke district over the last years. Agricultural production is the mainstay for rural livelihoods, but primary food production has for a long time been drastically reduced in their households, mainly due to lack of selected seeds and fertilisers (organic and chemical). With regard to the fragility of their lives, an urgent support in this regard would save their livelihoods from danger.”

Table of analysis and prioritisation of issues using given criteria

(Annex 3, ctd)

Issues Criteria	Lack of training in agricultural practices	Lack of agricultural inputs (selected seeds and fertilisers)	Crop diseases
Result is a real improvement in people's lives	2	3	2
Give people a sense of their own power	2	3	1
Be widely felt	1	2	1
Be deeply felt	1	3	1
Building last alliances	2	1	1
Create opportunities for PLWHA to get involved in politics	0	0	0
Develop new leaders	2	1	0
Promote awareness of and respect for rights	1	3	2
Link local concerns to global issues	2	3	3
Provide opportunities to raise funds	2	3	2
Enable you to further your vision and mission (stay with your core business)	3	3	3
Total mark	18	25	15
Ranking of issues	2	1	3

2. Select an issue for advocacy

An issue is a specific aspect of a problem that advocacy addresses.

Criteria for ranking issues

- Has a clear political and policy solution
- Has a clear target (pivotal decisionmaker who can respond to your demands) and timeframe
- Be winnable
- Addresses a root cause of the problem

Other criteria?

- Result is a real improvement in people's lives
- give people a sense of their own power
- Be widely felt
- Be deeply felt
- Build lasting alliances
- Create opportunities for PLWHA to get involved in politics
- Develop new leaders
- Promote awareness of and respect for rights
- Link local concerns to global issues
- Provide opportunities to raise funds
- Enable you to further your vision and mission (stay with your core-business)

3. Formulating strategies

setting goals and objectives

- a long-term goal describes the change you want to see. it is your realizable vision
- a short-term goal describes your desired outcome or the proposed advocacy solution to a specific issue
- an objective defines concretely what will be accomplished, with whom, how, and in what period of time. (SMART)

Identify targets

To identify people who have the capacity or potential ability to bring about change.

Primary targets:

this is the decisionmaker with the most power to address your issue. However, you may not have access to this person.

Secondary targets:

This is an individual who does not have the power to solve the problem, but who is close to the primary target. If you can pressure this person, they can in turn pressure the primary target

Identifying allies

Allies: influential individuals and organizations that support your advocacy in different ways and degrees.

Allies can play different roles in your strategy depending on their motivations:

1. some will support your advocacy because they will personally benefit from the changes you seek
2. some will share your values and may endorse you publicly but will not use their resources or get involved.
3. some will easily be persuaded to support you out of some common interest
4. some will collaborate directly with you and will share responsibility for the advocacy effort because they have a direct stake in the solution and the process

Identifying opponents

influential people and institutions who oppose your advocacy

explore reasons for opposition:

- they disagree with your values about society
- in their eyes, a victory for you represents a loss for them
- they are ideologically opposed to anything that changes current institutional arrangements or social roles.
- others

Questions to ask about your opponents:

- why do they oppose you? How actively will they oppose you?
- how much power do they have? (e.g. money, credibility, contacts, access)
- what level of force are they likely to use against you?
- what are their agendas, strategies and tactics? what will they do to challenge you?
- with whom do they have influence?
- is there anything on which you might agree?

Checklist for Choosing an Issue (cont.)

CRITERIA	ISSUE #1	ISSUE #2
Result in a real improvement in people's lives		
Give people a sense of their own power		
Be widely felt		
Be deeply felt		
Build lasting organization and alliances		
Create opportunities for women and marginalized people to get involved in politics		
Develop new leaders		
Promote awareness of and respect for rights		
Have a clear political and policy solution		
Have a clear target and timeframe		
Link local concerns to global issues		
Provide opportunities to raise funds		
Enable you to further your vision and mission		
Be winnable		

Adapted from *Organizing for Social Change: A Manual for Activists in the 1990s*, K. Bobo, J. Kendall, S. Max, Midwest Academy, Seven Locks Press, California, 1991.

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Source: Koos Kingma, 2013. Doing Advocacy, Class subject.