

## **SWIHA Regional workshop**

*This Synthesis Report is a summary of interventions, recommendations and a proposed plan of action developed at the Regional Workshop on HIV/AIDS and Agriculture: Implications for Food Security in West and Central Africa. Organized by SWIHA, which is convened at the Africa Rice Center, this three-day workshop was held at the headquarters of the Africa Rice Center (WARDA) in Cotonou, Benin from the 18 to 20 July 2005. The workshop brought together more than 77 experts (from agricultural R & D, health, nutrition, extension, sociology, gender and policy fields) representing national, regional, international, non-governmental and donor organizations involved in various disciplines, but all with a focus on HIV/AIDS in sub-Saharan Africa.*

*The workshop was organized with support from the Canadian International Development Agency (CIDA) Canada Fund for Africa. The participants included representatives from UNAIDS, World Food Programme (WFP), Economic Community of West African States (ECOWAS), West and Central African Council for Agricultural Research and Development (WECARD/CORAF), United States Agency for International Development (USAID-WARP), CAB International (CABI), CARE International, the CGIAR Gender and Diversity Program and CGIAR Centers, including CIAT, ICRISAT, IITA, IPGRI and IWMI.*

Abstracts of papers presented at the workshop are available on the Africa Rice Center/SWIHA website by visiting [www.warda.org/swiha](http://www.warda.org/swiha)

Full proceedings of the workshop, including edited papers, will be published in due course by the Africa Rice Center.

## **HIV/AIDS and Agriculture: Implications for Food Security in West and Central Africa. Cotonou, Benin, 18 – 20 July 2005**

### **SYNTHESIS REPORT**

*Synthesis of interventions arising from the workshop;  
recommendations and plan of action.*

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## WHAT IS SWIHA?

The Systemwide Initiative on HIV/AIDS and Agriculture is a CGIAR initiative. Its purpose is to contribute towards mitigating and preventing the spread and negative impact of HIV/AIDS on food security, the natural resource base, poverty and human suffering. The decision to launch SWIHA in 2001 coincided with the launching of major HIV/AIDS initiatives by affected countries and donors' following the 2000 AIDS conference in South Africa. SWIHA was therefore organized by the Center Directors Committee (CDC) and convened by its SSA sub-committee. WARDA was designated as a convening institution for SWIHA, giving it the responsibility for organizing and coordinating research efforts among the institutions that comprise the CG System and its partners.

The centers were motivated by the fact that HIV/AIDS is a major factor influencing relevant research agenda for centers; a major factor in cooperation with NARES; a major CGIAR center work place issue; that it increases challenges for agricultural production and food security; while raising a number of gender and equity issues.

The relative advantages the CG centers have to take a lead in this collaborative effort rests on their substantial involvement in urban and rural communities; they have developed partnerships & networks with a range of research and development organizations, public and private, and community-based organizations; and they have also gained a good understanding of specific food and agricultural systems through their work. They are already in the field and can achieve immediate mitigating effects on HIV/AIDS; and they have talented people on the ground for interventions against HIV/AIDS impact at rural and urban levels. Notwithstanding these relative advantages, the CGIAR centers are confronted with a number of challenges: funding problems; lack of collaboration between health and agricultural research institutions; the low priority given to HIV/AIDS until

recently as a research area; and the lack of capacity in collaborating NARES for HIV/AIDS and agricultural research. This latter issue is crucial because the NARS constitute the pillars for any successful and sustainable programmatic intervention at the national level.

There is strong willingness in the national agricultural systems to address HIV/AIDS, but the local knowledge base is 'dying' as parents and experienced traditional professionals die through HIV/AIDS. At present there is no clear understanding of how HIV/AIDS impacts on the activities and food security of rural communities. The capacity of local communities/systems to act in the face of HIV/AIDS is still low.

SWIHA emerged as a result of this background and the growing recognition that HIV/AIDS prevention and care programs need to be integrated with agriculture and development programs in rural areas.

## **HIV/AIDS and sub-Saharan Africa**

Around the world, there are 44 million people living with HIV/AIDS, but sub-Saharan Africa (SSA) with just 10% of the world's population has a disproportionate 65% of infections (UNAIDS 2004). Tragically, it is the 15-49 years age group—normally the most productive—that is also the most afflicted by HIV/AIDS. More than 25 million children and adults up to 49 years old are living with HIV/AIDS in SSA. It is frequently women and children who are then most adversely affected, either through actual infection or by having to cope with the burden of husbands or parents brought low by infection.

If South Africa is excluded, the remaining 47 countries comprising sub-Saharan Africa depend more on their natural resource base for economic and social needs than any other region in the world. Two-thirds of sub-Saharan Africa's people live in rural areas and rely on agriculture and other natural resources for income.

Although population growth rates have declined from 2.4% in 1997 to an expected rate of less than 2% by 2006, sub-Saharan Africa is expected to be home to over a billion people by 2025. The introduction of more effective economic policies in many sub-Saharan African countries has helped improve economic development and performance since the mid-1990s, but the HIV/AIDS epidemic is expected to undermine economic growth for the next 15 years.

## **Impact on Agriculture**

People with an involvement in agriculture represent nearly half of new infections in SSA and there are major effects of agriculture and food production as a result, according to Dr Mamadou Diallo, of UNAIDS Côte d'Ivoire. The lack of mechanization in SSA agriculture means the industry depends on manual labor but HIV/AIDS is reducing the labor force and by extension the area of land that can be cultivated. Fallow increases, cropping is less intensive as farmers switch to the crops easiest to grow, and female labor is being switched to nursing, with the result that seasonal crop deadlines are missed and overall production falls in HIV/AIDS-affected communities.

With the death of a spouse comes loss of labor during mourning periods, followed by uncertainty over land tenures in many communities if the surviving partner is female and customary practice is for males only to have land tenure. Affected rural families often comprise only young adults and grandparents as a result of HIV/AIDS deaths, leading to loss of farming knowledge and falling incomes. Young people migrate as a further consequence, and the financial capital of households falls. Lack of purchasing power may force females into prostitution—a mother with a sick child will resort to anything to save that child, Dr Diallo points out. This situation of pressure on rural households may be further compounded by the return of sick migrants to their home villages when illness strikes during their stay in the towns.

### ***Declining crop yields***

An FAO study has highlighted a number of factors responsible for a decline in crop yields in rural communities affected by HIV/AIDS. These include falling soil fertility, increased pest and disease problems, less use of improved seed, fertilizers and other inputs, and altered cropping practices.

Lack of labor because of illness or death, as well as loss of cultivations knowledge, is a debilitating force in each of these factors. The remaining farmers' attention is focused on short-term returns rather than long-term measures to maintain or improve soil fertility and conservation. With few hands available to undertake labor-intensive pest control—and less money for pesticides—crops may be left to the ravages of insect or rodent attack. The nature of the crops also changes to accommodate those that are less labor-intensive. More often than not it is the income-generating cash crops that are first to go, while the substitute subsistence food plants are not necessarily as nutritious as those they replace.

HIV/AIDS knows few boundaries between populations, the poor or rich, educated or illiterate. Agricultural extensionists are just as vulnerable and many trainers are either ill or already dead following infection. As a result it is not just traditional farming skills that are being eroded but the training base is under threat as extensionists fall ill.

### ***Hope for the future***

While it is true that lower levels of nutrition increase people's vulnerability to disease of all types, and their ability to sustain a fairly normal lifestyle once HIV infection is confirmed, there are steps that can be and are being taken to improve the nutritional contents of diets in severely AIDS-affected communities. Guidance on suitable foods is being dispensed and technologies and plants which can still thrive in less labor-intensive situations are being developed and introduced. Breakthroughs such as the New Rice for Africa (NERICA) varieties give improved yield and are less susceptible to pests and diseases so that the labor burden is lessened.

### ***Workshop objectives***

The objectives of the workshop were:

1. To assess interactions between HIV/AIDS, agriculture, nutrition and food security;
2. Bring together professionals from all sectors to share their research experiences on what works and what does not in HIV/AIDS management;
3. Develop mechanisms and processes for addressing policy and programs;
4. Compare lessons learned from East and Southern Africa and their transferability to West and Central Africa;
5. Forge partnerships with national and international agencies and civil society organizations that are involved in HIV/AIDS, agriculture, food security and nutrition –
6. Establish a sub-regional network;
7. And develop a framework of proposals for fund raising.

### ***Key questions to be answered by the workshop***

- What programs and policies help break down stigma and discrimination against HIV/AIDS victims;
- What types of management strategies for HIV/AIDS have been successful in rural areas in Southern and Eastern Africa;

- Which of these experiences can be transferred to the rural West and Central Africa context;
- What concrete evidence is there from Africa about the interaction between HIV/AIDS and agricultural production, food security and nutrition;
- And what policies can be directly beneficial in breaking the vicious cycle between HIV/AIDS and agricultural production, food security and nutrition?

### **Expected outcomes from the workshop**

- a better understanding of HIV/AIDS impacts on the different agricultural systems as well as on extension services
- examples of interventions that help households and communities cope with the tasks of improving their livelihoods in the face of HIV/AIDS
- insight into what agricultural systems can contribute to prevention, care and mitigation of HIV/AIDS
- action plans on joint research activities
- concept notes and proposals developed
- task forces to follow-up actions
- a strategy for fund-raising

### **Opening**

The workshop was officially opened and closed by the Director General of the Africa Rice Center (WARDA) while the regional representative of UNAIDS delivered the keynote address. In his opening address, the Director General of WARDA stated “The agricultural sector has a great potential to help mitigate the consequences of HIV/AIDS on farmers. For example, breakthroughs such as the New Rice for Africa (NERICA)

varieties give improved yield and are less susceptible to local stresses, so that the labor burden is lessened”. In his closing remarks, and in wishing success to the network, the Director General had this to say, “We are confident that ANEHA, which has emerged from a shared vision and commitment of a wide cross-section of stakeholders, will be on the frontline in the fight against HIV/AIDS in sub-Saharan Africa, where farming is the most important source of livelihood for the majority of the population.”

In his keynote address, Dr Diallo, the regional representative of UNAIDS, said, “agriculture is predominantly non-mechanized in sub-Saharan Africa. With the reduction in agricultural labor force in HIV/AIDS-affected communities, only the elderly and children are often left to carry on farming. As a consequence, less land is cropped, farmers switch to crops easiest to grow, traditional farming knowledge and skills are lost, seasonal crop deadlines are missed, overall production is reduced and farmers’ incomes fall”.

### **Structure**

The workshop was organized in four main sessions, which dealt with the following themes:

- Interactions between HIV/AIDS, nutrition and agriculture
- Research experiences and actions to reduce the impact of HIV/AIDS on agriculture
- Policies and achievements at national and regional levels
- Catalog to reduce the impact of HIV/AIDS

Six major questions were raised by these presentations and made up the terms of reference for the three working groups. Proceedings of these working groups and discussions that followed shed light on the following:

- the HIV/AIDS pandemic has become a major public health concern in sub-Saharan Africa
- it is a major threat to the already fragile economies of our States
- it is estimated that over 25.4 million people are living with HIV/AIDS in sub-Saharan Africa, of which 60% are women and girls

Over 25 papers were presented. These papers will be peer reviewed and published separately in book form, on CD-ROM and posted on the web as part of the outputs from the workshop and to contribute to building the knowledge base about HIV/AIDS in West and Central Africa.

### ***Issues/concerns raised***

It was generally acknowledged that agriculture and food security should be used as the entry points for increasing resilience and creating awareness about the pandemic. A number of negative impacts of HIV/AIDS on agriculture and food security were identified. These included, but were not limited to: decrease in agricultural labor; decrease in cultivated areas; reduction of income generating activities for women; decrease in livestock; decrease in available food stocks in quantity and quality; decrease in productivity; decrease in farm revenues; utilization of savings and livestock to finance care and funerals; decrease in the number of producers; increase in food insecurity, malnutrition and poverty; modification of the structure of household composition; and degradation of community services which are public goods.

### ***Responses***

In response to these concerns, the working groups proposed that:

- a) We should study and define the contribution of agricultural research in controlling the effect of HIV/AIDS on agriculture;
- b) Define priority research areas;
- c) Improve farm productivity;
- d) Integrate treatments and prevention of HIV/AIDS in agricultural programs;
- e) Integrate a communication strategy for prevention and education aimed at agricultural service staff and farming households;
- f) Encourage the multi- and trans-sectoral approach of HIV/AIDS mitigation by strengthening linkages between agricultural research, agriculture, health and education services;
- g) Develop and disseminate on a large scale, information and communication actions through media towards extension agents and community organizations;
- h) Introduce and popularize high nutritional value crop varieties to improve food for people living with AIDS;
- i) Favour participatory approach in all forms of interventions with particular stress on gender and develop partnership between public/private sector and NGOs.

Short-, medium- and long-term action plans were worked out and agricultural research priority areas as well as a list of development partners have been identified, as shown in Appendices 1 and 2.

The participants unanimously agreed at the end of the conference to sustain the dynamism created by the workshop by forming a network to fight against HIV/AIDS in Africa that shall be called the “Africa Network on HIV/AIDS and Agriculture” (ANEHA). WARDA was asked to host the network under the coordination of the current SWIHA coordinator, Mrs Annmarie

Kormawa. They also formed taskforces with specific tasks and deadlines for their accomplishment. One task force was on R & D activities on mitigation of HIV/AIDS impact on agriculture while the other was on prevention of HIV/AIDS through agricultural intervention and policy and networking.

## **ABOUT ANEHA**

ANEHA is a multisectoral network established to mitigate the effects of HIV/AIDS on farming communities across sub-Saharan Africa. It was launched in July 2005 under the aegis of the CGIAR Systemwide Initiative on HIV/AIDS and Agriculture (SWIHA) programme, and is currently hosted by the Africa Rice Center (WARDA) in Cotonou, Benin.

The network, will serve as an interface not only between HIV/AIDS and agriculture, but will also include inter-related food security, nutrition, health and policy aspects. It will focus on all the regions of sub-Saharan Africa, including West Africa, which has not received adequate attention by HIV/AIDS interveners over the years. Forging strategic multi-level partnerships with a wide range of stakeholders, including those involved in existing HIV/AIDS-related initiatives, was highlighted as one of the major thrusts necessary to successfully carry out the ANEHA programmes and activities.

ANEHA was formed in response to the unanimous demand made by the participants of the recent *SWIHA Regional Workshop on HIV/AIDS and Agriculture: Implications for Food Security in West and Central Africa* organized by WARDA. The participants urged WARDA to host a sub-Saharan Africa-wide network to carry forward the momentum of the workshop. The intention is to make ANEHA an effective collaborative mechanism to implement the activities within the three priority themes identified by the workshop participants as part of an integrated strategy developed to respond to the HIV/AIDS pandemic in the agricultural sector.

## **Goal**

The overall goal of ANEHA is to mitigate the effects of HIV/AIDS on agriculture and rural communities using a multi-stakeholder approach. The three strategic objectives or thematic areas identified during the workshop are to:

## **Strategic objectives**

1. Diversify the livelihood systems of farming communities.
2. Achieve nutrition and dietary diversification for communities hosting PLWHAs.
3. Ensure multi-level advocacy and awareness creation about HIV/AIDS.

## **Intermediate results**

1. Interventions that help households cope with the tasks of improving their livelihoods in the face of HIV/AIDS identified.
  - 1.1 Improved alternative labor-saving technologies developed.
  - 1.2 Impact of HIV/AIDS on rural communities assessed and information disseminated to stakeholders.
  - 1.3 Appropriate strategies for mitigating negative impacts of HIV/AIDS developed.

2. Nutritional needs of PLWHA assessed and categorised.
  - 2.1. Interactions between HIV/AIDS, agriculture, and nutrition and food security assessed.
  - 2.2. Better understanding of HIV/AIDS impacts on the different agricultural systems as well as on extension services promoted.
  - 2.3. Alternative nutrition options like goat milk, soy milk, etc. developed
3. Knowledge, attitudes and perceptions (KAP) about HIV/AIDS analysed.
  - 3.1. Development of HIV/AIDS strategy document for future interventions.
  - 3.2. Information and sensitisation of rural communities about HIV/AIDS promoted.

A detailed Logical Framework (Logframe) and Plan of Operations (POP) are attached as Appendix 1 and Appendix 2, respectively, for further information.

## **Coordinating framework for ANEHA**

The multisectorial representatives at the workshop acknowledged the lead role provided by WARDA and the current SWIHA coordinator in this new initiative (Africa Network on HIV/AIDS and Agriculture - ANEHA). They urged WARDA to coordinate ANEHA under the existing SWIHA arrangement and unanimously appointed Mrs Annmarie Kormawa (current SWIHA coordinator) as Network Coordinator.

## SUMMARY OF WORKSHOP PRESENTATIONS AND FINDINGS

### Introduction

The HIV/AIDS epidemic is one of the greatest challenges confronting the world today. Over 40 million individuals are currently living with HIV/AIDS, 95 percent of whom are from developing countries. Assuming that each HIV/AIDS case directly influences the lives of four other individuals, a total of more than 150 million people are being affected by the disease (Barnett and Rugalema, 2001).

The workshop highlighted that as the largest employer in sub-Saharan Africa, agriculture is particularly affected by the HIV/AIDS pandemic. About 70% of Africans—and nearly 90% of the poor—work primarily in agriculture. HIV/AIDS is depleting the region of its food producers, hitting those who are least equipped to deal with its consequences. The pandemic has become a determining factor of food insecurity as well as a consequence of food and nutrition insecurity in the region.

Although population growth rates have declined from 2.4% in 1997 to less than 2% by 2006, sub-Saharan Africa is expected to be home to over a billion people by 2025. The introduction of more effective economic policies in many sub-Saharan African countries has helped improve economic development and performance since the mid-1990s. However, the HIV/AIDS epidemic is expected to undermine economic growth for the next 15 years.

Even though HIV/AIDS had been diagnosed much earlier in other parts of the world, it was not until 1981 that the first case was diagnosed in sub-Saharan Africa. This notwithstanding, HIV/AIDS has since spread through

It was further agreed that to mobilize resources (money, expertise, etc.) ANEHA needs to work within SWIHA as the global platform that may guarantee quicker access to such resources. The value of the systemwide initiative is to provide such services and thereby help leverage resources for structures such as ANEHA rather than elevate themselves into structural entities/authorities that try to chart the paths on which constituent centers/members and their associated networks can grow. SWIHA and ANEHA should therefore be seen as complementary arms of development.

The CG centers and non-CG participants present at the workshop and meeting that established ANEHA further agreed that R&D activities under the network should be carried out under a coordinating framework. The current understanding is that WARDA plays a central coordinating role for ANEHA with the SWIHA Coordinator also coordinating ANEHA. Furthermore, in order to ensure that the other regions and centers are fully integrated and their activities properly integrated, it was further agreed that ICRISAT (Dr Jane Alumira) coordinates activities for Eastern and Southern Africa, while WARDA (Mrs Annmarie Kormawa) coordinates activities in Western and Central Africa. It is anticipated that the NARES in the respective countries will coordinate activities in their respective countries.

The way forward, therefore, is for all interested CGIAR Centers based in Africa to pool resources (financial, human, etc.) and work together within the umbrella of ANEHA/SWIHA, noting fully well that ANEHA is multisectoral. There is a need for an arrangement that allows for CG centers and non-CG partners within ANEHA to contribute resources to a common pool for activities in SSA. An operations manual for the use of these pooled resources can be developed, clearly stipulating the modalities for accessing and utilizing the fund.

out the world. Few people anywhere on the globe with access to newspapers, television or radios can fail to have heard or read references to HIV/AIDS. Even if they do not fully understand the processes of infection and illness, they are well aware that there is an insidious affliction that is killing and debilitating the health of people they may know as friends or family members.

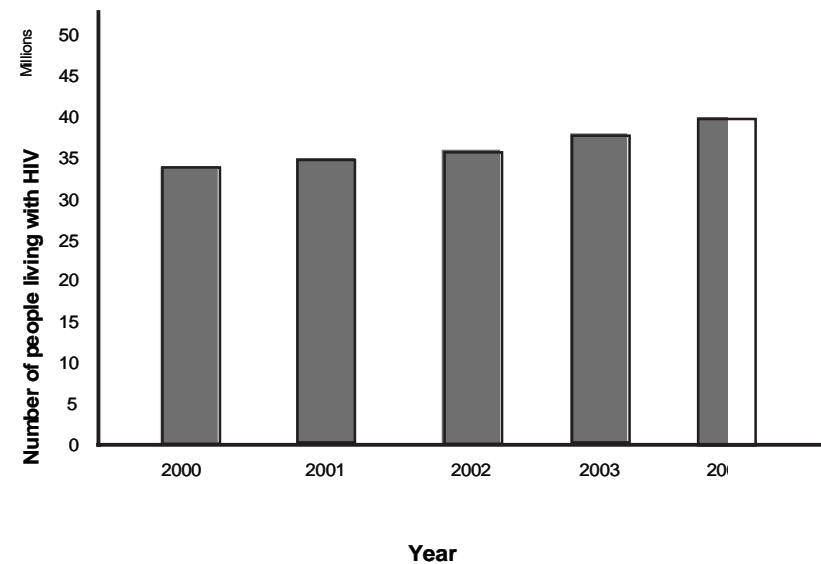
Sub-Saharan Africa is the region of the world that is most affected by HIV/AIDS and the magnitude and depth of HIV/AIDS impacts are staggering (Gillespie et al., 2001). Even though the population of sub-Saharan Africa is only about 10 percent of the world's population, it accounts for almost two-thirds of all people living with HIV/AIDS around the world. An estimated 25.4 million people are living with HIV/AIDS and approximately 3.1 million new infections occurred in 2004. The epidemic claimed the lives of an estimated 2.3 million people in 2004. Around two million children under 15 are living with HIV/AIDS and more than 12 million children have been orphaned by AIDS.

The prevalence rate varies within the continent. In Southern Africa, all seven countries have rates that are above 17 percent. In Central and Eastern Africa, the rates are between 4 and 13 percent, while in West Africa, no country has a prevalence rate exceeding 10 percent and most countries have prevalence rates between 1 and 5 percent. (UNAIDS, 2004).

If Southern Africa is excluded, the 47 countries comprising sub-Saharan Africa depend more on their natural resource base for economic and social needs than any other region in the world. Two-thirds of sub-Saharan Africa's people live in rural areas and rely on agriculture and other natural resources for income.

The graph below shows the estimated number of people living with HIV around the world between 2000 and 2004. One would observe from the graph that there has been a steady increase in the incidence rate of HIV/AIDS around the world and, as consistently emphasized in this report, most of these new cases are recorded in sub-Saharan Africa.

**Estimated number of people living with HIV/AIDS, 2000-2004**



Source: UNAIDS 2004

## **IMPACT OF HIV/AIDS**

### **a) Impact on agriculture**

People with an involvement in agriculture represent nearly half of new infections in sub-Saharan Africa and there are major effects on agriculture and food production as a result. The lack of mechanization in agriculture means that agriculture depends on manual labor. However, HIV/AIDS is reducing the labor force and by extension the area of land that can be cultivated. Fallow increases, cropping is less intensive as farmers switch to the crops easiest to grow, and female labor is being switched to nursing with the result that seasonal crop deadlines are missed and overall production falls in HIV/AIDS-affected communities.

Although HIV/AIDS is recognized generally as a health problem, the epidemic has multiple social and economic dimensions and implications since it affects adults in their most productive years of life. A health approach alone is not sufficient to prevent the spread of the disease or to mitigate its impact on both individuals and society. The spread of HIV/AIDS has in consequence become a major constraint to development in affected areas and must, therefore, become a major consideration in the program planning of governments and agencies (FAO, 2001).

The death of either spouse causes loss of labor during mourning periods, followed by uncertainty over land tenures particularly if the surviving partner is female. This is so because customary practices for land tenure do not give to women the rights to own land. Affected rural families often comprise only young adults and grandparents as a result of HIV/AIDS deaths, leading to loss of farming knowledge and falling incomes. Young people migrate as a further consequence, and the financial capital of households falls. Lack of purchasing power may force females into prostitution—a mother with a sick child will resort to anything to save that child.

Before being attacked by the HIV/AIDS pandemic, some smallholder peasant agricultural households were profitably linked to the formal urban economy through wage employment and/or domestic commodity marketing. This provided a major source of surplus labor from the rural farming communities and a major source of cash income, savings and equity investments in rural agricultural development. The emergence of HIV/AIDS has threatened this relationship and has brought with it the potential for stagnation or even negative rural agricultural development.

This situation of pressure on rural households may be further compounded by the return of sick migrants to their home villages when illness strikes during their stay in the towns. HIV/AIDS could therefore be said to have the following effects on agriculture: declining farm production, productivity and farm income; increased food insecurity, malnutrition and poverty; increase in single parents and orphans; and increased burden of medical care and labour relocations from agricultural activities.

Figure 1 below shows the effect of HIV/AIDS on agriculture and food security.

More specifically, HIV/AIDS affects certain sectors of agriculture in various ways as outlined below.

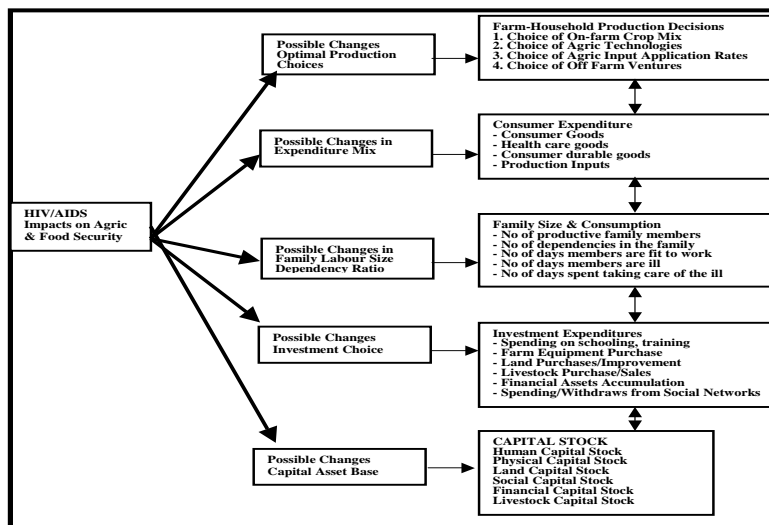
### ***Effects on crop yields***

FAO has highlighted a number of factors responsible for decline in crop yields in rural communities affected by HIV/AIDS. These include falling soil fertility, increased pest and disease problems, less use of improved seed, fertilizers and other inputs, and altered cropping practices.

There is lack of labor because of illness or death, leading to reduced

cultivations, and also loss of knowledge. The attention of the remaining farmers is focused on short-term returns rather than long-term measures to maintain or improve soil fertility and conservation. With few hands available to undertake labor-intensive pest control—and less money for pesticides—crops may be left to the ravages of insects or rodent attack. The nature of the crops also changes to accommodate those that are less labor-intensive. More often than not it is income-generating cash crops that are first to go, while the substitute subsistence food plants are not necessarily as nutritious as those they replace. Studies in Malawi found that 70% of the households affected by chronic sickness had a labor shortage, with 45% delaying agricultural operations and 25% leaving land fallow or changing the crops mix.

HIV/AIDS knows few boundaries between populations, the poor or rich, educated or illiterate. Agricultural extensionists are just as vulnerable and many trainers are either ill or already dead following infection. As a result, it is not just traditional farming skills that are being eroded but the training base is under threat as extensionists fall ill.



Source: FANR PAN, University of Zimbabwe

Figure 1

Other effects of HIV/AIDS on cropping include: a shift from labor-intensive to less labor-intensive and less nutritious crops; declining farm sizes causing lower production; increased fallowing; increases in hired labor driving up crop production costs; and reduced processing of food crops because of an increase in infected widows.

### Effects on livestock and fishery productivity

The impact of HIV/AIDS on livestock and fishery productivity shows itself in declining livestock and small-scale fish production and productivity, consumption and marketing. Livestock and fish stock are sold for cash income for medication, or livestock and fish might be utilised/slaughtered for funeral or traditional ceremonies and sacrifices – some livestock are sacrificed for alternative medicine. Care for livestock is poorer due to lack of labor and less time is spent in fishing due to deaths among fishermen, or because equipment has been sold to pay for medicines. Falling production diminishes traditional sources of protein.

### b). Effects on nutrition and food security

The interaction between HIV/AIDS and nutrition can be seen from two perspectives:

- the *biological* perspective, which is the association between nutritional status and risk of infection, as well as the relationship of nutritional status and the evolution of the disease;
- the *socio-economic* perspective, which considers the consequences of the disease for the food and nutrition situation of affected households and communities through lack of food, insufficient care and lack of time to ensure proper hygiene.

Biologically, there are multiple relations between HIV/AIDS and nutritional status. Research shows that the chance of infection with the HIV virus might be reduced in individuals who have good nutritional status, with micronutrients and, especially, vitamin A playing significant roles. At the same time, the onset of the disease and even death might be delayed in well-nourished HIV-positive individuals (ACC/SCN, 1998).

Because the virus damages the immune system, AIDS patients are vulnerable to multiple infections. A diet rich in protein, energy and micronutrients, especially vitamin A, contributes to resistance to opportunistic infections in AIDS patients (Friis, 1998). Higher nutrient intakes are required when the patient suffers from a secondary disease. When diarrhea occurs, extra liquids are required to restore the balance.

HIV/AIDS has a detrimental impact on household food security and nutrition in endemic areas. Household food security is defined as the ability of the household to secure, either from its own production or through purchases, adequate food to meet the dietary needs of its members so that they can live a healthy and active life.

In HIV/AIDS-affected households, problems start as soon as the first adult becomes sick. This leads to increased spending for health care, decreased ability to carry out work and higher demands on time for care. A household may find itself without cash reserves; often becomes indebted and is forced to sell livestock and other productive resources to pay bills. Traditional solidarity systems may wear out, and the family may progressively slide into destitution. Households affected by AIDS are at risk nutritionally: access to food is difficult; demand for care soars, together with time constraints; and it becomes increasingly difficult to preserve health.

The impact of the epidemic on food and agriculture is clearly related to people's livelihoods and will vary according to the different ecological zones,

farming systems and stage of the epidemic. It may result in a shift from cash crops to less labor-intensive food crops, to more basic and less varied food production or to a reduction of productivity and cash income with corresponding adverse effects on household food security (FAO, 1995).

Research carried out in Uganda showed that food insecurity and malnutrition (rather than medical treatment and drugs) were foremost among the immediate problems faced by female-headed, AIDS-affected households (Topouzis and Hemrich, 1996). This further aggravates the situation, as good nutrition is of great importance to the victims of the AIDS epidemic as well as to children and pregnant or lactating women.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

It is now generally acknowledged that the fight against the HIV/AIDS pandemic requires a multisectoral and coordinated approach. This position was re-echoed by participants from Africa, Europe and the Americas at the regional workshop organized by SWIHA. The workshop therefore called for a multisectoral approach to addressing the issue of HIV/AIDS and its effects on agriculture. Participants unanimously called for the launch of ANEHA as the SSA network that would bring together scientists from the CGIAR system and non-scientists working with civil society and the donor community to work on the issue of HIV/AIDS and agriculture in Africa.

It was acknowledged that in doing so a number of challenges have to be overcome. Listed among these challenges are:

1. The coordinating mechanisms for the network.
2. Funding for the network.
3. Sustainability of the network.

The coordination mechanisms were envisaged at three levels: continental, sub-regional and national. At the continental level, it was agreed that WARDA should continue to coordinate both SWIHA and ANEHA. At the sub-regional level, it was agreed that ICRISAT should coordinate activities in Southern and Eastern Africa while WARDA coordinates activities for Western and Central Africa. At the national level, it was envisaged that the country focal points should coordinate activities in their respective countries.

In terms of funding for the network, it is anticipated that some pooled funding arrangement can be put in place that would allow interested CGIAR centers, development partners/donors, civil society groups and any other corporate bodies, bilateral or multilateral institutions, to contribute directly to a fund specifically set up to finance the work of ANEHA. An operations manual and a standardized financial and accounting framework shall be agreed upon for the management of the fund.

In order to sustain this initiative, it is envisaged that there will be long-term commitment from partners and all stakeholders to this initiative. It is further envisaged that donors and governments would eventually buy into this initiative and commit resources to sustain it.

## **Recommendations**

### ***a. Interventions to improve livelihoods.***

The interventions that will be required to improve livelihoods include the promotion of appropriate/labor-saving technologies that would enable PLWHA to do better what they did before; improving the technological skills of household members; enabling affected communities and households to gain access to fertilisers and improved seed varieties; improving access to markets; ensuring improvements in infrastructural services such as water, transport and electricity; and providing micro-finance for HIV/AIDS afflicted households.

### ***b. Interventions to ensure household food and nutrition security.***

The interventions to ensure household food and nutrition security include improved incomes – microfinance and credits; more food available to households; improved food and cash crop production and productivity; improved marketing; improved nutrition education; improved infrastructural services; more efficient processing and storage facilities; diversification of diets – soya beans, milk, etc.; genetic and post-harvest fortification of food; and nutrition information, education and communication.

### ***c. Interventions to improve agricultural production.***

The interventions to improve agricultural production include improved access to credit; increased investment in the development of agricultural technologies appropriate to HIV/AIDS-afflicted households and communities, e.g. labor saving, improved/high yielding varieties, improved micronutrients, and fertilisers (organic and inorganic); introduction of

gender-sensitive farm implements; legal and customary ways to ensure security of land tenure for women and orphaned youth; improved ownership, control and access to productive resources; re-stocking for draft power; improved services – water, roads, electricity; improved secondary processing possibilities; improved natural resources (land, soil, crop and water) management practices; improved access to both inputs and outputs markets; improved access to and performance of the agricultural extension services; an integrated communications strategy designed to pass on prevention advice and improve health education of agricultural services staff and agricultural producers and their families; and encourage a multi-sectoral approach to HIV/AIDS, including strong linkages between agricultural research and agricultural services and health and education, etc.

#### ***d. Steps to mitigate effects of HIV/AIDS.***

Some mitigating factors for HIV/AIDS include policy level advocacy and awareness creation; building strong national, sub-regional, regional and global partnerships; formation of national action plans and committees on HIV/AIDS; mainstreaming HIV/AIDS within the various national development programs; increased funding for HIV/AIDS projects; availability and distribution of ARTs; and legal framework and political will to tackle HIV/AIDS.

Agricultural research can contribute to mitigating the effects of HIV/AIDS on the rural economy by informing policy on how to integrate HIV/AIDS concerns into rural development programs, by applying participatory research and extension methodologies; development and promotion of labor-saving technologies; capacity building and information sharing; enhancing research and development partnerships; re-orienting agricultural research priorities to increase labor efficiencies/decrease labor demands, improving nutrition and diversifying income sources; adopting participatory

research methodologies, including explicit attention to gender relations and the needs and preferences of women and men, youth and elderly, each in their own right; and developing and widely disseminating appropriate agriculture health messages via media for extensionists and veterinarians, radio, CBOs, farmer field schools, rural schools, etc.

#### ***e. Integrating HIV/AIDS care and prevention with nutrition and agricultural production.***

The following measures need to be taken to integrate HIV/AIDS care and prevention with nutrition and agriculture production:

- increased production and productivity
- funding of research and development in nutrition and agricultural development
- capacity building in agriculture and nutrition
- consistent and sustainable government policies
- integrating HIV/AIDS into agriculture and nutrition extension programmes
- targeted nutrition and agriculture safety nets for HIV/AIDS
- improvement on nutrition, hygiene and access to treatment of opportunistic infections
- develop guidelines for nutritional care for PLWHA

It was further recommended that:

- i. Directors of Research and Senior Scientists of CG Centers and NARES should be encouraged to live in HIV/AIDS-afflicted community for two to four weeks to listen, observe and learn. It was further suggested that they should be accompanied by social scientists who would provide expert facilitation using semi-

structured methods. The sampling strategy to be adopted should ensure good understanding of gender issues and their implications for HIV/AIDS and agriculture production.

- ii. Directors of CG Centers and NARES should re-orient one to three research priorities to respond to the priorities of HIV/AIDS-afflicted communities in order to promote more labor-efficient technologies and increased nutrition and income.
- iii. The plan of action be fully implemented with robust systems of monitoring and evaluation.
- iv. While it is true that lower levels of nutrition increase people's vulnerability to disease of all types, and their ability to sustain a fairly normal lifestyle, once HIV infection is confirmed, there are steps that can be and are being taken to improve the nutritional contents of diets in severely AIDS-affected communities. Guidance on suitable foods should be dispensed and technologies and plants which can still thrive in less labor-intensive situations should be developed and introduced.
- v. An exchange and information network on agriculture and HIV/AIDS be established.
- vi. Two task forces, one on prevention and the other one on the reduction of HIV/AIDS impacts on agriculture be constituted.
- vii. The socioeconomic conditions of HIV/AIDS affected households in research objectives (reduction of hardship and working time, early maturing and high nutritional value varieties, access to credit, etc.) be taken into account.

- viii. Nutrition be integrated into agricultural research in order to increase resilience to control HIV/AIDS
- ix. HIV/AIDS dimensions be introduced and recognized in working out agricultural policies.

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## Acronyms and Abbreviations:

**AIDS:** acquired immune deficiency syndrome  
**ART:** antiretroviral treatment  
**ANEHA:** Africa Network on HIV/AIDS and Agriculture  
**AfDB:** African Development Bank  
**ACC/SCN:** Administrative Committee on Coordination Sub-Committee  
on Nutrition  
**CG:** Consultative Group  
**CGIAR:** Consultative Group on International Agricultural Research  
**CDC:** Center Directors Committee  
**CIDA:** Canadian International Development Agency  
**CARE:** International  
**CABI:** Commonwealth Agriculture Bureau  
**CSOs:** civil society Organizations  
**CBOs:** community-based organizations  
**CIAT:** *Centro Internacional de Agricultura Tropical*  
**DFID:** Department for International Development (UK)  
**EU:** European Union  
**ECOWAS:** Economic Community of West African States  
**FAO:** Food and Agriculture Organization of the United Nations.  
**GTZ:** *Deutsche Gesellschaft für Technische Zusammenarbeit*  
**HIV:** human immunodeficiency virus  
**HHs:** households  
**IITA:** International Institute of Tropical Agriculture  
**ICRISAT:** International Crop Research Institute for the Semi-Arid  
Tropics  
**IMWI:** International Water Management Institute  
**IPGRI:** International Plant Genetic Resources Institute  
**IK:** indigenous knowledge  
**IEC:** information, education and communication

**IFAD:** International Fund for Agricultural Development  
**KAP:** knowledge, attitudes and perception  
**MOVs:** means of verification  
**MoA:** Ministry of Agriculture  
**NGOs:** non-governmental organizations  
**NARES:** National Agricultural Research and Extension Services  
**NERICA:** New Rice for Africa  
**OVI:** objectively verifiable indicators  
**POP:** plan of operations  
**PLWHA:** people/person living with HIV/AIDS  
**R&D:** research and development  
**SSA:** sub-Saharan Africa  
**SWIHA:** Systemwide Initiative on HIV/AIDS and Agriculture  
**UNAIDS:** Joint United Nations program on HIV/AIDS  
**USAID-WARP:** United States Agency for International Development/  
West Africa Regional Programs  
**WFP:** World Food Program  
**WECARD/CORAF:** West and Central Africa Council for Agricultural  
Research and Development  
**WACSOF:** West Africa Civil Society Forum  
**WB:** World Bank  
**WHO:** World Health Organization  
**WARDA:** West Africa Rice Development Association

**Appendix 1**  
**LOGICAL FRAMEWORK FOR**  
**SWIHA SYNTHESIS REPORT**

Narrative	Objective Verifiable Indicators (OVIs)	Means of Verification (MOVs)	Critical Assumptions
<b>Goal:</b> Effects of HIV/AIDS on agriculture and rural communities mitigated.	X percentage increase in all economic/livelihood indicators by 2010.  %age decrease in rates of infection by 2010.	Regional reports on economic indicators, WB/WHO/Survey reports.  National Statistics, UNAIDS Statistics, Survey reports.	Political and socio economic stability.
<b>Strategic Objectives:</b> Livelihood systems of farming communities diversified.	No. of new livelihood systems developed by 2010.  X% of population adopts new livelihood systems by 2010.	MoA Survey reports, WHO/UNAIDS reports.	Collaboration between NARES and national and international HIV/AIDS programs.
Nutrition and dietary diversification for PLWAs achieved.	X number of new nutritious foods/diets developed by 2010.  X% of population adopting new foods/diets by 2010.	Consumption study reports.	Conducive environments for agricultural production.  Available disposable income for agriculture in aids affected communities.
Multi-level advocacy and awareness creation about HIV/AIDS ensured.	X of projects/proposals with an HIV/AIDS component developed by 2010.  X No. of people from different sectors participate in HIV/AIDS programs by 2010.	Govt records, donor records, and inventory of project in different sectors.	Willingness of all stakeholders.

**Appendix 1**

Narrative	Objective Verifiable Indicators (OVIs)	Means of Verification (MOVs)	Critical Assumptions
<b>Intermediate Results:</b> 1.1 Interventions that help households cope with the tasks of improving their livelihoods in the face of HIV/AIDS identified.	At least 2 interventions developed and adopted by 2010.  X number of AIDS awareness campaigns organised by 2010.	Community, GO, and farmer community leaders reports.	Political and socio-economic stability.
1.2 Improved alternatives labor-saving technologies developed	At least 4 technologies developed and adopted by 2010.	Community, GO, and farmer community leaders reports.	Political and socio-economic stability.
1.3 Impact of HIV/AIDS on rural communities assessed and information disseminated to stakeholders.	2 baseline studies on infected and non-infected conducted by 2006.  Socio-economic behaviour of communities improved by 2010.	Survey reports, health and nutrition reports.	Willingness of stakeholders to participate.
1.4 Appropriate strategies for mitigating negative impacts of HIV/AIDS developed.	Nutritional qualities of HHs improved by 2010.  X No. of workshops organised by 2010.  %age increase in voluntary testing and intake of ART by 2010.	Health surveillance reports.  Rural community banks and cooperatives reports.	Government and private sector support.  Stability of operations.  Improved communication.

**Appendix 1**

<b>Narrative</b>	<b>Objective Verifiable Indicators (OVIs)</b>	<b>Means of Verification (MOVs)</b>	<b>Critical Assumptions</b>
2.1 Nutritional needs of PLWHAs assessed	40% of animal and protein foods categorised and adopted by 2010.  50% of energy foods categorised and adopted by 2010.	Survey reports, baseline study reports, nutrition surveillance reports.	Willingness to test and accept counselling.
2.2 Interactions between HIV/AIDS, agriculture, and nutrition and food security assessed.	At least 2 studies carried out by 2010.  Increase in number of multi sectoral collaborative projects by 2010.	Survey and project reports.	Willingness of stakeholders to collaborate.
2.3 Better understanding of HIV/AIDS impacts on the different agricultural systems as well as on extension services promoted.	2 baseline studies on infected and non-infected conducted by 2008. %age increase in HH incomes by 2010. %age increase in nutritional status of HHs by 2010.	Baseline study reports, HH income data, nutritional data.	Willingness of stakeholders to collaborate.
2.4 Alternative nutrition options like goat milk, soymilk, etc. developed.	# of projects developed and adopted by 2010. # of people testing and using the products by 2010.	Community survey and project reports.	Availability of the product e.g. Goat, soy bean in the community
31. Knowledge, attitudes and perceptions (KAP) about HIV/AIDS analysed.	At least 20 people from each community trained as trainers in a TOT by 2007.  2 or 3 TT workshops or seminars organised by 2007.	Workshop reports, KAP study reports, proceedings, etc.  Copies of proposals, Projects reports.	Community willingness to discuss.

**Appendix 1**

<b>Narrative</b>	<b>Objective Verifiable Indicators (OVIs)</b>	<b>Means of Verification (MOVs)</b>	<b>Critical Assumptions</b>
3.2 Development of HIV/AIDS strategy document for future interventions.	2 or 3 proposals developed based on activities by 2006.	Copies of proposals. Projects reports.	Sustained donor and political interest.
3.3 Information and sensitisation of rural communities about HIV/AIDS promoted.	2 or 3 projects launched by 2010.  2 or 3 proposals developed based on activities by 2006.  2 or 3 sensitisation workshops conducted by 2010.	Copies of proposals. Workshop reports.	Sustained donor and political interest.

Appendix 2

LOGICAL FRAMEWORK FOR SWIHA SYNTHESIS REPORT

Narrative	Activities	Gantt Chart					Objectively Variable Indicators	Responsible Institutions or partners
		Y 1	Y 2	Y 3	Y 4	Y 5		
<b>Intermediate Results:</b> 1.1 Interventions that help households cope with the tasks of improving their livelihoods in the face of HIV/AIDS identified.	Develop interventions to help HHs cope with HIV/AIDS.	X	X	X	X	X	At least 2 interventions developed and adopted by 2010.	CGs, Government, NGOs.
	Launch awareness building campaigns to ensure adoption of new interventions.	X	X	X	X	X	X number of awareness building campaigns organised by 2010.	CGs, Government, NGOs.
1.2 Improved alternative less labor-intensive technologies developed.	Undertake inventory of existing less labor-intensive technologies and their characteristics.	X	X	X	X	X	X number of studies undertaken by 2010.	CGs, NGOs.
	Conduct participatory on-farm testing of existing technologies.	X	X	X	X	X	X number of on farm tests undertaken by 2010.	CGs.
	Carry out breeding for less labor-intensive varieties, e.g. potatoes and tubers.	X	X	X	X	X	X HAs cultivated by 2010.	CGs.
		X	X	X	X	X	X no. of HHs adopt technology by 2010.	CGs.
	Develop alternative crop management and easy post-harvest technologies.	X	X	X	X	X	Alternative crop management and post-harvest technologies developed by 2010.	CGs.
	Encourage and support the rearing of small ruminants in rural communities.	X	X	X	X	X	X no. of small ruminants reared by 2010.	NGOs, CBOs.

Appendix 2

Narrative	Activities	Gantt Chart					Objectively Variable Indicators	Responsible Institutions or partners
		Y 1	Y 2	Y 3	Y 4	Y 5		
1.3. Impact of HIV/AIDS on rural communities assessed and information made available for program planning.		X	X	X	X	X	X no. of HHs rear ruminants by 2010.	NGOs, CBOs
	Conduct baseline survey/study	X	X				2 base-line surveys conducted by 2007.	CGs, NGOs CBOs.
	Conduct process evaluation studies to assess impacts of interventions.	X	X				2 process evaluations conducted by 2007.	CGs, Government, NGOs.
1.4. Appropriate strategies for mitigating negative impacts of HIV/AIDS developed.	Conduct rapid appraisal with the HIV affected and infected communities to collect information on their ways of dealing with the pandemic.	X	X				2 of base-line surveys conducted by 2007.	CGs, Government, NGOs, CSOs.  CGs.
	Develop strategies based on socio-cultural conditions of the communities and with the communities.	X	X	X			X no of strategies developed by 2008.	CGs, Government, NGOs, CSOs.
	Conduct nutrition education to farmers about balanced diets and diversification of foods.	X	X				X no. of trainings carried out by 2007.	CGs, NGOs
		X	X				X no. of farmers trained by 2007.	CGs, NGOs.
		X	X				1 training manual produced by 2007.	CGs.

Appendix 2

Narrative	Activities	Gantt Chart					Objectively Variable Indicators	Responsible Institutions or partners
		Y 1	Y 2	Y 3	Y 4	Y 5		
	Educate farmers about various ways of preventing HIV/AIDS infection.	X	X	X	X	X	X no. of farmers trained by 2010.	CGOs, NGOs, CSOs.
		X	X				Training manual produced by 2007.	CGs.
	Encourage supplementation of foods with palm oil and other sources of vitamins.	X	X	X	X	X	X no. of food supplement developed by 2010.	NGOs, CBOs.
2.1. Nutritional needs of PLWHA assessed and categorised.	Make an inventory of the nutritional status and habits of the PLWHA in rural communities.	X	X				X No. of studies carried out by 2007.	CGs, NGOs.
2.2. Interactions between HIV/AIDS, agriculture, nutrition and food security assessed.	Conduct in-depth study to assess interaction of agriculture and food security in areas identified with high prevalence of HIV/AIDS.	X	X				X number of studies carried out by 2007.	CGs, NGOs.
2.3. Better understanding of HIV/AIDS impacts on the different agricultural systems as well as on extension services promoted.	Conduct workshops or seminars for extension agents in rural communities.	X	X	X			X no. of workshops organised by 2008.	CGs, NGOSs, CSOs.
	Produce development communication materials.	X	X				X number of extension agents trained by 2007.	CGs, NGOs.
		X					Materials produced by 2006.	CGs, NGOs.

Appendix 2

Narrative	Activities	Gantt Chart					Objectively Variable Indicators	Responsible Institutions or partners
		Y 1	Y 2	Y 3	Y 4	Y 5		
2.4 Alternative nutrition options – goat milk, soy milk, etc. developed.	Develop a catalog of local food varieties with their ability to control HIV impacts in each ecological zone.	X					Catalog produced by 2006.	CGs, NGOs.
	Conduct study to ascertain the benefits and acceptability of goat milk as an alternative source of nutrients.	X	X				Study conducted by 2007.	CGs, NGOs.
	Implement goat milk project in areas with high prevalence of HIV/AIDS.	X	X	X	X	X	No. of HH using goat milk by 2010.	CGs, NGOs, CBOs
3.1 Knowledge, attitudes and perceptions (KAP) about HIV/AIDS analysed.	Undertake an assessment of the KAPs of rural communities about HIV/AIDS.	X					Assessment conducted by 2006.	CGs, NGOs, CBOs, CSOs.
	Organise workshop to analyse the results.	X	X	X			X No. of workshops organised by 2008.	CGs, NGOs, CBOs.
		X	X	X	X		Evaluation report produced by 2009.	CGs, NGOs, CBOs.
3.2 Costing and programming HIV/AIDS conducted.	Train rural communities in how to develop and cost action plans for mitigating HIV/AIDS.	X	X				X no. of trainings conducted by 2007.	CGs, NGOs, CBOs.
		X	X				X no. of people trained by 2007.	CGs, NGOs, CBOs.

**Appendix 2**

Narrative	Activities	Gantt Chart					Objectively Variable Indicators	Responsible Institutions or partners
		Y 1	Y 2	Y 3	Y 4	Y 5		
	Support community HIV/AIDS mitigating projects.	X	X	X	X	X	X no. of projects supported by 2010.	Donors, governments.
3.3 Information and sensitisation of rural communities about HIV/AIDS promoted.	Conduct community-level seminars to create awareness about HIV/AIDS.	X	X	X	X	X	X no. of seminars conducted by 2010.	CGs, NGOs, CBOs.
	Train facilitators in rural communities for HIV/AIDS mitigation programmes	X	X				X no. of facilitators trained by 2007	CGs, NGOs.
	Produce IEC materials for rural communities.	X	X				IEC materials produced by 2007.	NGOs, CBOs.

**Appendix 3**  
**PRIORITY RESEARCH AREAS**

Research Objectives	Research Methodology	Countries & Institutions Involved	Donors
Assess effects of HIV/AIDS	Participatory research methodologies	WARDA, IITA and other agricultural institutions.	CIDA
Analyse variations in impact.	Review, analysis and synthesis of secondary data	All West and Central African Countries	USAID-WARP
Develop appropriate strategies for mitigating negative impacts of HIV/AIDS.			UNAIDS
Assess and categorise needs.	Modelling		DFID
Assess alternative less labor-intensive technologies.	Mapping		EU
Analyse variations in impact.	Regression analysis	CSOs coordinated by West African Civil Society Forum (WACSOFF)	WB
Alternative nutrition options – like goat and soymilk.			IFAD
HIV/AIDS and loss of household incomes.			AfDB
Gender, Nutrition/Agriculture and HIV/AIDS			FAO
Costing and programming HIV/AIDS.			
KAP about HIV/AIDS.			

**Appendix 4  
ACTION PLAN**

	DESCRIPTION	RESPONSIBLE PARTNER(S)	Short-term 1-2yrs	Medium term 2-5yrs	Long-term 5-10yrs
1.	Policy level advocacy and awareness creation.	Government and CSOs	XXXXX	XXXXX	
2.	Build strong national, sub-regional, regional and global partnerships.	Agric & Food Research institutions and CSOs	XXXXX	XXXXX	XXXXX
3.	Formation of national action plans and committees on HIV/AIDS.	Government and CSOs	XXXXX	XXXXX	
4.	Enhance networking within and between regions.	Research centres, CSOs.	XXXXX	XXXXX	XXXXX
5.	Funding for HIV/AIDS projects.	Donors and Governments.	XXXXX	XXXXX	XXXXX
6.	Mainstream HIV/AIDS within the various national development programs.	Government, CSOs, and research institutions.	XXXXX	XXXXX	
7.	Availability and distribution of ARTs.	Donors and Governments.	XXXXX	XXXXX	XXXXX
8.	Legal framework and political will for preventing HIV/AIDS.	Government, CSOs.	XXXXX	XXXXX	XXXXX
9.	Action plan on joint research activities.	CG members and NARS, CSOs.	XXXXX	XXXXX	XXXXX
10.	Concept notes and proposals developed.	Consultant, Network Coordinator, SWIHA team.	XXXXX	XXXXX	XXXXX
11.	Task forces constituted for follow-up actions.	Coordinator, SWIHA Team.	XXXXX		
12.	Strategy for fund-raising developed.	Coordinator, SWIHA Team, CG members, NARS.	XXXXX		

**Appendix 4  
ACTION PLAN**

	DESCRIPTION	RESPONSIBLE PARTNER(S)	Short-term 1-2yrs	Medium term 2-5yrs	Long-term 5-10yrs
13.	Peer-reviewed papers and proceedings of workshop published.	WARDA, Network Coordinator, SWIHA team, authors.	XXXXX	XXXXX	
14.	Appoint Interim Network coordinator.	CG Members, Network members	XXXXX		
15.	Establish Network.	CG members, NARS, conference participants, CSOs.	XXXXX	XXXXX	
16.	Contact all potential network members soliciting institutional support and approval of membership.	WARDA/DG, Coordinator.	XXXXX		
17.	Prepare synthesis report.	Consultant, SWIHA Team.	XXXXX		
18.	Prepare draft charter for network.	SWIHA Team.	XXXXX		
19.	Publish workshop report.	WARDA, Network Coordinator, SWIHA Team.	XXXXX		
20.	Compile materials from workshop	Network Coordinator, SWIHA Team.	XXXXX		
21.	Host all workshop documents on WARDA website	WARDA, Network Coordinator, SWIHA Team	XXXXX	XXXXX	XXXXX
22.	Fundraising	CG Group, Network Coordinator, NARS, SWIHA Team.	XXXXX	XXXXX	XXXXX
23.	Name of Network	Network coordinator, SWIHA Team, CG members, NARS, Participants	XXXXX		

## **About Africa Rice Center (WARDA)**

Africa Rice Center (WARDA) is an autonomous intergovernmental research association of African member states and also one of the 15 international agricultural research Centers supported by the Consultative Group on International Agricultural Research (CGIAR).

WARDA's mission is to contribute to poverty alleviation and food security in sub-Saharan Africa (SSA) through research, development and partnership activities aimed at increasing the productivity and profitability of the rice sector in ways that ensure the sustainability of the farming environment.

WARDA hosts the African Rice Initiative (ARI), the Rice Research and Development Network for West and Central Africa (ROCARIZ) and the Inland Valley Consortium (IVC). It also supports the Coordination Unit of the Eastern and Central African Rice Research Network (ECARRN), based in Tanzania.

WARDA has its headquarters in Cotonou, Benin and regional research stations near Saint-Louis, Senegal and at the International Institute for Tropical Agriculture (IITA) in Ibadan, Nigeria. WARDA's main research center is in Côte d'Ivoire but most scientists and researchers are temporarily located in Cotonou.