

# **BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS**

**A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS**

2

**MODULE**

## **HIV and AIDS: Some Basic Facts**



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#### **AIMS**

The aims of this module are the following:

1. To gain a general understanding of the AIDS epidemic and more specifically how it impacts rural areas.

#### **OBJECTIVES**

Upon completing the module, the learner should:

1. Know *essential facts* about HIV and AIDS so as to be able to respond to frequently-asked questions about the epidemic.
2. Be able to describe the *major impacts* of HIV and AIDS in the country where they are working.
3. Understand the challenges to responding to HIV in rural areas.

#### **QUESTIONS FOR REFLECTION**

1. What do you know about HIV and AIDS? What is the difference between them?
2. Besides cost and logistical problems, what are some reasons why people are reluctant to be tested for HIV or why might they not seek treatment?
3. What do you know about the epidemic in the country where you work? Is there one or several epidemics in rural areas? Is prevalence increasing, stable or declining? Why?
4. What impacts has it had in general? Which social groups are most affected by the epidemic? Why are some areas of the country more affected than others?
5. Do rural populations have equal access to HIV services compared to urban populations? If not, what could be the obstacles?
6. To what extent do rural and agricultural development plans in your country of service take into account HIV issues?
7. To what extent do national and district AIDS strategies include the agriculture and/or the health sector? Why do you think this is the case?

#### **INTRODUCTORY REMARKS**

Whereas in the Introductory Module 1, the learner was presented with an overview of the inter-relations between AIDS and Agriculture, this module presents with a general overview of the AIDS epidemic in order to refresh the learner's memory and to serve as a prelude to exploring more technical issues related to AIDS and Agriculture in subsequent modules. This general overview is selective because the agriculture sector does not need to know everything, but what is most significant for it. Module 3 will then focus on the impacts of the epidemic on agriculture.

The current module also gives particular importance to the issue of stigma and discrimination in responding to AIDS. This is because people living with HIV may be accused of promiscuity or moral laxity. Even children orphaned by AIDS may suffer stigma and discrimination. Any policy or strategy regarding HIV must include measures to reduce stigma

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and discrimination in order to be effective. The agriculture sector needs to confront HIV as technical and development issues and this includes addressing issues of stigma and discrimination without passing moral judgements.

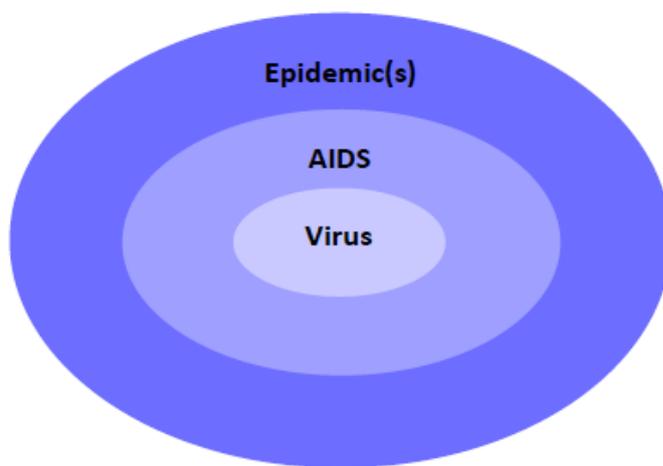
## **READINGS: AN OVERVIEW OF THE AIDS EPIDEMIC**

The purpose of this module is to introduce some basic facts about the AIDS epidemic. It highlights the general epidemiology of HIV and describes the epidemic in its global context (i.e. a pandemic). It also begins to illustrate inter-relations with the agriculture sector and highlights some approaches to agricultural responses.

### **1. Some basic facts about HIV and AIDS<sup>1</sup>**

While each development sector, ranging from education to micro-enterprise, experiences the AIDS epidemic differently, the dominant approach to studying the epidemic follows that of the health sector. In simple terms this view presents HIV and AIDS as embedded circles.

**Figure 1. The health sector model of HIV**



#### **1.1 What is HIV?**

A simple explanation can be found on the website of the World Health Organization (WHO)<sup>2</sup> which describes HIV as:

“The human immunodeficiency virus (HIV) infects cells of the immune system, destroying or impairing their function. Infection with the virus results in the progressive deterioration of the immune system, leading to "immune deficiency." The immune system is considered deficient when it can no longer fulfil its role of fighting infection and disease. Infections associated with severe immunodeficiency are known as "opportunistic infections," because they take advantage of a weakened immune system.”

There are two main types of HIV: HIV-1 and HIV-2. The term HIV without any further specification is normally type 1. According to the Centers for Disease Control and Prevention (CDC) of the United States, “studies of the natural history of HIV-2 are limited, but to date comparisons with HIV-1 show some similarities while suggesting differences. Both HIV-1 and HIV-2 have the same modes of transmission and are associated with similar opportunistic infections and AIDS. In persons infected with HIV-2, immunodeficiency seems to develop

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<sup>1</sup> Readers who want a basic overview about HIV, AIDS and treatment can also refer to Annex 1.

<sup>2</sup> WHO. 2009. HIV/AIDS via the internet. In *Online Q&A* (available at <http://www.who.int/features/qa/71/en/index.html>).

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more slowly and to be milder. Compared with persons infected with HIV-1, those with HIV-2 are less infectious early in the course of infection. As the disease advances, HIV-2 infectiousness seems to increase; however, compared with HIV-1, the duration of this increased infectiousness is shorter<sup>3</sup>. HIV-1 and HIV-2 also differ in geographic patterns of infection: HIV-2 is mostly found in countries of West Africa and countries in close contact with them, but remains rare otherwise.

Unfortunately, despite efforts, the search for a vaccine is still underway with no certain solution in sight.<sup>4</sup> This means that prevention is key to controlling the epidemic. As mentioned in Module 1, agriculture has a major role to play, where it has a comparative advantage, in complementing health sector strategies in the areas of prevention, care and treatment. For example, agricultural practices that support sustainable livelihoods reduce the need for family members to migrate in search of work, thus reducing their exposure to vulnerable situations that could put them at risk of infection. This example shows that the term 'prevention' from the agriculture sector perspective means creating conditions through agriculture, food security and rural livelihoods through which people will have the capacity to avoid exposing themselves to HIV infection. It is a form of prevention through empowerment and transformative strategies<sup>5</sup> rather than a direct form of prevention like using a condom.

### ***1.2 What is AIDS?***

The acquired immunodeficiency syndrome is a terminal illness, caused by HIV.<sup>6</sup> The World Health Organization website also offers a simple definition of AIDS:

“(AIDS) is a surveillance term defined by the United States Centers for Disease Control and Prevention (CDC) and by the European Centre for the Epidemiological Monitoring of AIDS (EuroHIV). The term AIDS applies to the most advanced stages of HIV infection, defined by the occurrence of any of more than 20 opportunistic infections or HIV-related cancers.”<sup>7</sup>

Among these, the most common and most serious opportunistic infection is tuberculosis<sup>8</sup>. “Tuberculosis kills nearly a quarter of a million people living with HIV each year. It is the number one cause of death among HIV-infected people in Africa, and a leading cause of death in this population worldwide.”<sup>9</sup> In effect, people die of a variety of illnesses because AIDS has destroyed their immune systems.

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<sup>3</sup> CDC. 1998. Human Immunodeficiency Virus Type 2 via the internet (<http://www.cdc.gov/hiv/resources/factsheets/PDF/hiv2.pdf>).

<sup>4</sup> To learn more about the virus and the situation and challenges in vaccine research, a good overview is found in the following article: Watkins, D.O. 2008. The vaccine search goes on. *Scientific Amer.*, 299(5): 47-53.

<sup>5</sup> Empowerment strategies focus on the 'dynamic processes' and 'transformative' strategies to address the root causes highlighted in Module 1. One will note that these correspond to Gender strategies identified by WHO (See WHO. 2003. Integrating gender into HIV/AIDS programmes: A review paper. Geneva.)

<sup>6</sup> UNAIDS. 2008. UNAIDS' Terminology Guidelines. Geneva via the internet ([http://data.unaids.org/pub/Manual/2008/jc1336\\_unaids\\_terminology\\_guide\\_en.pdf](http://data.unaids.org/pub/Manual/2008/jc1336_unaids_terminology_guide_en.pdf)).

<sup>7</sup> WHO. 2009. HIV/AIDS via the internet. In *Online Q&A* (<http://www.who.int/features/qa/71/en/index.html>).

<sup>8</sup> In Annex 2 excerpts are presented from the 2009 UNAIDS Report on some of the issues linking HIV and tuberculosis.

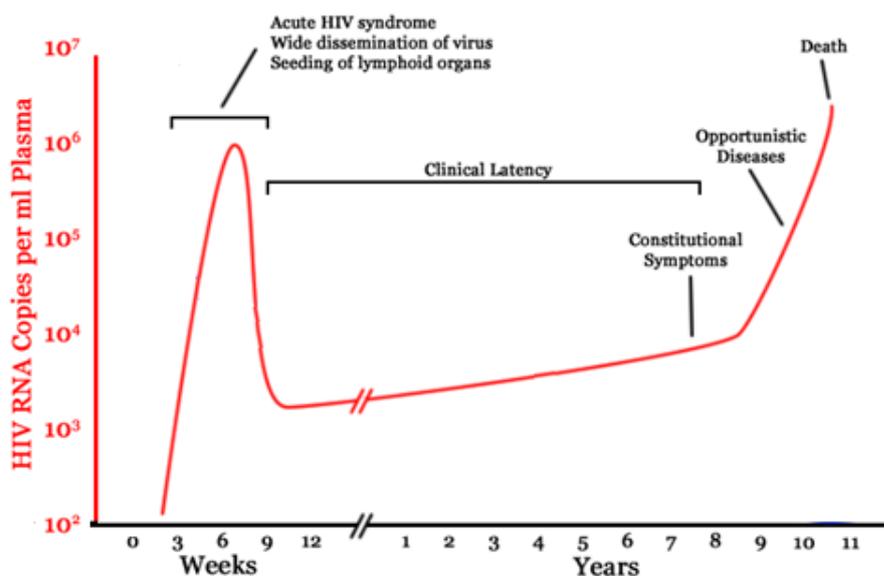
<sup>9</sup> WHO, 2009.

### 1.3 Progression of HIV

According to WHO, the length of time between HIV infection and progression to AIDS varies, though “left untreated, the majority of people infected with HIV will develop signs of HIV-related illness within 5-10 years. However, the time between HIV infection and an AIDS diagnosis can be 10–15 years, sometimes longer”<sup>10</sup>. Figure 2 is a typical medical diagram showing the evolution of the numbers of copies of HIV in a person from the moment of infection until death. Behind the virological language of the Y axis, what is measured is an estimate of the number of HIV copies – the higher the number, the greater the infectivity. After the latency period increasing numbers indicate also the degree of damage to the immune system, which explains opportunistic infections.

This progression corresponds to a person who does not receive treatment. Nowadays with antiretroviral therapy (ART), people living with HIV can live much longer and the graph would need to be extended to the right. From a medical perspective, some of the important features are the very high and rapid rise in the numbers of HIV copies following infection when the person is highly infectious, then a long latency period of 8-9 years during which the person is not very infectious and again once the stage of AIDS is reached a renewed high infectivity.

**Figure 2. HIV copies in a human over the course of untreated HIV infection**



( Source: adapted from Wikipedia)

From an agriculture perspective, the sector must identify what could be the implications of the epidemic's behaviour (as depicted in the graph) for agriculture and how the agriculture sector can intervene. Some agriculture sector interventions based on specific phases of the epidemic could include:

#### HIV infection stage:

- Stabilize migration by promoting alternative income generation in between cropping seasons when workloads might diminish and household finances may be low. Migration

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<sup>10</sup> Ibid.

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may be associated with risk sexual behaviour. Due to the often short duration of migration, if people become infected with HIV, they will likely return to their rural homes at a time when they are very infectious (and unaware of their HIV status) and thus could expose their spouse or regular partner to infection.

- Disseminate information on HIV services, particularly voluntary counselling and testing, in rural areas so that people in rural areas can be tested for HIV. Information could be disseminated through agriculture extension services.

#### Latency period:

- Advocate for ARVs to reach rural people, in particular those in remote areas or mobile populations. This will help keep people living with HIV healthy and productive longer and can continue contributing to household food security.
- Promote nutrition support and programmes (e.g. vegetable gardens, nutrition education and training) to ensure good nutrition and promote good health in people living with HIV. This will help slow down the progression to AIDS and is necessary for the uptake of medication.

#### Opportunistic infection stage:

- Advocate for health services and treatment to reach rural people for the treatment of HIV-related illnesses. Home-based care services are particularly important for people who are unable to leave their home to access medical clinics.

#### Death:

- Build capacity in rural households that have lost members due to HIV-related illnesses and thus agriculture knowledge. Junior farmer field and life schools or farmer field and life schools can contribute to building agriculture knowledge for household members that may not have obtained necessary skills and knowledge for agricultural production.
- Promote alternative income generating activities for households that have lost members due to HIV-related illness and may be facing socio-economic challenges.

### ***1.4 Modes of HIV transmission***

For the most part, the human immunodeficiency virus is transmitted from one person to another in the following ways:

- Through vaginal or anal sexual intercourse without a condom, or oral sex, with someone who is infected.
- Through contact with the blood of someone who has HIV (e.g. through a blood transfusion from blood that is contaminated).
- During pregnancy, labour, birth or breast feeding from a mother with HIV to her baby, referred to as mother-to-child transmission (MTCT). Prevention of mother-to-child transmission (PMTCT) interventions can reduce this risk considerably (see Box 1).
- Using a contaminated needle that was previously used by someone with HIV. This is the main route of transmission of HIV among injecting drug users (IDUs).

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Heterosexual transmission is the route by which most people become infected with HIV. This category of HIV cases is also among the most rapidly increasing.

A significant portion of HIV infection among women in the world is through heterosexual contact. HIV can be found in the blood, semen, pre-seminal fluid, or vaginal fluid of a person with the virus. The lining of the vagina can tear and allow HIV to enter the body. Direct absorption of HIV through the mucous membranes that line the vagina is also a possibility. Men may be less at risk of HIV transmission than women through vaginal intercourse. However, HIV can enter the body of the male through his urethra (the opening at the tip of the penis) or through small cuts or open sores on the penis. HIV can also be transmitted to a man or a woman through anal sex. See also Annex 1 for beliefs on mosquitoes, kissing, etc.

#### ***1.5 Care and treatment***

Access to health services in rural areas is often problematic and costly (e.g transport costs, time costs of accompanying family members, etc.). With the advent of antiretroviral drugs (ARVs), and their importance for people living with HIV, this is a crucial issue. The advocacy role of the agriculture sector in ensuring that universal access is applied equally to rural populations is extremely important in this regard. The agriculture sector can encourage rural institutions to facilitate access, including transport, in order to reduce the costs faced by people in rural areas. As one can see, the role of agriculture is different from the health sector – the latter needs to ensure availability of services to rural populations, whereas the former needs to focus on initiatives that will facilitate access at least cost. The two strategies are complementary and will lead to a higher proportion of rural people accessing services and better treatment adherence.

#### **Box 1. Importance of ARVs for rural populations and the agriculture sector** (excerpts from the 2009 UNAIDS Report)

“In ideal conditions, the provision of antiretroviral prophylaxis and replacement feeding can reduce transmission from an estimated 30% to 35% with no intervention to around 1% to 2%. Most countries have not yet reached all pregnant women with these services, let alone significantly reduced HIV prevalence among reproductive-age individuals or unwanted pregnancies among HIV-positive women.”

“A recent meta-analysis suggests that the transmission rate from a person on antiretroviral therapy is approximately 0.5 per 100 person-years, while it is 5.6 per 100 person-years for persons not on antiretroviral therapy (Attia et al., 2009).”

“A study in Uganda found that timely initiation of antiretroviral therapy and co-trimoxazole prophylaxis reduced mortality by 95% and also produced a 93% reduction in HIV-related orphanhood (Mermin et al, 2008a). In Botswana, where antiretroviral therapy coverage exceeds 80%, the estimated annual number of AIDS-related deaths has declined by more than half – from 15 500 in 2003 to 7 400 in 2007 – while the estimated number of children newly orphaned by AIDS has fallen by 40% (Stover et al, 2008).”

Another important dimension relating to treatment adherence and effectiveness is that of nutrition. Agriculture has a key role to play in ensuring the nutrition necessary for those living with HIV, as well as for the rest of the household through home gardens, improved food processing techniques, etc. This will be discussed further in the Module on Nutrition.

## **2. A global pandemic**

The health sector distinguishes different epidemic intensities according to the subpopulations affected:

- **Low level:** HIV is less than 5 percent in all known subpopulations presumed to practise high-risk behaviour for which information is available.
- **Concentrated:** HIV prevalence is above 5 percent in one or more subpopulations presumed to practise high-risk behaviour, but among women attending urban antenatal clinics it is still below 1 percent.
- **Generalized:** HIV has spread far beyond the original subpopulation presumed to practice high-risk behaviour, and this subpopulation is now heavily infected. Prevalence among women attending urban antenatal clinics is 1 per cent or more.

The subpopulations referred to are key populations at higher risk, such as sex workers, injecting drug users and men who have sex with men. From an agriculture perspective this typology is not necessarily relevant because HIV prevalence in rural populations can be below 1 per cent, less than 5 per cent or above 5 per cent even without these subpopulations being significantly represented<sup>11</sup>.

In the following sections, a “zoom-in” approach is adopted, moving from a global view to regional, country and local views. This highlights the diversity of issues relating to AIDS and Agriculture and the need to examine specific situations.

### **Box 2. Note on statistics used in the Module**

New data on HIV are continuously becoming available and there are regular updates from UNAIDS. The data presented here is the latest available at the time of writing (April 2010) and takes into account data from the latest UNAIDS report (2009 AIDS Epidemic Update) released November 2009. In some cases less recent data may be used in the Modules – for example the map shown in Figure 3 is extracted from the 2007 UNAIDS report because there is no equivalent map in the 2009 report. At the global scale the map is still valid and therefore it is used.

It is important to be clear that the purpose of the Modules is not to provide an up-to-date view of the epidemic *per se*. **The data and figures presented are selected on their ability to illustrate a point being made in order to help readers understand the relationship between AIDS and Agriculture.** From this perspective, the year in which the data was published is not of particular significance.

For the most recent data at global level, readers should regularly consult the UNAIDS and WHO websites which provide revisions (see references in section) and for national level data, national sources.

The UNAIDS map in Figure 3 shows that HIV is prevalent around the globe – it is truly a pandemic, meaning it hits with varying intensities populations worldwide. Note how high-prevalence countries can neighbour low-prevalence ones. For example, Zambia and Namibia, which have generalized epidemics with prevalence rates over 15 percent of the adult population, are neighbours of Angola, where prevalence is estimated to be between 1 and 5 percent. Explaining such differences can be difficult – for example, conflicts can slow the

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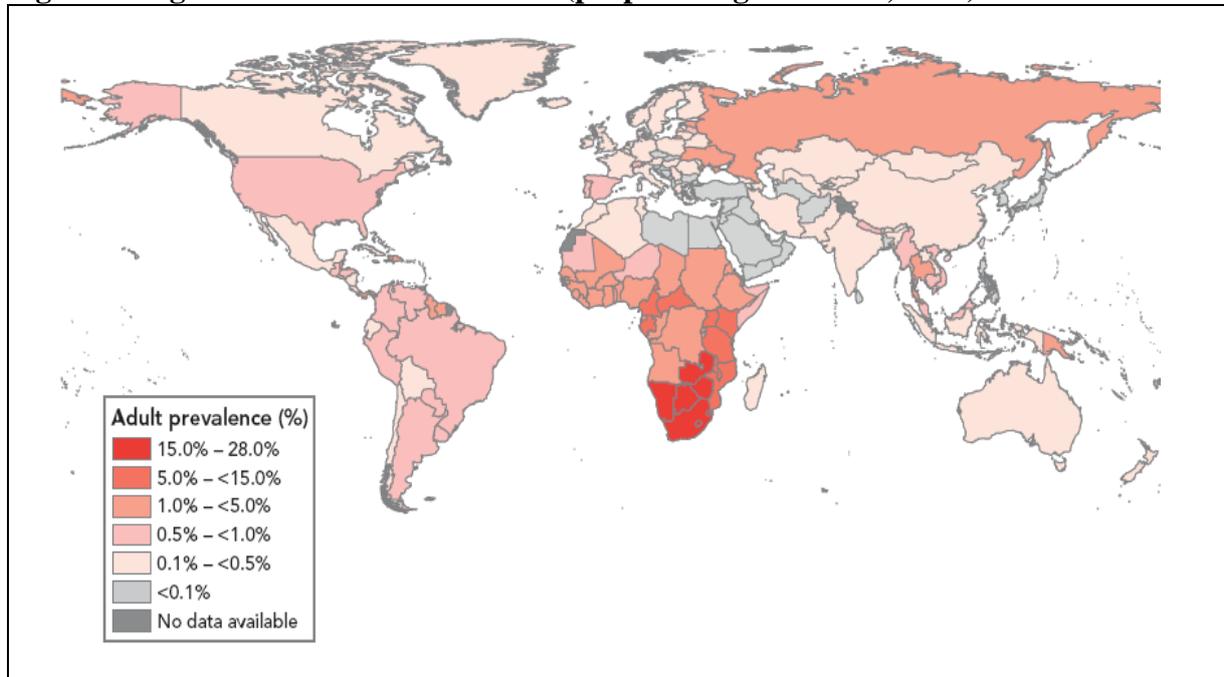
<sup>11</sup> Of course sex workers can play a role, particularly for rural-urban migrants. One can also expect that IDUs in Africa could play an increasing role in HIV infection depending on the changing drug trafficking routes.

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spread of HIV, as can lack of connecting infrastructure and low level of trade, which means few truck drivers crossing borders.

**Figure 3. A global view of HIV infection (people living with HIV, 2007)**



(Source: UNAIDS, 2008)

This map shows that the highest prevalence tends to be in sub-Saharan Africa, especially in Southern, Eastern and a few countries in Central Africa. This is also the region where the impacts on food security are the most important and this explains why the present series of Modules focus on these sub-regions.

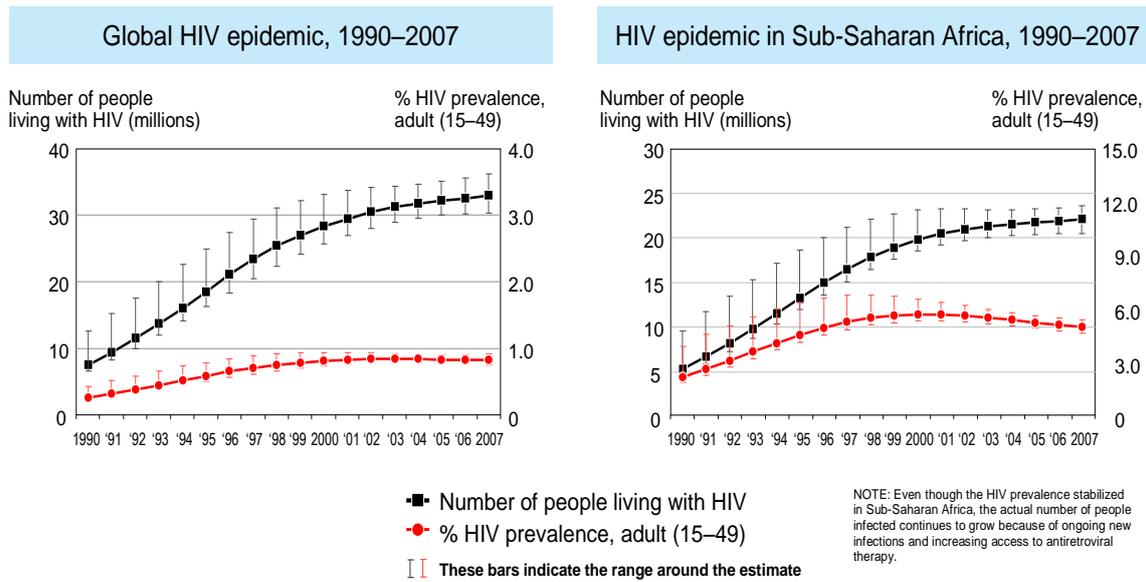
### ***2.1 Trends in HIV prevalence***

While the previous map (Figure 3) gives a static picture of the situation in 2007, it is important to look at how the pandemic has evolved. The UNAIDS graphs in Figure 4 show that the number of people living with HIV worldwide continues to increase while numbers appear to stabilise in sub-Saharan Africa. This is not in contradiction to the stabilization or decline of the HIV prevalence rate, however, as population growth can more than compensate for the decline in prevalence. The subsequent graphs in Figure 5 provide further and more recent (2008 instead of 2007) data on sub-Saharan Africa specifically.

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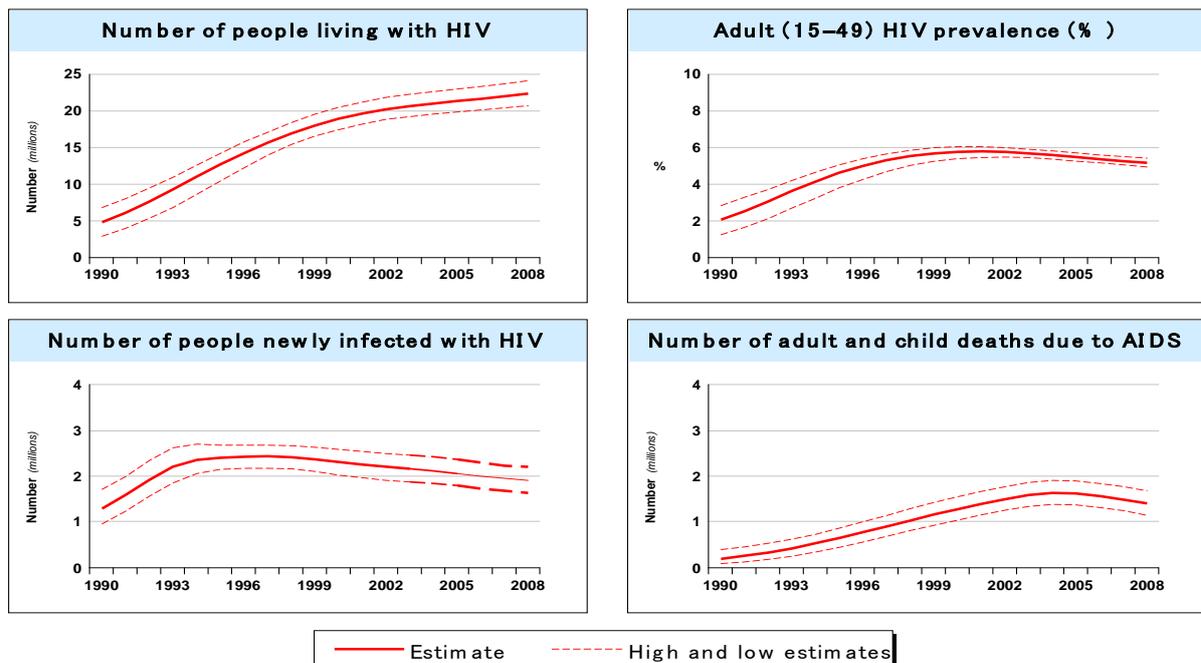
**Figure 4. Global trends in HIV infection and prevalence, 1990 – 2007**



(Source: UNAIDS, 2008)

In figure 5 the first two graphs show more clearly the contrast between increasing numbers of people living with HIV and the declining prevalence rate. The third graph shows that even if the numbers of new infections are declining, they still remain very high. This leads to the last graph, which shows the recent decline in number of deaths due to AIDS. A major contributing factors to this decline would be the previous decline in people newly infected (note that in graph 3 the decline starts very roughly 10 years before the decline in graph 4) combined with the life prolonging effect of ARVs.

**Figure 5. HIV estimates for sub-Saharan Africa, 1990 – 2008**



(Source: UNAIDS, 2009)

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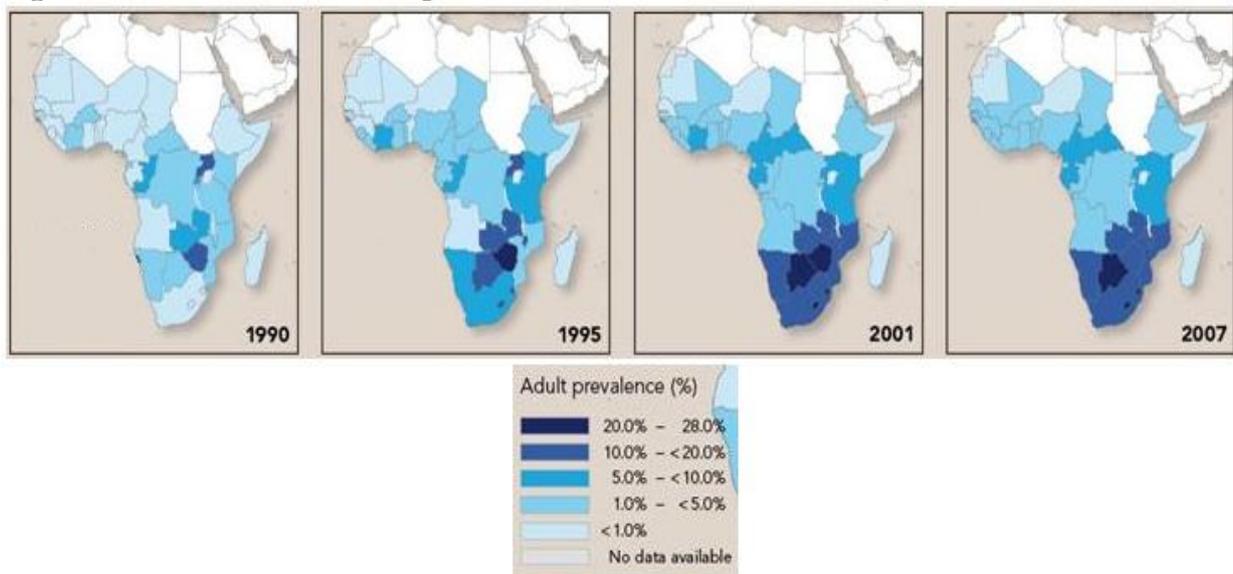
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It should be noted that the definition of “adult” as people aged between 15 and 49 years (that means up to their 50<sup>th</sup> birthday) is becoming less relevant with old and mature epidemics. People can be infected before age 15 and with ARVs there are an increasing number of adults living with HIV beyond age 50. Although, extending the age range would probably result in reducing overall prevalence levels, adult prevalence should be disaggregated by age and sex.

#### 2.2 Variations and trends in regional and national prevalence

The UNAIDS maps in Figure 6 show the considerable differences in national prevalence within a region, in this case sub-Saharan Africa. Maps for other regions can be found in the 2008 UNAIDS Report. Figure 6 shows how rapidly the epidemic grew in the region and then started to stabilize around 2001. To avoid this reoccurring, it is necessary to promote prevention not just in high-prevalence countries, but also in low-prevalence ones. Agriculture can contribute by monitoring the vulnerability of farming systems and ensuring their resilience – development is not AIDS neutral and agriculture activities should take this factor into account and play a role in preventing further spread of HIV. For example, if in a country the prevalence is low and the agriculture policy is to develop plantations, appropriate accompanying programmes need to be introduced to avoid the future plantations becoming possible hotspots.

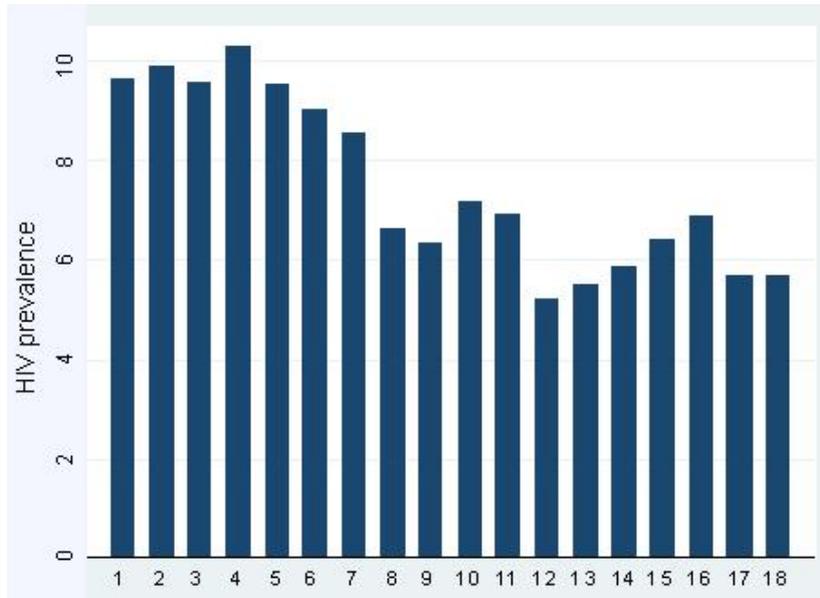
**Figure 6. Trends in adult HIV prevalence in sub-Saharan Africa, 1990 – 2007**



(Source: UNAIDS, 2008)

Macro trends are the result of many different lower level ones which can work in different directions. Therefore, where possible it is better to study more local trends, especially at sub-national level. While this often is not possible, some cohort studies do exist. For example, Figure 7 provides an example for Uganda, showing HIV prevalence in adults over 15 years of age for Masaka District. Prevalence data is based on 18 rounds of data collection, starting in 1989-90. The graph shows that prevalence decreased from 9 percent in the early 1990s (round 1-6) to 6 percent in the early 2000s (round 12-17). The early years provide a view of a largely ‘natural’ picture of the trends before government programmes had much impact. This illustrates the possible situation which could arise in rural areas without effective programme interventions.

**Figure 7. Changes in HIV prevalence in Masaka District, Uganda**



(Source: Seeley and Kasamba, 2008)

In a number of countries the peak of the epidemic appears to have been reached, or even passed. Prevalence may diminish for a number of reasons: mortality, programme interventions leading to changes in behaviour, adaptation by communities, etc.

Another dimension affecting changes in prevalence is increased access to ARVs for people living with HIV. ARVs were introduced over 10 years ago and recent studies estimate that the gain in life expectancy for those receiving treatment could be around 13 years, assuming that adequate nutrition and health care are provided. This can have a marked effect in increasing prevalence rates by keeping people who are HIV-positive alive longer.<sup>12</sup> This is good news, but as shown in the graph in Figure 6, prevalence can still remain high because ARVs prolong the lives of PLHIV. As mentioned, the first round of data collection took place in 1989-90 and ARVs were introduced in 2003-04, which means that HIV prevalence tends to rise from that point on, although fewer people are dying.

This section has highlighted the difficulty of interpreting national level prevalence data. It is equally important, especially for the agriculture sector, to examine where possible spatial variations exist because this provides indications of the areas most in need of mitigation or prevention, or both.

### ***2.3 Intra-country spatial variations***

One can note considerable variation in prevalence in a country and between neighbouring areas<sup>13</sup>. Thus, a low prevalence country, based on its national average, can have “hot spots” where prevalence is much higher than the national average.<sup>14</sup> The network formed by hotspots

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<sup>12</sup> The important implications of ARVs for rural populations will be discussed later.

<sup>13</sup> For a discussion on variations in prevalence, including rural/urban variation, see: Understanding Epidemics – Section 2D: HIV/AIDS – Geography *Variations and trends*

([http://www.liv.ac.uk/geography/research\\_projects/epidemics/Images/pdf/HIV\\_Geography.pdf](http://www.liv.ac.uk/geography/research_projects/epidemics/Images/pdf/HIV_Geography.pdf))

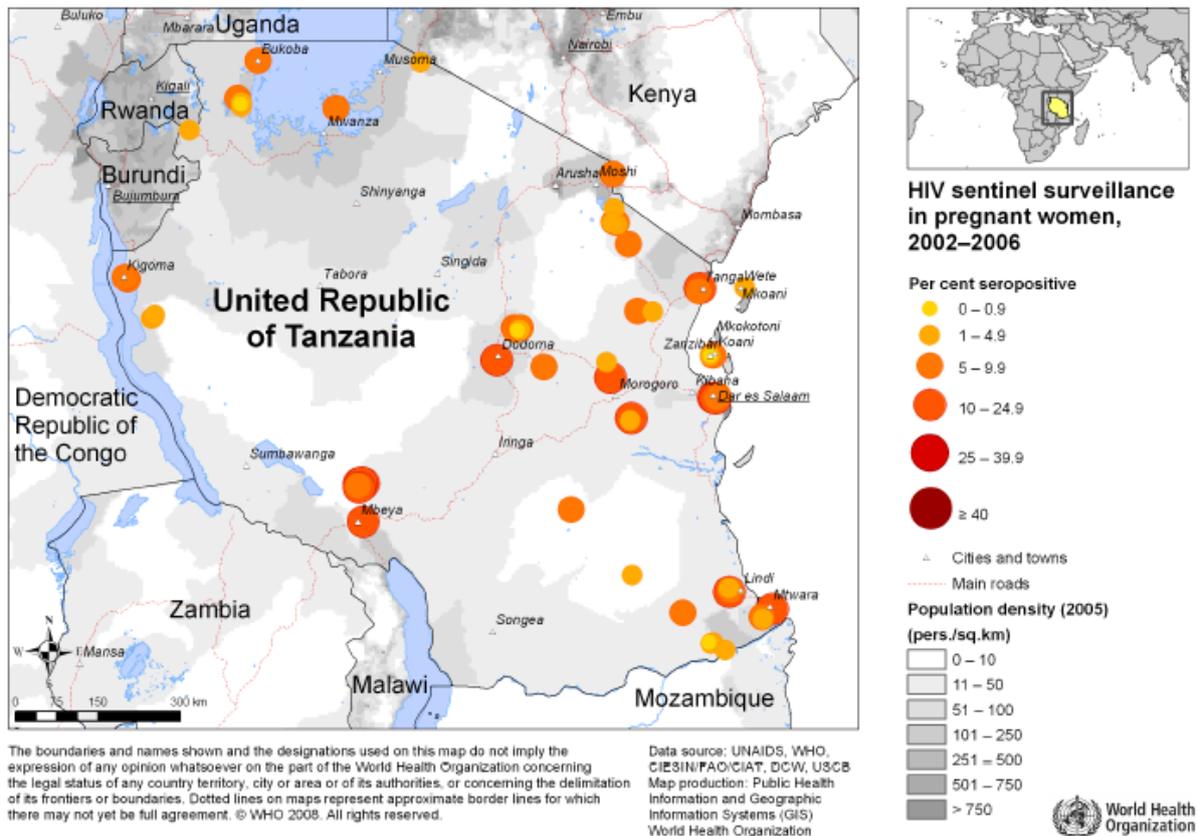
<sup>14</sup> The expression “leopard skin” has been used as a metaphor for this phenomenon.

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and roads can become a very effective driver of HIV into rural areas, first affecting those near hot spots and along the roads, then, depending on the linkages, spreading to more remote areas. The WHO map in Figure 8 represents several important features in this regard: the location of sentinel surveillance sites (i.e. antenatal clinics, which give a rough estimate of prevalence<sup>15</sup>), population density, which shows a weak-positive correlation with prevalence, and main roads, which can play an important role in the spread of HIV.

**Figure 8. HIV sentinel surveillance among pregnant women in Tanzania, 2002 – 2006**



(Source: UNAIDS/WHO, 2008)

Collecting high-quality data on HIV prevalence in rural populations has encountered major difficulties because the public health system is mainly based in urban areas. Although testing can be done with saliva samples, which helps to offset cost and logistical difficulties of using blood samples, definitive confirmation of HIV requires blood samples<sup>16</sup>. Considerable progress has been made in the last few years, in particular through the use of Demographic and Health Surveys based on representative samples of the population rather than just on pregnant women attending antenatal clinics.<sup>17</sup> More information on this issue can be found in Annex 5.

<sup>15</sup> Figures are often overestimated because clientele is made up of young pregnant women with a low representation of rural women and these clinics are not distributed geographically in a representative manner.

<sup>16</sup> Using blood samples requires special storage facilities and laboratory analysis.

<sup>17</sup> Demographic and Health Surveys have data on population, health, HIV and nutrition for over 75 countries (<http://www.measuredhs.com/start.cfm>). For an example from Zambia, visit: <http://www.scribd.com/doc/13992303/Zambia-Demographic-and-Health-Survey-2006-2007>.

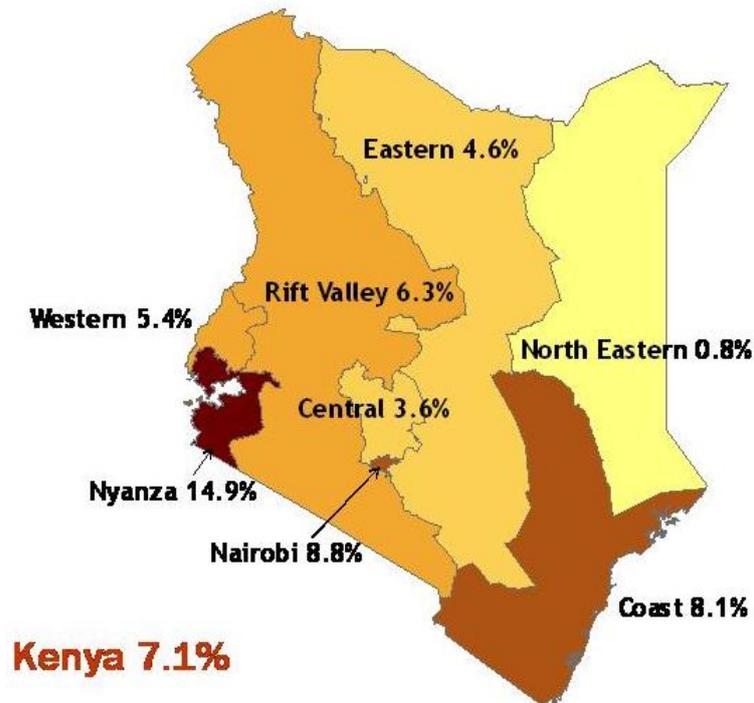
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The Kenya HIV prevalence map in Figure 9 illustrates the considerable variations that can be found between levels of prevalence in different areas. Though national prevalence is 7.1 percent, there is a geographic range from 1 to 15 percent across provinces. It might seem at first sight surprising that the province of Nyanza has nearly twice the prevalence level of Nairobi, however, it has many of conditions that can contribute to high prevalence. For example, the capital of Nyanza, Kisumu, is the third largest city in Kenya with a harbour on Lake Victoria (the Module on the Fisheries sub-sector draws attention to the role of the sector in the HIV epidemic). The Rift Valley province, despite being quite rural, nearly reaches the prevalence level of Nairobi. Though some may expect rural prevalence to be low, it can actually be quite high, depending on numerous factors such as links to towns and markets, transport, migratory movements, resilience of farming systems, rural inequalities, etc. Responses to rural epidemics need an analysis of background factors and their dynamics and responses, where possible, require collaboration with other sectors.

**Figure 9. HIV prevalence by province in Kenya, 2008**



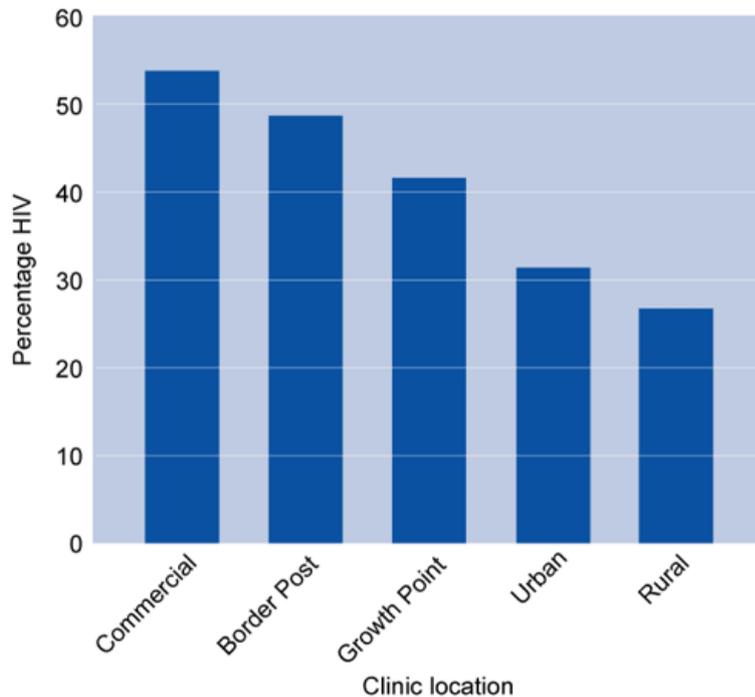
(Source: Muraguri, 2009)

Figure 10 gives some insight into why certain areas may experience higher prevalence than others. It shows the highest prevalence to be in the “hot spots” represented by commercial centres, border posts and very active growth centres. In the graph, urban rates appear much lower because they represent the average town and rural areas are the lowest. It should be noted that these factors also play a significant role in prevalence in South East Asia<sup>18</sup>.

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<sup>18</sup> See: UNDP South East Asia HIV and Development Programme ([www.hivdevelopment.org](http://www.hivdevelopment.org))

**Figure 10. HIV prevalence of antenatal clinic attendees in Zimbabwe, 2000**



(Source: Ministry of Health Zimbabwe, 2002)

As development programmes are not AIDS neutral, if they are not properly conceived they can contribute to fuelling the spread of the epidemic. Similarly, non-agricultural development activities increasing the connectivity between rural areas and “hot spots”, as well as inappropriately conceived agricultural interventions (from an AIDS perspective), can increase rural-urban migration flows with high risk areas (these, however, should be distinguished from average towns which are not necessarily much higher risk than many rural areas). The agriculture sector needs to be vigilant regarding the possible impacts of other sectors as well as to the consequences of its own activities. This requires working together with other development sectors concerned with rural populations, such as public works.

#### **2.4 Prevalence versus incidence**

Prevalence is generally the most common measure of HIV in an area. However, one should be aware that prevalence figures are influenced by what happened in previous years (e.g. incidence of HIV, mortality, population movements, etc.) and provide an indispensable, yet rough picture.

When possible, one should also attempt to study incidence rates by age, if available, because they provide a more precise view of what is happening at the time of data collection. For example, Tanzanian antenatal clinic surveillance data suggested stabilizing HIV levels<sup>19</sup>. The study showed that: i) *prevalence* increased from 1994 to 2001 and then levelled off; ii) *incidence* also rose until 2000 and remained high until 2003. In roadside villages, incidence fell in the last interval, especially among women, but it rose slightly in remote rural areas where most of the population lived. The authors conclude that HIV is continuing to spread in

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<sup>19</sup> Wambura et al. 2007. HIV Prevalence and Incidence in Rural Tanzania – Results from 10 Years of Follow-up in an Open-Cohort Study. *J. Acquir Immune Defic Syndr.*, 46(5): 616-623.

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rural areas. The levelling off of the prevalence rate hides different trends which the analysis of incidence brings to light and which have implications for agriculture.

It is important to recognize that HIV can spread to rural areas, including to remote areas. The agriculture sector therefore needs to keep advocating for monitoring of the virus. Moreover, the sector needs to look at changes in agriculture over the years prior to see if such changes may have contributed to the rural spread of HIV, brought to light by incidence rates. If so, appropriate responses need to be implemented. If not, agriculture could still play a mitigating role. This example is discussed further from the agriculture perspective in Annex 6 where detailed graphs of prevalence and incidence in rural areas are presented (taken from the Wambura *et al.* study).

Using the Synopsis diagram presented in Module 1, the following table can guide the areas of questioning for the agriculture sector.

	Prevention			Mitigation
	<i>Root causes</i>	<i>Dynamic Processes</i>	<i>Immediate causes</i>	
Agriculture production				
Food security				
Rural livelihoods				

**3. Factors favouring the spread of HIV in rural areas**

The implicit model of the epidemic in which HIV spreads from key populations at higher risk to the general population is sometimes less applicable in rural areas where the spread of HIV is more linked to migration patterns<sup>20</sup>, cultural practices, travel to and from market towns, disease “hot spots”, and certain practices (e.g. commercial sex).

Migration:

Migrant work is an important factor in the spread of HIV. Migration may be seasonal (between cropping seasons) or people may migrate in search of alternate livelihood options or income-generating opportunities. Certain conditions may exacerbate migrant workers’ vulnerability to HIV, such as loneliness from being separated from regular sexual partners (sometimes for long periods of time), which can lead to promiscuous behaviour, sex with multiple partners and engaging in commercial sex. Condom use in such a context is generally low and inconsistent. Migration may therefore play a role in the spread of HIV from populations engaging risky behaviour to the general population when migrants return home.

Socio-cultural beliefs and practices:

Sexual behaviour is very much influenced by the socio-cultural norms of a society. Women, for example, may be taught not to refuse sex with their husbands if they that they engage in extramarital sex or suspect that they have HIV or another sexually transmitted infection (STI).

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<sup>20</sup> It needs to be strongly stated that discussing migration and migrants does not entail any stigma against migrants; it is the system of population mobility, and not individual migrants, that is at issue. The system includes sending, transit and receiving communities with whom the migrants interact.

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For widows, vulnerability may also arise from the deprivation and dispossession of property, including household goods, land, clothes and other assets by relatives of their deceased spouse. The loss of property and household goods can lead to a negative socio-economic situation and some may resort to engaging in commercial sex to support their household. Other practices that could increase vulnerability to HIV include polygamy and wife inheritance.

#### HIV hotspots and commercial sex:

HIV hotspots are often characterized by transient populations (e.g. migrant workers, truck drivers, etc.) and high concentration of sex workers. Such areas may include market towns, fish landing sites and areas along trucking routes. Sex workers and customers are vulnerable to HIV infection not only because of multiple sex partners but also because common use may not be infrequent. People who engage in commercial sex may also infect their spouse or regular sexual partner when they return home.

#### Lack of information and services:

Due to the remoteness of some rural areas and mobility, HIV information and services may not reach some populations. Lack of awareness of HIV vulnerability factors, as well as prevention and testing services can increase vulnerability to HIV among rural populations.

#### **4. Responding to the AIDS epidemic in rural areas**

Despite mentions of inter-sectoral co-operation, the health perspective of HIV is still essentially one of individuals and disease<sup>21</sup> in which prevention focuses on individual behaviours and once infected, care and treatment focus on patients. However, prevention has always been marginalized compared to care and treatment, which have dominated health sector activities. This has made the recognition of the role of, and collaboration with, agriculture difficult.

Responses to the epidemic should include both prevention and mitigation measures. In the area of prevention, education and information are important tools to make people aware of the risks of certain behaviours. Part of this effort includes behaviour change communication (BCC), as well as sensitization and counselling to develop individual abilities to adopt behaviours (e.g. condom use) that prevent HIV transmission. Counselling is an important tool in helping people to understand risk of exposure to HIV and the importance of getting tested.

In the area of mitigating the impact of the epidemic, services are provided to PLHIV on two basic levels:

- Psycho-social (counseling and support as well as nutrition and other social services)
- Medical (treatment of secondary infections and provision of ARVs)

Often, so-called “positive living” groups of PLHIV are formed to provide one another support and to facilitate access to medical and other resources for the group. Positive living groups are the front-line defence against one of the most serious obstacles to prevention, testing and treatment services: stigma and discrimination.

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<sup>21</sup> Horton, R & Das, P. 2008. Putting prevention at the forefront of HIV/AIDS. *The Lancet*, 372(9637): 421.

## **5. Stigma and discrimination: major obstacles in developing AIDS responses**

Getting people to avail themselves of HIV prevention and treatment services is problematic for several reasons. First of all, the close association of HIV with sex and injecting drugs has led to widespread stigma and discrimination against people with HIV as they are often viewed as part of key populations at higher risk. These factors must be understood when planning policy and strategy responses to the epidemic. The Secretary-General of the United Nations, Ban Ki-Moon, says:

*"Stigma remains the single most important barrier to public action [emphasis added]. It is a main reason why too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of speaking about it, or taking easily available precautions. Stigma is a chief reason why the AIDS epidemic continues to devastate societies around the world"*<sup>22</sup>

### ***5.1 Why is there stigma related to HIV?***

“Fear of contagion”, coupled with “negative, values-based assumptions about people living with HIV” leads to high levels of stigma and discrimination surrounding the epidemic.<sup>23</sup> Stigma may also vary depending on the dominant transmission routes in the country or region. In sub-Saharan Africa, for example, heterosexual sex is the main route of infection, which means that HIV-related stigma in this region is mainly focused on promiscuity and sex work.

*"Because it is about sex, in my country they then automatically think you got it because you have been loose. 'You are not anything better than a prostitute'. They don't believe you didn't get it any other way. They think you have been around with so many men to pick it up."* (African woman)<sup>24</sup>

In Western countries where injecting drug use and sex between men have been the most common sources of infection, it is these behaviours that are more stigmatized. Women with HIV may be treated very differently from men in some societies where they are economically, culturally and socially disadvantaged. They are sometimes mistakenly perceived to be the main transmitters of STIs. Men are more likely than women to be 'excused' for the behaviour that resulted in their infection.

*"Even a married woman who has been infected by her husband will be accused by her in-laws... In such a male-dominated society no-one ever accepts that the man is actually the one who did something wrong... It is even harder on single women since it is seen as a fair result of their sexual misbehaviour."* (HIV-positive woman from Lebanon)<sup>25</sup>

Even in countries where treatment is widely available, stigma remains an issue. For example, in the United States, it was found that an estimated 27 percent of people would prefer not to work closely with a woman living with HIV<sup>26</sup>.

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<sup>22</sup> Ki-moon, B. 2008. The stigma factor: biggest hurdle to combat HIV/AIDS. *Washington Times*, 6 August.

<sup>23</sup> UNAIDS. 2008. 2008 Report on the global AIDS epidemic. Geneva.

<sup>24</sup> Dodds, C. et al. 2004. Outsider status – stigma and discrimination experienced by gay men and African people with HIV. London, Sigma Research.

<sup>25</sup> IRIN/PlusNews (13 October 2005). Keep quiet if you have AIDS or you will become an outcast.

<sup>26</sup> Blumenthal. 2008. Cited in UNAIDS, 2008.

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#### 5.2 Types of HIV-related stigma and discrimination<sup>27</sup>

- **Healthcare:** Stigma and discrimination in healthcare settings can come in the form of HIV testing without consent, lack of confidentiality and denial of access to hospital facilities and medicines. The withholding of treatment is often the result of ignorance amongst doctors, midwives, nurses and hospital staff with regard to HIV transmission routes. Another serious stigma-related issue is signaled by World Health Organization (WHO) studies conducted in India, Indonesia, the Philippines and Thailand, in which 34% of respondents reported breaches of confidentiality by health workers.<sup>28</sup> Far from being an anomaly, these studies are reflective of the experience of many people living with HIV (PLHIV), who often are not given control over the disclosure of their HIV status.
- **Employment:** PLHIV may experience discriminatory practices in the workplace such as termination or refusal of employment. They may also be socially isolated or ridiculed by co-workers and employers, or experience other forms of stigmatization. The combination of these factors may cause PLHIV to fear the consequences of revealing their HIV status, especially to their employers:

“It is always in the back of your mind, if I get a job, should I tell my employer about my HIV status? There is a fear of how they will react to it. It may cost you your job; it may make you so uncomfortable it changes relationships. Yet you would want to be able to explain about why you are absent, and going to the doctors.” *HIV positive woman UK*<sup>29</sup>

“Though we do not have a policy so far, I can say that if at the time of recruitment there is a person with HIV, I will not take him. I'll certainly not buy a problem for the company. I see recruitment as a buying-selling relationship. If I don't find the product attractive, I'll not buy it.” *A Head of Human Resource Development, India*<sup>30</sup>

- **Community:** Stigma and discrimination towards PLHIV at community level occurs worldwide in forms that include ostracism, rejection, verbal and physical abuse and even murder in some extreme circumstances. Various countries – including Brazil, Colombia, Ethiopia, India, South Africa and Thailand – have had reports of HIV and AIDS related murders. One example is that of Gugu Dhlamini, who in December 1998 was beaten to death in KwaMancinza, a town in the eastern KwaZulu-Natal province of South Africa, after having disclosed her HIV status publicly at an AIDS awareness event.<sup>31</sup>

#### 5.3 Why are stigma and discrimination an issue in AIDS and Agriculture?

Stigma and discrimination are issues for the agriculture sector on two levels. First, employees of organizations concerned with the development of the sector can be infected or affected by

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<sup>27</sup> Information in this section is extracted from: <http://www.avert.org/aidsstigma.htm>

<sup>28</sup> WHO. 2008. Towards universal access: scaling up priority HIV/AIDS interventions in the health sector: progress report 2008. Geneva. ([http://www.who.int/pmnch/topics/hiv\\_aids/20081002\\_who\\_unaids\\_unicef/en/index.html](http://www.who.int/pmnch/topics/hiv_aids/20081002_who_unaids_unicef/en/index.html))

<sup>29</sup> Dodds, C., Keogh, P., Chime, O., Haruperi, T., Nabulya, B., Ssanyu Sseruma, W. & Weatherburn, P. 2004. Outsider status: Stigma and discrimination experienced by Gay men and African people with HIV. Sigma Research. (<http://www.sigmaresearch.org.uk/downloads/report04f.pdf>)

<sup>30</sup> Bharat, S., Aggleton, P. & Tyrer, P. 2001. India: HIV and AIDS-related discrimination, stigmatization and denial. Geneva, UNAIDS. ([http://data.unaids.org/Publications/IRC-pub02/JC587-India\\_en.pdf](http://data.unaids.org/Publications/IRC-pub02/JC587-India_en.pdf))

<sup>31</sup> The Associated Press. 1998. “HIV Positive SAfrica Woman Murdered”. (<http://www.aegis.com/news/ap/1998/AP981219.html>)

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the virus. Staff working in, for example, ministries of agriculture, FAO and NGOs working in rural areas may face rejection and shame if they or their family members are known to have (or suspected to have) HIV. Secondly, in the process of implementing strategies to strengthen household and community resilience to HIV, PLHIV may face stigma and discrimination. Many surveys on attitudes towards HIV reveal that many people would refuse to purchase or eat produce raised or sold by someone with HIV. Other forms of stigma and discrimination may include, for example, children orphaned by AIDS being expelled from school or shunned by teachers and other pupils, or women living with HIV being rejected by cooperatives or refused credit (for fear that they will not repay loans).

## **LEARNING REINFORCEMENT ACTIVITIES**

### **Activity 1: Analysis of the AIDS epidemic in your country of service**

Prepare a thumbnail sketch of the HIV epidemic in the country where you work. Cite (a) national HIV prevalence; (b) variations in HIV prevalence in the country; (c) trends in prevalence; (d) comparison of prevalence in men and women, comparing different age groups.

1. Is the epidemic in your country low-level, concentrated or generalized?
2. Does your country border high- or low-prevalence countries? Does this influence HIV prevalence in your country?
3. Identify the major factors that help explain these figures, such as high or low levels of migration, risky sexual practices, the relative effectiveness of prevention and treatment programmes, etc.
4. Is the epidemic stabilizing, declining or increasing?
5. To what degree is the availability of ARVs or lack thereof an influence on prevalence trends?

Write down your answers on paper. If in a group, prepare a flip-chart page to present your observations to the group.

### **Activity 2: Identifying “hot spots” of high HIV prevalence**

What are the “hot spots” of HIV prevalence in the country where you work? Draw a map of the country and identify these areas.

1. Identify the HIV prevalence in these spots and compare them with the national average.
2. Identify the factors that contribute to high prevalence in these “hot spots”.
3. What are the socio-cultural, economic and other factors that tend to increase the spread of HIV in general? In the “hot spots”? Discuss the role of migrant labour, transportation hubs, sex work and other activities or practices that increase risk of exposure to HIV.
4. What are the factors that explain low prevalence in certain areas? If appropriate, mention isolation, low out-migration, cultural practices or other factors that tend to slow the spread of the virus.

Write down your answers on paper. If in a group, prepare a flip-chart page to present your observations to the group.

### **Activity 3: Exploring the impact of HIV-related stigma and discrimination**

Discuss the major issues of HIV-related stigma and discrimination in the country where you work.

1. Who are the people most affected by stigma and discrimination? Give some examples.
2. What is being done to combat stigma and discrimination in your country of service? How successful are the efforts?
3. What is the impact of stigma and discrimination on uptake of HIV-related counseling, testing and treatment?
4. How are PLHIV perceived in your workplace? Would you and your colleagues feel comfortable working with a colleague with HIV? Why or why not?

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Write down your answers on paper. If in a group, prepare a flip-chart page to present your observations to the group.

**Activity 4 (optional): HIV-related stigma and discrimination role play**

An alternative exercise is to do a role play with one or more people in the group to illustrate HIV-related stigma and discrimination. Think of a situation where someone is rejected or mistreated because he or she has HIV (or allegedly does).

1. Define the scenario: who is the person with HIV? A man, woman or child?
2. What are the challenges facing the person? In what circumstances do they face challenges? Workplace, home, community or elsewhere?
3. What are the reactions of others to the person with HIV? How is the person treated?
4. How does the person with HIV react to the stigma and discrimination?

Discuss the role play asking each actor how he or she felt in the role played. Ask the “audience” for reactions and discuss similarities or differences from real life situations they know about.

## **SUMMARY REMARKS**

HIV effects human health and impacts on the development process. While the virus is not easily transmitted, certain activities and particularly unprotected sex or using non-sterile syringes or needles are the main routes of transmission. One of the unusual features of HIV is that it can go undetected for years before a person who is infected begins to show symptoms. Meanwhile, a person who is unaware of their serostatus can spread the virus to others through unprotected sex or sharing needles. Although incurable, HIV has become a manageable illness, like diabetes, in that antiretroviral drugs can keep an infected person alive and enhance their quality of life for a long time. Considerable international efforts are being made to increase access to antiretroviral drugs for those who need them by providing them for free or at low cost.

Prevalence of HIV in rural areas is the result of an interplay of many factors, including unprotected sex by mobile people, such as truck drivers or seasonal agricultural workers. Traditional practices such as “widow cleansing”<sup>32</sup> or female genital cutting (FGC), as well as penetrative sex, can also transmit the virus. Similarly, poverty can drive some women into sex work or occasional transactional sex in order to earn money, obtain favours or simply to be able to take care of their children. Gender roles can also play a role if wives are unable to refuse sexual intercourse with husbands who may engage in high risk sexual behaviour. This is a major factor in the “feminization”<sup>33</sup> of the epidemic.

Other factors, such as market towns, transportation hubs or areas that attract migrants without their families are also factors in HIV spread.

So far, responses to the AIDS epidemic have typically been conceptualized and guided by the health sector. The emphasis is on promoting voluntary counseling and testing to determine HIV status, provision of community or home-based care for people who are very ill, condom promotion and efforts to prevent mother-to-child transmission of HIV. Measures such as organizing PLHIV support networks, assistance to OVCs and behaviour-change information and communication through mass media are widely deployed.

However, silence, denial, stigma and discrimination pose a major obstacle to encouraging people to be tested or seek treatment for HIV. In “developed” as well as “developing” countries, PLHIV face many forms of stigma and discrimination because of lack of, or inaccurate, knowledge about the epidemic, and the association between HIV and certain high risk behaviours.

To date, relatively little has been done to mobilize the agriculture sector in the response to AIDS. In rural areas, the health sector, supported by local and international NGOs and other partners, seeks to provide prevention and treatment services. However, agriculture measures such as off-farm income generation or legal initiatives to protect the inheritance rights of widows and orphans are in the early stages of development.

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<sup>32</sup> “A traditional practice in which widows are expected to have sexual relations, often with a relative of their late husband, in order to secure property within the family” (see: <http://www.unfpa.org/hiv/women/report/chapter7.html>)

<sup>33</sup> This refers to the increasing impact of the epidemic on women.

## **ACRONYMS AND ABBREVIATIONS**

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral (drugs)
BCC	Behaviour change communication
CBO	Community-based organization
CD4	Cluster of differentiation 4
CDC	Centers for disease control and prevention
EuroHIV	European centre for the epidemiological monitoring of AIDS
FAO	Food and Agriculture Organization of the United Nations
FGC	Female genital cutting
HIV	Human immunodeficiency virus
IDU	Injecting drug user
IEC	Information, education and communication
MoA	Ministry of Agriculture
MTCT	Mother-to-child transmission
NGO	Non-governmental organization
OVC	Orphans and other vulnerable children
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
STI	Sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counselling and testing
WHO	World Health Organization

## REFERENCES AND FURTHER READING

### General information on HIV and related issues

AIDS Wikipedia – <http://en.wikipedia.org/wiki/AIDS>

Basic Information about HIV and AIDS (Centres for disease control website) –  
<http://www.cdc.gov/hiv/topics/basic/index.htm>

Scientific American animation “HIV life-cycle basics” –  
<http://www.sciam.com/article.cfm?id=hiv-life-cycle-basics>

WHO website:

- Q&A on HIV/AIDS – <http://www.who.int/features/qa/71/en/index.html>
- Antiretroviral therapy – <http://www.who.int/hiv/topics/treatment/en/index.html>
- HIV drug resistance – <http://www.who.int/hiv/topics/drugresistance/en/index.html>
- Tuberculosis and HIV – <http://www.who.int/hiv/topics/tb/en/index.html>
- HIV/AIDS country information – <http://www.who.int/hiv/countries/en/index.html>

UNAIDS website:

- Fast Facts about – <http://www.unaids.org/en/KnowledgeCentre/Resources/FastFacts/>
- UNAIDS Terminology Guide –  
[http://data.unaids.org/pub/Manual/2008/jc1336\\_unaids\\_terminology\\_guide\\_en.pdf](http://data.unaids.org/pub/Manual/2008/jc1336_unaids_terminology_guide_en.pdf)  
2008 Report on the global AIDS epidemic –  
<http://www.unaids.org/en/KnowledgeCentre/HIVData/GlobalReport/2008/>
- AIDS epidemic update 2009 –  
[http://data.unaids.org/pub/Report/2009/JC1700\\_Epi\\_Update\\_2009\\_en.pdf](http://data.unaids.org/pub/Report/2009/JC1700_Epi_Update_2009_en.pdf)
- UNAIDS/WHO/UNICEF Epidemiological fact sheets on HIV and AIDS (by country) –  
<http://www.unaids.org/en/KnowledgeCentre/HIVData/Epidemiology/epifactsheets.asp>  
Global summary of the AIDS epidemic, 2007 (core slides) –  
[http://data.unaids.org/pub/GlobalReport/2008/2008\\_globalreport\\_core\\_en.ppt](http://data.unaids.org/pub/GlobalReport/2008/2008_globalreport_core_en.ppt)
- Global report on country progress (full set of graphics from, 94 slides) –  
[http://data.unaids.org/pub/GlobalReport/2008/20080729\\_globalreport\\_graphics\\_en.ppt](http://data.unaids.org/pub/GlobalReport/2008/20080729_globalreport_graphics_en.ppt)

### Health sector approach

WHO. 2009. Priority Interventions: HIV/AIDS prevention, treatment and care in the health sector (Version 1.2 – April 2009). Geneva.  
[http://www.who.int/hiv/pub/priority\\_interventions\\_web.pdf](http://www.who.int/hiv/pub/priority_interventions_web.pdf)

Horton, R & Das, P. 2008. Putting prevention at the forefront of HIV/AIDS. *The Lancet*, 372(9637): 421.

### AIDS and Agriculture

Gillespie, S. 2006. Agriculture and HIV/AIDS. In C. Hawkes & M.T. Ruel, eds. *Understanding the links between agriculture and health*, Brief 7. Washington, IFPRI.  
([http://www.sarpn.org.za/documents/d0002098/Focus13\\_IFPRI\\_May2006.pdf](http://www.sarpn.org.za/documents/d0002098/Focus13_IFPRI_May2006.pdf))

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Hawkes, C. and Ruel, M.T. 2006 (Eds.). Understanding the links between agriculture and health. Washington, IFPRI.

([http://www.sarpn.org.za/documents/d0002098/Focus13\\_IFPRI\\_May2006.pdf](http://www.sarpn.org.za/documents/d0002098/Focus13_IFPRI_May2006.pdf))

IFPRI. 2008. Agriculture and health – Addressing the Vital Links. Washington.

(<http://www.ifpri.org/sites/default/files/aghealthbro.pdf>)

Rau, B. 2006. Too poor to be sick – Linkages between agriculture and health. Rome, FAO.

(<ftp://ftp.fao.org/docrep/fao/009/a0881e/a0881e00.pdf>)

#### **Country-level studies on HIV in a rural areas**

District AIDS Task Force. 2006. Chipata District HIV/AIDS Strategic Plan, 2006 – 2011. Chipata, Zambia, Chipata District Development Coordination Committee.

Muraguri, N. 2009. *Status of HIV in Kenya*. EAC Regional HIV Prevention Experts Think Tank Meeting, 24 - 25 February 2009, Nairobi, Kenya.

Wambura, M., Urassa, M., Isingo, R., Ndege, M., Marston, M., Slaymaker, E., Mngara, J., Chagalucha, J., Boerma, T.J., Zaba, B. 2007. HIV prevalence and incidence in rural Tanzania: results from 10 years of follow-up in an open cohort study. *J. Acquir Immune Defic Syndr.*, 46(5): 616-623.

#### **Other issues**

Commission on HIV/AIDS and Governance in Africa (CHG). 2008. Securing our future: Report of the commission on HIV/AIDS and governance in Africa. United Nations Economic Commission for Africa.

Dodds, C., Keogh, P., Chime, O., Haruperi, T., Nabulya, B., Ssanyu Sseruma, W., Weatherburn, P. 2004. Outsider status: stigma and discrimination experienced by gay men and African people with HIV. London, Sigma Research

Global Campaign for Microbicides. Antiretroviral (ARV)-based Microbicides: the promise and the puzzle. (<http://www.global-campaign.org/clientfiles/F24-ARV-basedMicrobicidesFAQ%5BE%5D08.pdf>)

Gorgens, M. *Being on target: prevention matter*, SADC HIV Prevention Summit, 7-9 June 2009, Johannesburg. The World Bank.

([http://www.unaidsrstes.org/files/u1/rget\\_presentation\\_SADC\\_prevention\\_meeting\\_09.pdf](http://www.unaidsrstes.org/files/u1/rget_presentation_SADC_prevention_meeting_09.pdf))

Ogden, J. & Nyblade, L. 2005. Common at its core: HIV-related stigma across contexts.

ICRW. ([http://www.icrw.org/docs/2005\\_report\\_stigma\\_synthesis.pdf](http://www.icrw.org/docs/2005_report_stigma_synthesis.pdf))

The University of Liverpool. Understanding Epidemics – Section 2D: HIV/AIDS – Geography.

([http://www.liv.ac.uk/geography/research\\_projects/epidemics/Images/pdf/HIV\\_Geography.pdf](http://www.liv.ac.uk/geography/research_projects/epidemics/Images/pdf/HIV_Geography.pdf))

**Building Capacity for the Agriculture Sector's Response to AIDS**  
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---

UNESCO Bangkok. Building knowledge about HIV and AIDS: an interactive course for educators. (<http://www.unescobkk.org/education/hivaids/projects/building-knowledge-about-hiv-and-aids-an-interactive-course-for-educator/>)

UNAIDS. 2005. HIV-Related Stigma, Discrimination and Human Rights Violations: Case studies of successful programmes. Geneva. ([http://data.unaids.org/publications/irc-pub06/jc999-humrightsviol\\_en.pdf](http://data.unaids.org/publications/irc-pub06/jc999-humrightsviol_en.pdf))

Watkins, D.I. 2008. The vaccine search goes on. *Scientific Amer.*, 299(5): 69-76.

WHO. 2003. Integrating gender into HIV/AIDS programmes: A review paper. Geneva. ([http://www.who.int/gender/hiv\\_aids/en/Integrating%5B258KB%5D.pdf](http://www.who.int/gender/hiv_aids/en/Integrating%5B258KB%5D.pdf))

WHO/CDC/FXB/UMDNJ. 2008. Prevention of mother-to-child transmission of HIV: generic training package. Geneva. (<http://www.womenchildrenhiv.org/wchiv?page=pi-60-00>)

WHO Regional Office for Africa. 2005. HIV/AIDS epidemiological surveillance report for the WHO African Region: 2005 update. Harare, WHO. ([http://www.who.int/hiv/pub/epidemiology/hivinafrica2005e\\_web.pdf](http://www.who.int/hiv/pub/epidemiology/hivinafrica2005e_web.pdf))

## **ANNEX 1 – The ABCs of HIV and AIDS**

The following basic information about HIV and AIDS is provided as an easy reference for learners who do not have Internet access and need clarification on certain general issues related to the epidemic.

### **A. General information on HIV and AIDS<sup>34</sup>**

People working in the field of HIV are often asked questions about the virus and the epidemic. Even educated persons often have misconceptions about the epidemic and it is important to be able to respond to questions. The following list of frequently-asked-questions gives a thumb-nail description of key facts. These facts will be useful in designing AIDS policies and strategies in the agricultural sector.

#### What is the difference between HIV and AIDS?

The Human Immunodeficiency Virus (HIV) is a virus that targets the cells of the human immune system and damages them. The Acquired Immune Deficiency Syndrome (AIDS) is a condition that develops as a result of aggravated immunosuppression caused by HIV infection. A person is said to be HIV positive if that person shows indications of infection with HIV (e.g. presence of antibodies against HIV). The corrosion and annihilation of the immune system eventually leads to immune deficiency, which essentially means that the immune system can no longer fight off infections and disease and thus a person becomes susceptible to opportunistic infections. AIDS is an advanced stage of HIV infection. A person is considered to have AIDS when there is the incidence of more than 20 opportunistic infections.

#### Where did AIDS come from?

There are several schools of thought about the origin of AIDS, ranging from groups that believe the virus was a deliberate plot developed by the USA to others who believe AIDS to be the result of an American vaccination program gone wrong and still others who think that HIV spread to men from monkeys. It is improbable that details about the origin and spread of the immunodeficiency virus in humans will ever be known. Indeed, it is not even certain that the spread of HIV is not the result of an amalgamation of factors, rather than one single event. Regardless of the moving forces behind the spread of HIV– which the realities of the 20<sup>th</sup> century certainly created the necessary conditions for – there are far more urgent concerns to

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<sup>34</sup> This section combines elements from several Internet resources: a) HIV/AIDS FAQs from Baan Gerda Care and treatment for HIV & AIDS orphans in Thailand (<http://www.baangerda.org/en/FAQ.html#h1>); b) Avert “The origin of AIDS and HIV and the first cases of AIDS” (<http://www.avert.org/origins.htm>); c) Centers for Disease Control “HIV and Its Transmission” (<http://www.cdc.gov/hiv/resources/factsheets/transmission.htm>); d) Zweli Mokgata “What are ARVs and how do they work?” (<http://www.thetimes.co.za/SpecialReports/EveryoneKnows/Article.aspx?id=297875>); e) WHO “Microbicides” (<http://www.who.int/hiv/topics/microbicides/microbicides/en/>); UNAIDS “Fast facts about HIV treatment” ([http://data.unaids.org/pub/FactSheet/2009/20090903\\_fastfacts\\_treatment\\_en.pdf](http://data.unaids.org/pub/FactSheet/2009/20090903_fastfacts_treatment_en.pdf))

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address at present: These include finding solutions as to how to treat people with HIV, how to prevent further spread of the virus and how to mitigate its impacts.

#### How is HIV transmitted?

HIV is spread mainly through unprotected, penetrative and oral sex with an infected person, by using contaminated injecting equipment (e.g. needles and syringes), through transfusions of infected blood, or from an infected mother to her child during pregnancy, childbirth and breastfeeding. Casual contact with co-workers or the public poses no risk.

Other factors may increase vulnerability to HIV infection through the aforementioned transmission routes. For example, the presence of sexually-transmitted infections, like syphilis, can heighten vulnerability as it creates chancres or lesions that facilitate the entry of HIV into the body. Malnutrition and the presence of other infections that weaken the immune system also increase vulnerability to HIV infection.

#### How long does it take for HIV to develop into AIDS?

The amount of time that passes before HIV precipitates immunodeficiency to the point of resulting in AIDS depends on several factors, notably medication and nutrition. It also varies from person to person with some people living with HIV (PLHIV) exhibiting no symptoms and experiencing no illnesses for extended periods of time, a circumstance that scientists have as yet been unable to explain. In the absence of medication, the majority of people with HIV will begin to show signs of HIV-related illness within about five to ten years. It can take approximately ten to fifteen years, however, before a person reaches advanced stages of HIV and is diagnosed with AIDS. Malnutrition and the presence of other diseases can hasten the onset of AIDS, whereas ART can slow down progression.

#### How long can someone with HIV expect to live?

The precise effects of HIV on a human's lifespan have yet to be fully understood. Antiretroviral therapy, however, can reduce HIV-related illnesses and can slow down the progression of HIV, thus helping to maintain a healthy life for many years increasing life expectancy. As mentioned above, some people living with HIV remain healthy for many years, especially if undergoing antiretroviral therapy, which can significantly slow down the progression of the virus.

#### Why are more women living with HIV than men?

Women are more vulnerable to HIV due to biological and social reasons. In the first case, the female genital tract has a larger exposed surface area and therefore during unprotected sexual intercourse women's risk of infection is greater. Young women may face even greater risk as they have a thinner cell wall in the vagina, which can be damaged during sexual intercourse and the resulting lesions can increase risk of infection.

Secondly, cultural norms defining relations between women and men may make it difficult (and sometimes impossible) for women to either refuse sex with a spouse or male partner or require that he use a condom. Female condoms are still expensive and not readily available in developing countries. A related problem is that of transactional sex, in which women with no other recourse may sometimes trade sex for money or other favours to support themselves and their children. Rape is also an issue in male-female relations, exacerbated in conflict and post-conflict environments. In addition, ignorance and myths about HIV in some countries may,

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for example, drive men to have forced sex with young girls under the assumption that sex with a virgin will “cleanse” one of HIV.

#### How is HIV *not* transmitted?

HIV cannot be transmitted through casual contact (e.g. shaking hands or hugging), through mosquitoes and other insects, or through air and water. The following paragraphs specifically address some of the common misperceptions about HIV transmission:

- *Can HIV be contracted in the environment?*

The probability of environmental transmission is unlikely, for it is generally agreed upon by experts that HIV does not remain viable in the environment, when it is exposed to air. The virus does survive in blood, semen, vaginal fluid, breast milk, saliva and tears, though it may be found in varying concentrations depending on the fluid. Unlike many bacteria or fungi, HIV cannot reproduce outside its living host (except under laboratory conditions) and therefore it does not spread outside its host. For these reasons, HIV cannot be transmitted through contact with objects that might have been in contact with someone with HIV.

- *Is HIV transmitted in the household?*

Transmission in the household is essentially via sexual relations. This poses a problem for women who, in some societies, cannot refuse sexual relations with their husbands and find it difficult to request the use of a condom. Therefore, many women contract HIV from their husbands who contracted the virus elsewhere.

Non-sexual HIV transmission between family members in a household setting is very rare. In these few cases, transmission is believed to have resulted from contact between skin or mucous membranes and infected blood. In essence, an uninfected person would not contract the virus from an infected person unless that person had sores or cuts that came in contact with infected body fluids (particularly blood) of the other person.

- *Is HIV transmitted in the workplace?*

Working in the same office with a person living with HIV poses no health threat. Shaking hands with a person with HIV or using the person's office supplies will not transmit the virus because the virus is not transmitted through skin contact, nor through the environment.

Similarly, there is no known risk for PLHIV working in areas such as food-service of transmitting HIV to colleagues or customers through contact. It is unnecessary to prevent PLHIV from working in food service unless they have other infections or illnesses (such as diarrhea or hepatitis A) that would constitute a sanitary risk in and of themselves.

Instruments used to penetrate the skin (such as tattooing and ear-piercing devices) should be used once and disposed of, or thoroughly cleaned and sterilized. Instruments not intended to penetrate the skin but that may become contaminated with blood (e.g. razors) should be used for only one client and disposed of or thoroughly cleaned and disinfected after each use.

The main danger linked to HIV in the workplace is through sexual relations – for example, between employees or between an employee (usually female) and boss. These encounters are sometimes coerced, whereas some people may resort to this kind of transactional sex in order to obtain favours.

- *Do insects transmit HIV?*

HIV is not transmitted by insects. Though there has been concern about biting and bloodsucking insects as potential vectors for HIV transmission since the onset of the

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epidemic, research has found no evidence of this, even in regions where there are large numbers of both people infected with HIV and insects such as mosquitoes. According to the United States' Centers for Disease Control:

“The results of experiments and observations of insect biting behaviour indicate that when an insect bites a person, it does not inject its own or a previously bitten person's or animal's blood into the next person bitten. Rather, it injects saliva, which acts as a lubricant or anticoagulant so the insect can feed efficiently. Such diseases as yellow fever and malaria are transmitted through the saliva of specific species of mosquitoes. However, HIV lives for only a short time inside an insect and, unlike organisms that are transmitted via insect bites, HIV does not reproduce (and does not survive) in insects. Thus, even if the virus enters a mosquito or another sucking or biting insect, the insect does not become infected and cannot transmit HIV to the next human it feeds on or bites. HIV is not found in insect feces.

There is also no reason to fear that a biting or bloodsucking insect, such as a mosquito, could transmit HIV from one person to another through HIV-infected blood left on its mouth parts. Two factors serve to explain why this is so. First, infected people do not have constant, high levels of HIV in their bloodstreams and, second, insect mouth parts do not retain large amounts of blood on their surfaces. Further, scientists who study insects have determined that biting insects normally do not travel from one person to the next immediately after ingesting blood. Rather, they fly to a resting place to digest this blood meal.”<sup>35</sup>

#### Low-risk behaviour

- *How risky is kissing?*

HIV is not transmitted through closed-mouth kissing or other forms of casual contact. However, many medical experts recommend against open-mouth kissing with a person known to be infected due to the possibility of coming into contact with blood, although the risk of HIV transmission during open-mouth kissing is believed to be minimal.

- *Does contact with saliva, tears and sweat transmit HIV?*

Samples of saliva, tears and sweat of some AIDS patients have revealed very low quantities of HIV in saliva and tears, and no HIV in sweat. However, the presence of HIV in low quantities in some body fluids is not necessarily an indication that HIV can be transmitted by those fluids. In fact, there is no evidence that contact with any of these fluids can result in transmission of HIV.

## **B. Preventing HIV infection**

### Abstinence

Abstinence is the best way of protecting oneself from contracting HIV. However, for sexually active people, condoms are a very effective prevention.

### Are condoms really effective in preventing HIV?

Condoms are classified as medical devices and are regulated by regulatory agencies. Condom manufacturers are required to test each latex condom for defects, including holes, before it is packaged. The proper and consistent use of latex or polyurethane (a type of plastic) condoms

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<sup>35</sup> CDC. 1999. HIV and Its Transmission. (<http://www.cdc.gov/hiv/resources/factsheets/PDF/transmission.pdf>)

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when engaging in sexual intercourse – vaginal, anal or oral – can greatly reduce a person's risk of acquiring or transmitting sexually transmitted diseases, including HIV.

There are many different types and brands of condoms available, however, only latex or polyurethane condoms provide a highly effective mechanical barrier to HIV. In laboratories, viruses occasionally have been shown to pass through natural membrane ("skin" or lambskin) condoms, which may contain natural pores and are therefore not recommended for disease prevention (they are documented to be effective for contraception). Women may wish to consider using the female condom when a male condom cannot be used.

For condoms to provide maximum protection, they must be used consistently (every time) and correctly. Similarly, numerous studies among sexually active people have demonstrated that a properly used latex condom provides a high degree of protection against a variety of sexually transmitted infections, including HIV infection. According to the World Health Organization "male latex condoms have an 80% or greater protective effect against the sexual transmission of HIV and other STIs"<sup>36</sup>.

#### What are microbicides and how can they prevent HIV infection?

Microbicides are compounds (gels, creams, films or suppositories) that can be applied inside the vagina or rectum to protect against sexually transmitted infections (STIs), including HIV. Microbicides may or may not have spermicidal activity – i.e. contraceptive effect. At present, an effective microbicide is not available, although several products are being tested. Research and testing to develop microbicides is supported for several reasons:

1. Despite knowledge of successful HIV prevention strategies (e.g condom use, reduction in the number of sexual partners, diagnosis and treatment of sexually transmitted infections), HIV continues to spread at an alarming rate, especially among women in developing countries;
2. Without a preventive HIV vaccine, microbicides could offer an alternative to condoms as the most feasible method for primary prevention of HIV.
3. Currently available HIV prevention methods are often not feasible for many women who live in resource-poor settings. The availability of microbicides could greatly empower women to protect themselves and their partners as they do not require the cooperation, consent or knowledge of their partner.

#### What is Prevention of mother-to-child transmission (PMTCT) of HIV?

Mother-to-child transmission (MTCT) occurs when HIV passes from a mother to her child during pregnancy, birth or breastfeeding. Prevention of mother-to-child transmission refers to "a package of services intended to reduce the risk of mother-to-child transmission of HIV"<sup>37</sup>. For this reason, it is important that pregnant women are tested to determine if they have HIV.

For women with HIV, antiretroviral therapy helps improve the woman's health during pregnancy and, by reducing the amount of the virus in her blood, can also reduce the risk of transmitting the virus to her child. If a woman has HIV and it is determined that she needs

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<sup>36</sup> WHO. Condoms for HIV prevention. (<http://www.who.int/hiv/topics/condoms/en/index.html>).

<sup>37</sup> WHO/CDC/FXB/UMDNJ. 2008. Prevention of mother-to-child transmission of HIV: generic training package. Geneva. (<http://www.womenchildrenhiv.org/wchiv?page=pi-60-00>)

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ART for herself, treatment will also help prevent the virus from being transmitted to her child. For a woman who does not require treatment for herself, ARV medicines<sup>38</sup> are nonetheless administered during pregnancy and delivery to prevent transmission to the baby. In order to prevent transmission during breastfeeding, replacement feeding<sup>39</sup> should be considered, if it is a safe, feasible and acceptable long term option.

#### **C. HIV treatment**

##### How is HIV treated?

There is no drug that can vaccinate against or cure HIV – HIV can be treated but not cured. Antiretroviral (ARV) therapy can stop the virus from replicating in the body and hence the eventual destruction of the immune system, thus prolonging the development of AIDS. It cannot, however, eradicate the virus. ARV therapy is important for people living with HIV as it contributes to them living longer and healthier lives.

##### What are ARVs and how do they work?

An antiretroviral (ARV) is a strong medical drug used for the treatment of retroviruses, especially the human immunodeficiency virus (HIV). ARVs are not a cure for HIV, and they cannot prevent infection, but they can significantly improve the quality of life of people suffering from the illness. ARVs interfere with the HIV life cycle, halting the replication of the virus in the body. Antiretroviral therapy (ART) refers to the combination of three or more drugs. Due to the nature of HIV and its ability to adapt and mutate, the World Health Organization (WHO) recommends the use of three separate ARV medicines in order for them to be effective against the virus. Taking a combination of three medicines concurrently makes it more difficult for the virus to alter and become resistant.

It is very important to stick to a course of ARV drugs, taking them at the right time and in the right way in order to keep the correct level of medicine in the body. If a dose is missed, it becomes easier for the virus to change inside the body. When this occurs, the original ARV course will not be effective against the new virus that has mutated or changed form. In addition to ART, it is important that people with HIV have good nutrition, safe water and basic hygiene.

Most people experience one or more side effects from ARV drugs, which may include nausea, vomiting or headaches. Side effects are generally minor and tend to subside with time, as the person's body adjusts to the medication. In the case of more serious side effects, ARV medicines may be changed.

#### **D. Stigma and discrimination**

##### What is HIV-related stigma?

HIV-related stigma and discrimination is largely targeted towards people who have, or are suspected of having HIV, as well as people associated with HIV, such as children orphaned by AIDS or children and families of people living with HIV.

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<sup>38</sup> ARV medicines to prevent transmission typically contain nevirapine or zidovudine (AZT).

<sup>39</sup> For example, using mothers' milk substitutes.

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It has many dimensions, usually “build[ing] upon and reinforce[ing] negative connotations through the association of HIV and AIDS with already-marginalized behaviours, such as sex work, drug use, and homosexual and transgender sexual practice... [and can reinforce] fears of outsiders and otherwise vulnerable groups, such as prisoners and migrants”<sup>40</sup>. HIV-related stigma and discrimination is often related to fear (fear of outcomes of infection and of transmission) and to associations with, for example, death, guilt and punishment.

#### Forms of stigma

HIV-related stigma can take many forms and may vary from location to location. The following table gives an overview of the main forms and expressions of stigma faced by people living with HIV, as well as by family members and caregivers.

**Table 1. Types of stigma and discrimination**

Physical	Social	Language/Verbal	Institutional
<p><b>Isolation</b></p> <ul style="list-style-type: none"> <li>▶ Separating sleeping quarters</li> <li>▶ Marking and separating eating utensils</li> <li>▶ Separating clothing and bed linens</li> <li>▶ No longer allowing person to eat meals with family</li> <li>▶ Confinement to certain rooms of house</li> <li>▶ No longer allowing person to participate in housework (e.g. cooking food)</li> <li>▶ Public rejection (refuse to sit next to person on bus, bench, at church, tea shops or in bars)</li> <li>▶ Separation from children</li> <li>▶ Abandonment by family</li> </ul> <p><b>Violence</b></p> <ul style="list-style-type: none"> <li>▶ Beatings</li> <li>▶ Being kicked</li> <li>▶ Throwing stones</li> <li>▶ Arrests</li> </ul>	<p><b>Isolation</b></p> <ul style="list-style-type: none"> <li>▶ Reduction of daily interactions with family and community</li> <li>▶ Exclusion from and shunning at family and community events</li> <li>▶ Loss of social networks</li> <li>▶ Decreased visits from neighbors</li> </ul> <p><b>Voyeurism</b></p> <ul style="list-style-type: none"> <li>▶ Increased visits from neighbors, not out of concern but to mock individual or report back to community</li> </ul> <p><b>Loss of identity/role</b></p> <ul style="list-style-type: none"> <li>▶ Viewed and treated by community as having no future</li> <li>▶ No longer considered productive member of society</li> <li>▶ Automatically associated with “social evils” (e.g., drug use, sex work)</li> <li>▶ Expected to adopt new role of teaching others about HIV and disclosing status</li> <li>▶ Loss of power, respect, and standing in community</li> <li>▶ Loss of right to make decisions about own life</li> <li>▶ Loss of marriage and childbearing opportunities</li> </ul>	<p><b>Gossip</b></p> <ul style="list-style-type: none"> <li>▶ Speculation on how person acquired virus</li> <li>▶ Spreading rumors</li> <li>▶ Whispering behind back</li> </ul> <p><b>Taunting</b></p> <ul style="list-style-type: none"> <li>▶ Insults</li> <li>▶ Mocking</li> <li>▶ Finger-pointing</li> <li>▶ Threats</li> </ul> <p><b>Expressions of blame and shame</b></p> <ul style="list-style-type: none"> <li>▶ Scolding (e.g., blamed for not listening to elders)</li> <li>▶ Blamed for bringing “bad luck” to whole family</li> </ul> <p><b>Labeling and use of derogatory words to describe people living with HIV or AIDS</b></p> <ul style="list-style-type: none"> <li>▶ In Africa: “moving skeleton,” “walking corpse,” “keys to the mortuary”</li> <li>▶ In Vietnam: “they are social evils,” “scum of society,” “deserves to die”</li> </ul>	<p><b>Loss of livelihood/future</b></p> <ul style="list-style-type: none"> <li>▶ Loss of employment</li> <li>▶ Loss of customers/business</li> <li>▶ Denial of loans, scholarships, visas</li> </ul> <p><b>Loss of housing</b></p> <ul style="list-style-type: none"> <li>▶ Denied housing</li> <li>▶ Eviction by landlord</li> </ul> <p><b>Differential treatment in schools</b></p> <ul style="list-style-type: none"> <li>▶ Teachers supporting the idea of separating children of HIV+ people to “protect” other students</li> </ul> <p><b>Differential treatment in health care settings</b></p> <ul style="list-style-type: none"> <li>▶ Excessive and unnecessary precautions by health care staff</li> <li>▶ Shuffled between providers to avoid caring for HIV+ patient</li> <li>▶ Denial of health services</li> <li>▶ Provision of substandard treatment</li> <li>▶ Use of separate medical tools for people with HIV or AIDS</li> <li>▶ Place patients with HIV in separate rooms</li> </ul> <p><b>Differential treatment in public spaces</b></p> <ul style="list-style-type: none"> <li>▶ Refusal of services (e.g., will not be served food by vendors, or not served in shared containers)</li> </ul> <p><b>Media and public health messages and campaigns</b></p> <ul style="list-style-type: none"> <li>▶ Posters and news stories emphasizing negative images of people with HIV and AIDS and employing fear tactics to warn about HIV and AIDS</li> <li>▶ Posters and news stories presenting factual information about HIV and AIDS with a moral and judgmental tone</li> <li>▶ Inflammatory news stories about HIV-positive individuals purposefully infecting others</li> </ul>

(Source: Ogden and Nyblade, 2005)

<sup>40</sup> UNAIDS. 2005. HIV-Related Stigma, Discrimination and Human Rights Violations: Case studies of successful programmes. Geneva. ([http://data.unaids.org/publications/irc-pub06/jc999-humrightsviol\\_en.pdf](http://data.unaids.org/publications/irc-pub06/jc999-humrightsviol_en.pdf))

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#### The effects of stigma

A study commissioned by the International Centre for Research on Women<sup>41</sup> found that the potential repercussions of HIV-related stigma can include:

- Loss of income/livelihood;
- Loss of marriage and childbearing options;
- Poor care within the health sector;
- Withdrawal of care-giving in the home;
- Loss of hope and feelings of worthlessness;
- Loss of reputation.

Some of these effects can be classified as ‘internal stigma’ or ‘self-stigma’. These terms refer to how people may come to feel guilt, shame and unworthiness as a result of having internalized stigmatizing notions, and to how they may proceed to inflict stigma upon themselves:

“I am afraid of giving my disease to my family members—especially my youngest brother who is so small. It would be so pitiful if he got the disease. I am aware that I have the disease so I do not touch him—I talk with him only. I don’t hold him in my arms now.”<sup>42</sup>

Both self-stigma and fear of stigma from the community help maintain a culture of shame and silence surrounding the AIDS epidemic that can frustrate efforts to deal with it effectively. Stigma also negatively affects children orphaned by AIDS, who often encounter hostility from their extended families and community, and may be rejected, denied access to schooling and health care and left to fend for themselves.

The relatively low participation numbers in PMTCT programmes in countries where treatment is free are thought to be the result of widespread fear of stigma among PLHIV. For example, PMTCT services are available at every antenatal centre in Botswana, but only 26 percent of pregnant women made use of the opportunity to protect their unborn children. More than 50 percent declined to be tested for HIV, and nearly half of those who tested positive refused treatment<sup>43</sup>.

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<sup>41</sup> Ogden, J. & Nyblade, L. 2005. Common at its core: HIV-related stigma across contexts. ICRW. ([http://www.icrw.org/docs/2005\\_report\\_stigma\\_synthesis.pdf](http://www.icrw.org/docs/2005_report_stigma_synthesis.pdf))

<sup>42</sup> Ibid..

<sup>43</sup> Commission on HIV/AIDS and Governance in Africa (CHG). 2008. Securing our future: Report of the commission on HIV/AIDS and governance in Africa. United Nations Economic Commission for Africa.

## **ANNEX 2 – The twin challenge of tuberculosis and HIV**

Excerpts from the 2007 sub-Saharan Africa AIDS epidemic update regional summary<sup>44</sup>:

Tuberculosis remains a major cause of illness and death in people living with HIV. An estimated 8.8 million new tuberculosis cases occurred worldwide in 2005 – more than 80% of them in Asia and sub-Saharan Africa. It is estimated that more than 600 000 of those people were co-infected with HIV. People living with HIV are at much greater risk of developing tuberculosis than people who are HIV-negative (Selwyn et al., 1989; Antonucci et al., 1995). Furthermore, HIV is responsible for the high tuberculosis incidence in many parts of Africa and some parts of Asia (WHO, 2007). In southern Africa—the subregion with the highest HIV prevalence—it is estimated that 50–80% of tuberculosis patients are also HIV-positive (Sharma, et al., 2005; Sonnenberg et al., 2005). In Swaziland, for example, 80% of tuberculosis patients tested HIV-positive in the 2006 sentinel survey, and tuberculosis continues to be the most likely cause of death for HIV-positive people (Ministry of Health and Social Welfare Swaziland, 2006). HIV is an important factor in tuberculosis in other parts of Africa; for example, in Ethiopia, an estimated third (34%) of the 141 000 tuberculosis cases in 2005 were in people who were also infected with HIV (Federal Ministry of Health Ethiopia, 2006). Despite this heavy burden of HIV among tuberculosis patients, in 2005, only 7% of tuberculosis patients were tested for HIV globally, and only 14% of the estimated total number of tuberculosis cases among people living with HIV were detected (WHO, 2007).

Yet, when tuberculosis patients are tested for HIV, a significant proportion of those found to be HIV-positive do receive treatment. Thus, in 2005, 91% of HIV-positive tuberculosis patients accessed cotrimoxazole and 38% accessed antiretroviral therapy (WHO, 2007). A lack of access to HIV counselling and testing for tuberculosis patients stands in the way of increasing access to HIV treatment and care. However, the introduction of provider-initiated HIV counselling and testing has led to substantial increases in the numbers of tuberculosis patients tested for HIV and the numbers of HIV-positive tuberculosis patients starting on cotrimoxazole preventive and antiretroviral therapy.

Globally, less than 0.5% of people living with HIV were screened for tuberculosis in 2005. However, in the increasing number of countries that reported screening for tuberculosis symptoms among people living with HIV in 2005, approximately 12% of people living with HIV who were screened were found to have active tuberculosis (WHO, 2007).

Incidence of HIV, and consequently of tuberculosis, is increasing in many parts of the world, placing additional stress on already under-resourced tuberculosis control programmes, and contributing to the development and spread of drug-resistant tuberculosis. Drug-resistant tuberculosis, and especially extensively drug-resistant tuberculosis (with resistance to both first- and second-line anti-tuberculosis drugs) can spread rapidly in communities of people living with HIV, resulting in very high mortality—as seen in South Africa, for example (Gandhi et al., 2006). Tuberculosis case reports collected by the Department of Health in South Africa show that the tuberculosis incidence rate increased from 169 per 100 000 people in 1998 to 645 per 100 000 people in 2005 (Government of South Africa, 2007).

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<sup>44</sup> UNAIDS. 2008. 2007 Sub-Saharan Africa AIDS epidemic update regional summary 2007. Geneva, UNAIDS/WHO. ( [http://data.unaids.org/pub/Report/2008/JC1526\\_epibriefs\\_subsaharanafrica\\_en.pdf](http://data.unaids.org/pub/Report/2008/JC1526_epibriefs_subsaharanafrica_en.pdf) )

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Efforts to scale up collaborative tuberculosis and HIV activities are currently inadequate, and many opportunities to provide life-saving prevention and treatment for both diseases are being missed. Moreover, data collection is often poor. Much stronger coordination of tuberculosis and HIV programmes is needed to achieve universal access to tuberculosis and HIV prevention, treatment, care and support.

**ANNEX 3 – UNAIDS latest estimates for sub-Saharan Africa**

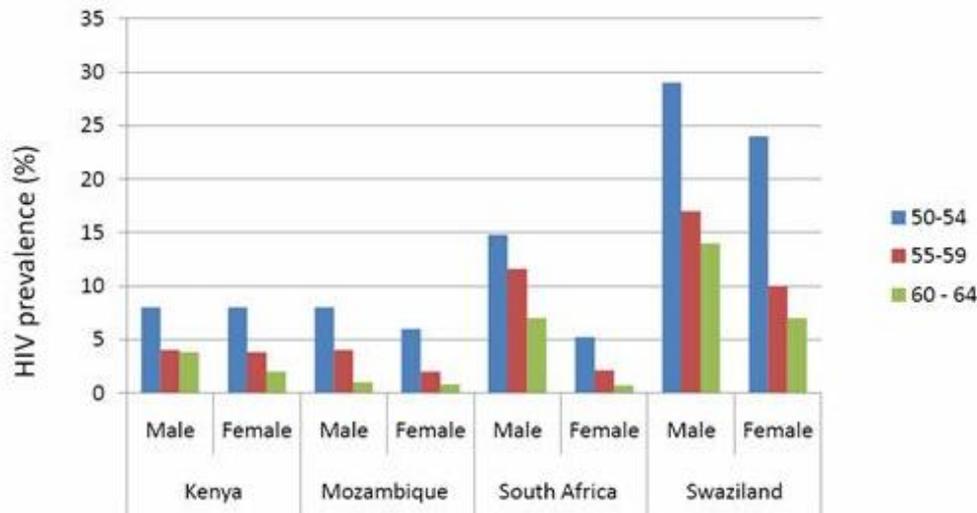
<b>Sub-Saharan Africa</b>		
Number of people living with HIV	<i>2008</i>	<b>22.4 million</b> [20.8 million–24.1 million]
	<i>2001</i>	<b>19.7 million</b> [18.3 million–21.2 million]
Number of new infections	<i>2008</i>	<b>1.9 million</b> [1.6 million–2.2 million]
	<i>2001</i>	<b>2.3 million</b> [2.0 million–2.5 million]
Number of children newly infected	<i>2008</i>	<b>390 000</b> [210 000–570 000]
	<i>2001</i>	<b>460 000</b> [260 000–640 000]
Number of AIDS-related deaths	<i>2008</i>	<b>1.4 million</b> [1.1 million–1.7 million]
	<i>2001</i>	<b>1.4 million</b> [1.2 million–1.7 million]

*(Source: UNAIDS, 2009)*

**ANNEX 4 – The elderly and HIV data**

As has been mentioned, the standard cut-off ages for data on HIV and AIDS is 15–49 years (which means up to the 50<sup>th</sup> birthday). While people can be infected before age 15, the focus of this section is on the elderly. People over the age of 50 can become infected with HIV and those who have been infected before this age can continue to live well beyond 50. As the following graph shows, this is very much an issue for countries in sub-Saharan Africa<sup>45</sup>.

**Figure 11. Adults aged 50 and older in sub-Saharan Africa living with HIV**



(Source: Gorgens, 2009)

As one can see, HIV prevalence, particularly for the 50-54 age group, can be extremely high, however it drops rapidly in subsequent age groups. The reasons for this can be varied and may include less access to ARVs, weakened immune system and other infections, socio-cultural factors that give this age group less priority, etc..

Even if poorly documented and quantified, high HIV prevalence among elderly rural populations is an issue. Particularly with increasing rural access to ARVs, one can expect prevalence rates to increase in the future. It is therefore important to address the possible implications of this for the agriculture sector.

Some issues to address include: the extent to which elderly people benefit (or divert) from household resources (in particular financial resources) and time; the role of elderly people in HIV-affected households (e.g. looking after orphans, ensuring household food security); and whether they suffer particularly from stigma and discrimination. The issue of elderly people living with HIV certainly needs further study and appropriate responses from the agriculture sector.

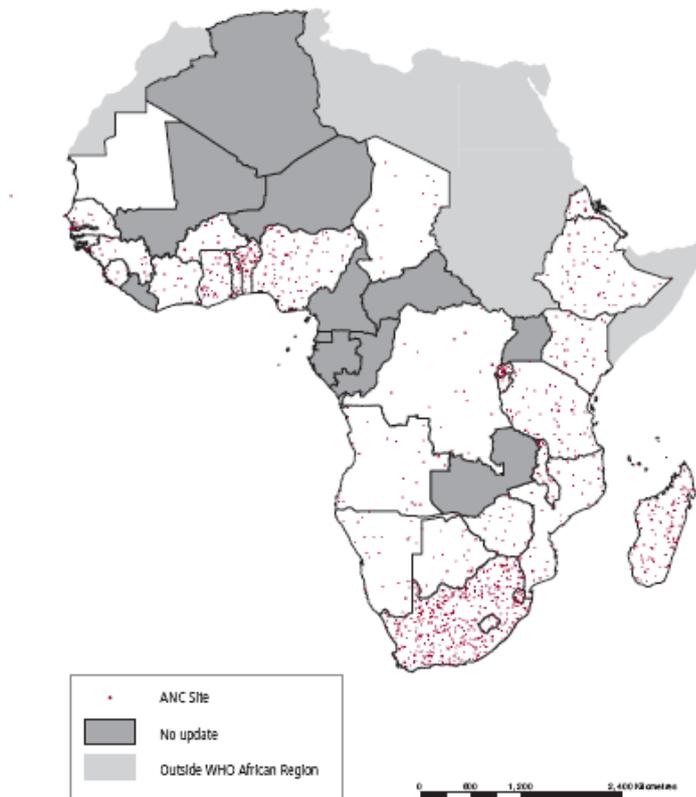
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<sup>45</sup> This graph is based on national data; data for rural populations is rarely available.

**ANNEX 5 – Some remarks about data on HIV in rural areas**

Until recently, the spatial distribution of HIV in rural areas was – with a few exceptions such as in Rakai district in Uganda – poorly known. This is because sentinel surveillance was based in antenatal clinics that were not well distributed in rural areas and that were not always used by pregnant rural women, not to mention the fact that they do not provide direct data on men. The following map shows the differences in distribution of antenatal clinics among countries in sub-Saharan Africa. Since rural epidemics are typically driven by localized factors, one can find considerable heterogeneity in prevalence, as some villages can be highly infected and others not at all, even if close by. These differences are still poorly understood, although some explanations point to the role of “hotspots”, such as crossroads or markets.

**Figure 12. Locations of antenatal clinic sentinel sites in sub-Saharan Africa, 2003-2004**



(Source: WHO Regional Office for Africa, 2005)

In the last few years, considerable progress has been made in collecting data to estimate prevalence levels through the Demographic and Health Surveys<sup>46</sup>. These surveys are conducted on the basis of representative national samples and include the collection of rural HIV information. By looking also at intra-rural differences, one can make targeted agricultural interventions in high prevalence rural areas or “hotspots”.

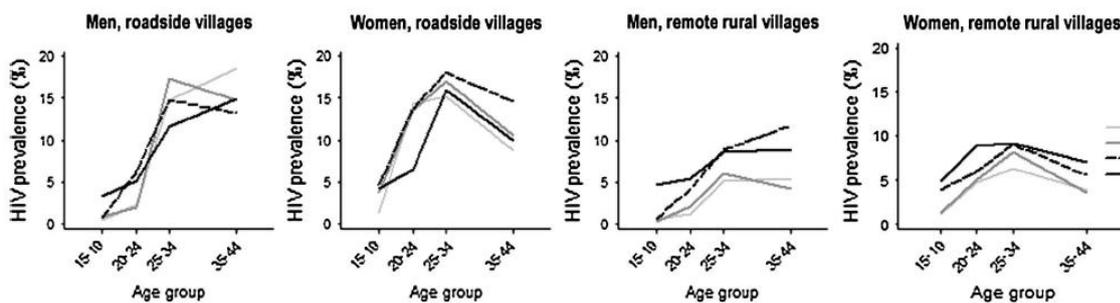
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<sup>46</sup> Information on the countries covered by these surveys and access to the results can be found at: <http://www.measuredhs.com/>

**ANNEX 6 – Some notes on rural prevalence and incidence**

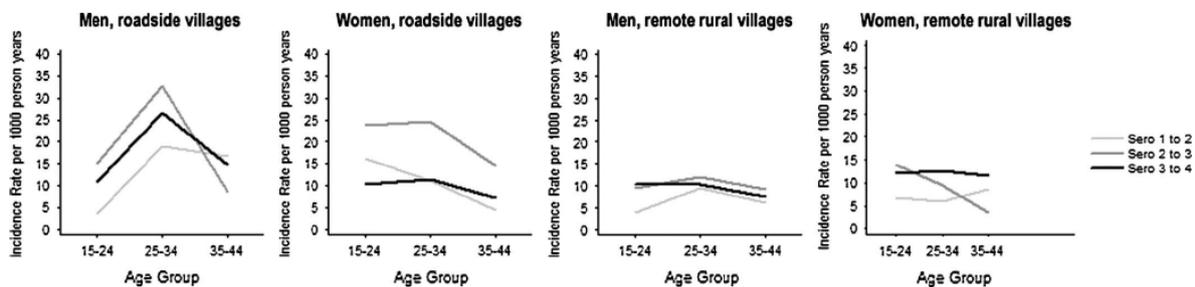
Aside from reading section 2.4 on prevalence and incidence, the reader is encouraged to browse through the technical but very informative study on the above subject carried out by Wambura et al in Northern Tanzania<sup>47</sup>. The study provides a detailed presentation of the complexity of data collection and analysis. The results are shown in the graphs below and are discussed from a health perspective in their paper.

**Figure 13. HIV prevalence among men and women resident in roadside and remote rural areas of Kisesa**



(Source: Wambura et al., 2007)

**Figure 15. HIV incidence (per 1000 person-years) among men and women resident in roadside and remote rural areas of Kisesa**



(Source: Wambura et al., 2007)

Road side villages and rural trading centre were grouped together into one stratum and compared to remote rural villages. “Sero 1” corresponds to the epidemiologic sero-surveys carried out in 1994/5 and “sero 4” is the most recent survey, carried out in 2003/4. The graph needs to be read looking at the distance between the lines of the different sero-surveys for the same age group.

A few points from this study are of particular interest to the agriculture sector:

- The limitations of prevalence rates are criticized by Wambura *et al.* (see point 1 in box 3). Incidence rates are thus the most useful tool for the agriculture sector to follow HIV epidemics because they are sensitive to immediate changes. For example, a drought that

<sup>47</sup> Wambura, M., Urassa, M., Isingo, R., Ndege, M., Marston, M., Slaymaker, E., Mngara, J., Changalucha, J., Boerma, T.J., Zaba, B. 2007. HIV prevalence and incidence in rural Tanzania: results from 10 years of follow-up in an open cohort study. *J. Acquir Immune Defic Syndr.*, 46(5): 616-623.

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results in men migrating temporarily to towns in search of income and women engaging in transactional sex to feed their families, insofar as it translates into risky behaviour, could influence incidence rates. However, lack of resources to collect and analyze data is an obstacle. Still, the agriculture sector would benefit considerably from finding out when surveys are to be conducted and to discuss with researchers the possibility of generating data and conducting analysis relevant to the agriculture sector. For example, in the study discussed, the road side villages and rural trading centres have been regrouped into one stratum. It might have been useful for the agriculture sector to have kept them separate (if technically possible). This might have permitted estimating the respective roles of a major road in one case and its combination with a trading centre in another.

- The study has brought to light an important trend: the increase in HIV incidence in women from remote rural villages. The authors of the study propose several explanations for this trend. The first set of explanations are health based, but the last one is of possible direct concern to the agriculture sector. The question that can be raised is whether the women from remote rural villages previously went to road side villages or to the trading centre, and, if they did go, if there was pressure to engage in sex. Whether or not there are any agriculture-based causes behind these changes should be looked at, as well as how they should be addressed.
- The third paragraph in the Box is a general conclusion and follows on the previous point. The epidemic could spread to remote areas because once incidence rises in women, it can be expected to rise also among men. Rising HIV incidence among women from remote villages could constitute early warning signals that agricultural production and food security could be affected in the following years. The agriculture sector should address how agricultural interventions could help these impacts.

**Box 3. Excerpts from a study on HIV prevalence and incidence in rural Tanzania**

1. "Our analysis highlights the problems of relying on prevalence data to gauge the general trend of the epidemic. For example, in the most recent interval, prevalence rose for men and fell for women (by 0.6% and -0.5% points, respectively), whereas crude incidence rates and cumulated infection risk indicators were virtually identical for both genders. Prevalence data become even less reliable as an indicator of epidemic spread if ART roll-out is successful; hence, the importance of continuing to collect high-quality incidence data."
2. "Our data show that the gap in incidence level (as measured by the lifetime risk of infection indicator) between rural and roadside communities is narrowing, mainly because women in rural areas have recently experienced higher infection risks. This information should prompt further research to try to discover whether HIV prevention messages are reaching these women, whether they are engaging in risky behavior, or whether this trend could be attributable to their increasingly becoming the sexual partners of choice of men from the roadside villages, of whom a relatively large number are infected."
3. "The fact that incidence seems to be falling in roadside areas is an encouraging sign, but the continued gradual rise in incidence in remote rural areas is worrying, especially because most (66%) of the Kisesa population lives in these areas."

*(Source: Wambura et al, 2007).*