

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

**Introduction and Methodological
Guide to the Manual**



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This is a living document. It will be reviewed and updated as and when needs be. We therefore welcome your comments. Please send comments to:

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FOREWARD

Nearly 30 years after the first cases of AIDS were diagnosed in Africa, the epidemic remains a medical and development challenge. Although originally seen as a health problem that could be eradicated by medical means, HIV has proven to be a long lasting challenge and has shown that its effects extend far beyond the medical realm. It was not until 1988, however, that the epidemic finally came to be seen as a direct challenge to agriculture, food security and rural livelihoods. Despite declining and stabilizing trends in HIV prevalence in recent years, the disease remains an issue of concern for agricultural development and food security, particularly in rural areas of countries where HIV prevalence has stabilized at high levels. There is now a sizable body of knowledge not only on the linkages between AIDS and agriculture, but also on the impacts of the disease on food security and household livelihoods.

HIV prevention and mitigation of the socio-economic impacts of the disease cannot be detached from overall development efforts, including the Millennium Development Goals. Indeed, effective responses to AIDS requires addressing a broader set of issues, such as poverty, food insecurity and gender inequalities, that render people vulnerable to HIV and its impacts.

For many years the agriculture sector cited lack of tools and guidelines, as well as low capacity, as barriers to its participation in national and local efforts to respond to the epidemic. It is against this background that FAO has developed this manual as a tool for enhancing analytical and operational capacity of agriculture sector workers. The initiative for the development of this manual was taken by the Gender, Equity and Rural Employment Division (ESW), whose mandate includes being the corporate focal point for AIDS at FAO. The first draft of the manual was produced through a joint effort between ESW staff and external consultants. The manual was subsequently field tested and reviewed at a workshop convened for that purpose in Arusha, Tanzania from 19 to 30 October 2009.

We encourage various stakeholders to use this manual in its original form, or to adapt it to different situations according to local needs and realities.

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INTRODUCTION

The AIDS epidemic is multifaceted and requires coordinated responses from all sectors, but the agriculture sector has until now played a minor role. Given the higher prevalence of HIV in many developing countries (particularly in sub-Saharan Africa) and the high percentage of rural populations in these countries, the number of rural people infected and affected by HIV is large. In the last 25 years over 25 million people have died of AIDS-related causes. Though the epidemic may be stabilizing, it is in no way declining. Thus the agriculture sector has the potential, even the responsibility, to be a major player in responding to the epidemic. The sector has to endeavour to reduce vulnerabilities, mitigate impacts and build resilience against the epidemic. Consequently, development actors in rural areas – including FAO, Ministries of Agriculture and rural NGOs – need to build their capacity to effectively respond to the epidemic.

Research has shown that the AIDS epidemic is a serious threat to farming, forestry, fishing and livestock raising for several reasons:

- HIV and AIDS can have devastating impacts at the community and household levels, jeopardizing livelihoods and food security;
- Coping responses by affected rural populations can contribute to driving the epidemic and mortgage the future of rural children and food security.

Although at present insufficiently recognized, the agriculture sector has a unique and crucial role to play in responding to the epidemic. The sector has an immense responsibility to contribute to the prevention of the epidemic and the mitigation of its impacts, in coordination with the health and other sectors.

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OVERALL GOAL OF THE TRAINING PROGRAMME

The modules that constitute the manual “Building Capacity for the Agriculture Sector’s Response to AIDS” are intended to:

- Enhance the conceptual, analytical and programmatic capacity of organizations working in the agriculture sector to understand how the AIDS epidemic affects their area of activity in the sector;
- Expose trainees to ideas and programmes that may be developed or upscaled to strengthen community, household or organizational resilience in the face of the epidemic.

While the programme is targeted at national and sub-national level, it is expected that bilateral and multilateral agencies, as well as civil society organizations involved in this area of work, will find this manual useful. Indeed FAO, which is a pivotal organization in the agriculture sector, seeks to facilitate capacity building of its own offices and staff to respond to requests for assistance in the area of AIDS and Agriculture¹ from Ministries of Agriculture (MoAs), from the UN system as well as from NGOs. FAO encourages its country offices to play a proactive role in developing responses to the AIDS epidemic in the agriculture sector, in close collaboration with key national and international partners engaged in the fight against AIDS.

¹ AIDS and Agriculture is understood in a broad sense as covering rural livelihoods, food security, farming, fisheries, forestry, livestock raising, etc.

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OBJECTIVES OF THE MODULES

The training modules are designed to support capacity-building at the country level to respond to the challenges of HIV and AIDS in farming, fisheries, livestock production, forestry, and the other sub-sectors critical for rural livelihoods. The training manual should be considered as a reference guide, to be adapted by countries based on local needs and contexts. We expect that learners will acquire enough knowledge to handle requests for technical assistance in a variety of technical areas covered by this manual.

Further, we expect that this manual will enhance the capacity of staff working in the agriculture sector to:

1. Participate actively in international and national efforts against AIDS through a multisectoral approach.
2. Contribute to policy and programme development towards the prevention and mitigation of the impacts of HIV and AIDS on the agriculture sector.

These objectives are to be achieved by fostering understanding of causal factors and inter-relations between AIDS and agriculture. Further elements include communicating with specialists in health and other sectors, as well as supporting the formulation of policy and strategies on AIDS in the agriculture sector. This requires the ability to use both an “AIDS lens” and an “agriculture lens” to examine HIV and AIDS issues in general and agriculture issues in particular. As will be shown, such lenses can enable staff of organizations working in rural areas to identify and highlight HIV and AIDS issues which might otherwise be ignored, but which are important for food security and rural livelihoods, as well as in mitigating the epidemic.

It is important that organizations working in the agriculture sector identify areas of comparative advantage rather than spreading themselves too thin or attempting to intervene in areas in which they do not have the technical expertise. For example, it is inconceivable that the agriculture sector will play a direct role in activities such as providing AIDS-related counselling and testing services or medical treatment for people living with HIV. This is the role of organizations in the health sector. Rather, organizations working in the agriculture sector must learn to design policies and programmes that include measures to reduce rural poverty, malnutrition and migration (which are factors associated with risk of infection) and provide guidance on, for example, crops, cultivation techniques and nutrition, which can strengthen community resilience to the epidemic, especially among AIDS-affected households.

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METHODOLOGY

The modules can be used either for *self study* by individual learners or in group settings such as workshops and technical meetings. It is recognized that some learners working for NGOs in rural areas will not have easy access to the Internet. The essential information about different aspects of HIV and AIDS in agriculture is therefore provided in hard copy in the modules. Learners working alone and who do have internet access have the option of downloading and reading a considerable variety of supplementary documents. Learners who are studying alone should refer to the UNAIDS office in their country of service if they wish to have more information about the epidemic and response strategies. For specific information about agriculture sector initiatives on strengthening food security and community and family resilience to HIV and AIDS, the FAO country office and Ministry of Agriculture may be the best sources of information. It must be noted, however, that agriculture-sector initiatives *specifically addressing HIV and AIDS* are still rare and we encourage learners to collect and share such materials for wider circulation.

The training manual consists of 11 modules, divided into three parts. The four modules in “Part I: Background and rationale” are intended to provide the learner with a general overview of the epidemic and its linkages to the agricultural sector in broad terms. Thus, they serve as a background to the following four modules (5-8) in “Part II: Agriculture sub-sectors”, which enable the learner to gain information about, and build skills in responding to HIV in four agriculture sub-sectors. The last section “Part III: Policy and leadership”, composed of modules 9-11, addresses issues related to policy and leadership. These issues have been deliberately chosen because of their crucial role in enabling an effective sector-wide response to the epidemic.

| | |
|---|---|
| | Introduction and Methodological Guide to the Manual |
| PART I: BACKGROUND AND RATIONALE | |
| Module 1 | AIDS and Agriculture: Conceptual Overview |
| Module 2 | HIV and AIDS: Some Basic Facts |
| Module 3 | Linking HIV to Agriculture, Rural Livelihoods and Food Security |
| Module 4 | The Role of Nutrition in the AIDS Response |
| PART II: AGRICULTURE SUB-SECTORS | |
| Module 5 | AIDS and the Fisheries Sub-Sector |
| Module 6 | AIDS and the Livestock Sub-Sector |
| Module 7 | AIDS and the Forestry Sub-Sector |
| Module 8 | AIDS and the Commercial Agriculture Sub-Sector |
| PART III: POLICY AND LEADERSHIP | |
| Module 9 | Developing AIDS Policies in the Agriculture Sector |
| Module 10 | Leadership and Resource Mobilization |
| Module 11 | Programme Monitoring and Evaluation |

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Although the modules could be used selectively, all learners should study Part I in order to have an overall understanding of HIV challenges, particularly in the agriculture sector. The modules in the sub-sectors part are designed for specialized audiences working in relevant fields. Finally, the modules in the third part are compulsory because they provide general information and strategies without which it is impossible to design or implement programmes.

OUTLINE OF EACH MODULE

1. Aims and objectives

Each module begins with a statement of general aims and specific learning objectives related to the specific area covered.

2. Questions for reflection

Several questions are provided to encourage the learner to think about key issues and challenges related to impacts of HIV and AIDS in a certain area of the agriculture sector, as well as vulnerabilities of that sector.

3. Introductory remarks

There is a brief introduction to each module that summarizes the most important concepts that will be covered and their relevance to the work of organizations working in the agriculture sector.

4. Readings

The bulk of the module comprises sections that explain research finding, policy issues and specific examples of responses to AIDS by the agriculture sector covered in that particular module.

5. Learning reinforcement activities

Following the readings, the learner may choose to complete at least one of several learning activities. The activities are designed to give learners an opportunity to apply analytical and other tools to solving challenges of AIDS in the agriculture sector. The learning activities can be done by individuals studying alone or by groups of participants in workshop settings.

6. Summary remarks and lessons learned

After completing the learning activities, the learner may read and discuss a summary of the main issues and concepts covered by the training module.

7. Acronyms and abbreviations

This list is provided to help learners to “spell out” the complex variety of acronyms and abbreviations that are common in both HIV and AIDS strategies and agriculture sector practices.

8. References and further reading

The last part of each module is a bibliography, including references to documents cited in the readings and annexes. Many references presented are accessible via Internet and the electronic links are provided.

9. Annexes

Supplementary readings, charts or relevant examples of HIV-related interventions in the agriculture sector are presented in one or more annexes.

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ANNEX 1 – Evaluation form

1. Your feedback is very important and will be used to make improvements to this training manual.
2. Please take 5-10 minutes to respond to the following questions and send the completed form to: Gabriel Rugalema at Gabriel.Rugalema@fao.org or to Libor Stloukal at Libor.Stloukal@fao.org.

Module # _____ **Title:** _____

(a) Module Learning Objectives

How would you rate the achievement of the 'overall learning objectives' for the module?

(1 is low and 6 is high)

- Objective #1: _____

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

- Objective #2: _____

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

- Objective #3: _____

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

(b) Learning Content Evaluation

1. **Keep** → Which parts of the module did you find the most useful and why?

2. **Drop** → What topics/areas (if any) would you reduce or eliminate and why?

3. **Add** → What topics/areas (if any) would you add or give more time or text to cover?

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4. **Modify** → What changes would you make to improve the value of the content/topics of the module and why?

5. **Relevance** → How would you rank the relevance of the content/topics of the module to your work?

(1 is low and 6 is high)

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
|----------|----------|----------|----------|----------|----------|

Comments: (Including potential areas for in-country follow-up action.)

(c) Learning Experience Evaluation

1. Overall, how would you rank the usefulness for the module as a learning experience?

(1 is low and 6 is high)

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
|----------|----------|----------|----------|----------|----------|

Comments:

2. How would you rank the organization of the module (e.g. sequence)?

(1 is low and 6 is high)

| | | | | | |
|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |
|----------|----------|----------|----------|----------|----------|

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Comments:

3. How would you rank the quality of the reading materials, charts, tables and diagrams?

(1 is low and 6 is high)

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

Comments:

4. If you are in a workshop setting, please rate the quality of small group exercises and discussions.

(1 is low and 6 is high)

| | | | | | |
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| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|

Comments:

(d) Additional comments

Please provide any further observations, comments or requests about the training module.

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MODULE

AIDS and Agriculture: Conceptual Overview



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3. AIDS and natural resources
4. The role of the agriculture sector in responding to the epidemic
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5. Agriculture and health sector approaches: divergences and convergences

Summary remarks

Acronyms and abbreviations

References and further reading

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Module 1: AIDS and Agriculture – Conceptual Overview

AIMS

The aims of this module are the following:

1. To gain a general understanding of the interrelations between AIDS and agriculture.
2. To understand the agriculture and health sector approaches to the AIDS epidemic.

OBJECTIVES

Upon completing the module, the learner should:

1. Have a general understanding of how HIV and AIDS impact the agriculture sector.
2. Be able to identify possible areas in which the agriculture sector can prevent vulnerability and mitigate the impacts of HIV and AIDS.
3. Be able to describe the different levels of vulnerability to HIV that people face.

QUESTIONS FOR REFLECTION

- What are some of the linkages between HIV and the agriculture sector?
- How can the agriculture sector play a role in reducing vulnerability to HIV?
- How can the agriculture sector play a role in moderating the impacts of the epidemic?
- How is the agriculture sector in your country responding to the AIDS epidemic?
- How can the health sector and agriculture sector work together to respond to AIDS?
- In the country where you work, is there collaboration between the agriculture and health sectors?

INTRODUCTORY REMARKS

This first module presents the learner with an overview of the inter-relations between AIDS and Agriculture. This general overview provides a conceptual framework through which one can view the linkages between AIDS and agriculture. It highlights how HIV and AIDS impact the agriculture sector, as well as the role of the sector in responding to the epidemic. It also addresses the approaches of the both the agriculture and health sectors in response to AIDS and how these approaches diverge or complement one another. The references listed provide additional information about the conceptual linkages between AIDS and agriculture.

READINGS: AN OVERVIEW OF THE CONCEPTUAL LINKAGES BETWEEN AIDS AND AGRICULTURE

1. Linking AIDS and Agriculture

“AIDS and Agriculture” refers to the *inter-relations* between HIV infection and AIDS on one hand and the agriculture sector on the other. The agriculture sector is defined broadly as including small-holder farmers, commercial farming, fisheries, forestry, livestock, etc. The agriculture plays an instrumental role in many low and middle income countries at both micro and macro levels. Subsistence activities, such as crop production and livestock raising, are activities of prime importance in supporting the largely rural livelihoods in these countries, while the agricultural sector further contributes significantly to national GDPs, feeds the majority of the population and tends to be the greatest source of employment.

AIDS and agriculture are interdependent and interact on various levels. Agriculture is highly dependent on human labour and thus HIV and AIDS can pose challenges to agricultural production. On the other hand, agriculture plays an important role in human health as a source of food, nutrition and income. Agricultural systems, however, can also create an environment conducive to ill-health and can create vulnerability to HIV. The links between agriculture and HIV are bi-directional, and thus a high disease burden and negative agricultural production perpetuate a negative reinforcing cycle.

The agriculture sector has an important role to play in response to the epidemic, both in terms of reducing vulnerabilities to HIV and in mitigating impacts of HIV and AIDS. An agricultural response generally refers to a response that builds on the comparative advantages of the agriculture sector (e.g. crop and livestock production, forestry, fisheries, etc.) and is delivered through those who derive their living from agriculture, namely farmers and food processors, agriculture extension workers, Ministry of Agriculture staff at various levels of administration, etc.

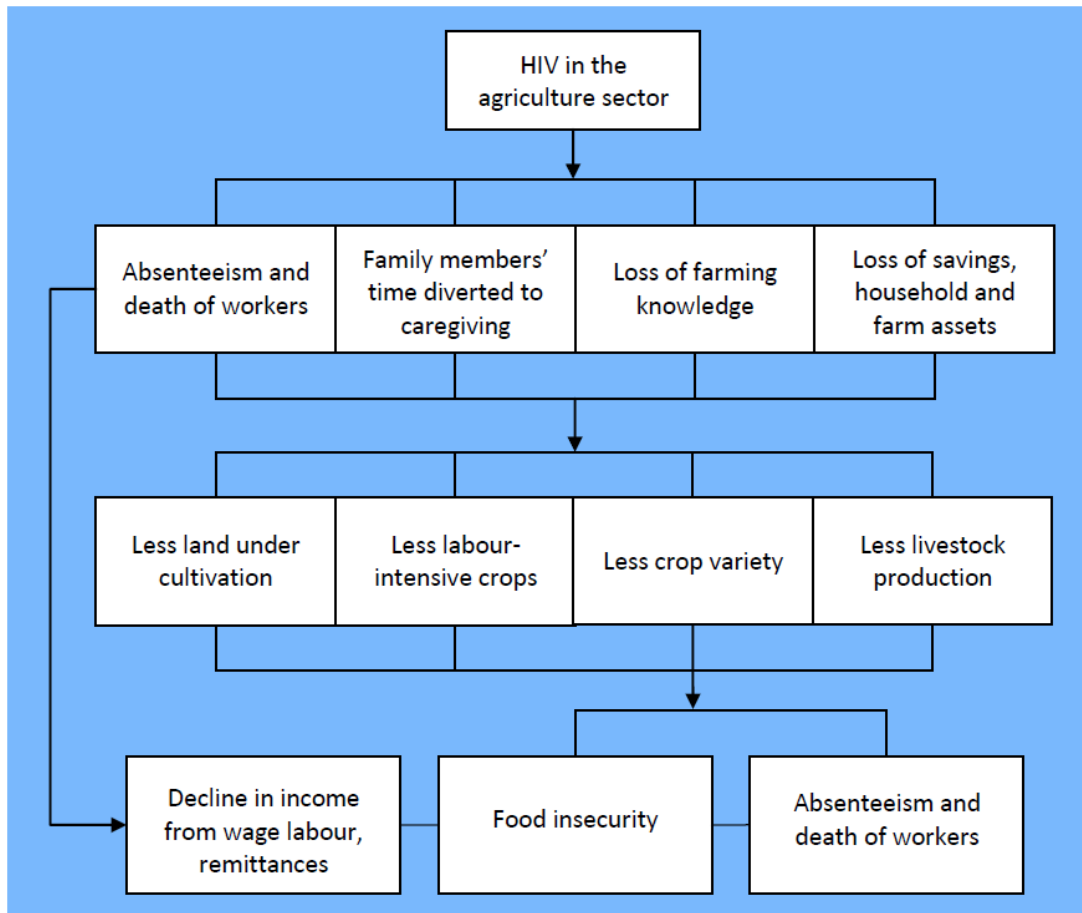
2. How do HIV and AIDS impact the agriculture sector?

Understood in a broad sense, the impacts of HIV and AIDS on the agriculture sector involves: (a) impacts on agricultural production (e.g. reduction in yields); (b) impacts on food security (e.g. malnutrition, reduced availability or access to food); and (c) impacts on rural livelihoods (e.g. reduced income from sale of assets, loss of household human capital).

Naturally, HIV and AIDS do not impact directly on the agriculture sector, they affect it through the humans who work, live and depend on the sector. When people have HIV and fall sick or die due to AIDS-related illnesses, the agriculture sector can be affected in multiple ways. Some impacts may include cash crops being abandoned, livestock being sold and thus jeopardizing herds and livelihoods of owners, among others.

The diagram in figure 1 presents a conceptual framework showing how HIV and AIDS impact the agriculture sector. The diagram illustrates inter-relations and knock-on-effects of a set of impacts on agriculture and rural livelihoods.

Figure 1. Conceptual framework of impacts of HIV and AIDS on agriculture



HIV and AIDS related illness and death of a household member can disrupt production and reproduction processes, which can negatively affect the household economy and sustainability. In turn, this has knock-on-effects on the rest of the household through, for example, children being pulled out of school because the household cannot meet such expenses and/or because agricultural production might need the additional labour¹; a reduction in the quantity and quality of food for household consumption due to decreased availability and variety and lack of fuel, coupled with increased nutritional needs of the sick. The aggregate impacts on households can then affect the community through redistribution of assets (e.g. HIV affected households selling assets to non-HIV affected households) and reduction in yields due, for example, to the spread of plant pests from neglected fields of households affected by HIV.

Understanding the impacts of HIV and AIDS on agriculture is complex as it requires an understanding of the general context and the roles of the people infected and affected. Rural populations live in a variety of socio-cultural and economic settings and may work in different farming systems according to gender and age distributions of roles and labour (e.g. the gender division of agriculture labour tends to see men responsible for cash crops and women for home gardens, cooking, etc). Therefore, depending on who and how many people in the household, community, Ministry of agriculture or rural institutions fall sick and/or die

¹ FAO promotes an approach to safeguarding these children centred on livelihoods-based social protection., which focuses on the provision, protection and promotion of livelihoods (FAO, 2009)

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due to HIV-related illnesses, will affect the importance of the epidemic and the type of impacts it has on agriculture sector.

From this perspective, agriculture is not just a technical issue focusing on crop production or market prices, but requires a focus on the people behind all the steps of production and the sector as a whole. When something happens to these actors, the area they are involved in is affected. It is therefore necessary to identify the paths through which HIV and AIDS impact on agriculture in order to take appropriate measures to respond effectively to the challenges in each situation. This means that in different countries and contexts, the agriculture sector may have to develop different responses tailored to the specific situation. For example, the impacts of the epidemic on the fisheries sub-sector differ from those on commercial farming and thus responses have to be adapted accordingly.

3. HIV and AIDS and natural resources

Natural resources are crucial to rural livelihoods both in terms of productivity and as direct sources of food and income. If farm-households are clearly related to natural resources through linkages between farming systems and agro-ecological zones, households engaged in agriculture sub-sectors– such as fishery, forestry and livestock– are even more closely linked to natural resources and heavily reliant on their use to support their livelihoods.

As illustrated in the Conceptual framework in Figure 1 in Section 2, HIV often results in changes in household economics, human behaviour and households strategies to cope with the challenges of the epidemic. These changes are also reflected in the use and management of natural resources.

The linkages between HIV morbidity and mortality and natural resources have received little attention, but they are of utter importance for rural households because their exploitation undermines the very basis of their livelihoods. While natural resources may become scarce due to a number of factors, the role of HIV in this regard is significant. The main impacts can be identified in increased demand for natural resources, overexploitation and reduced efficiency in their use, diminished labour supply and loss of traditional knowledge and skills. This consequently leads to increased risks of unsustainable practices, livelihood disruptions and food insecurity. The channels through which HIV can influence natural resource use and management– and as a consequence rural livelihoods– are numerous and interrelated.

To illustrate the possible impacts of HIV and AIDS on natural resource management, Hunter and Twine² identified four categories of strategies adopted by households to cope with crisis: (1) selection, (2) use, (3) collection and (4) level of consumption:

1. **Selection strategies**: refer to changes in the household decision on what natural resources to use for a specific purpose. For instance, following a death, rural households can replace deliverable products (e.g. purchased items) with those most readily available (e.g. resorting to using bamboo rather than preferred fuel wood).

² Hunter, L.M. and Twine, W. 2006. *HIV/AIDS mortality and household use of natural resources: critical linkages and remaining questions*. Panel Contribution to the Population Environment Research Network's Cyber seminar on Household Micro-Demographics, Livelihoods and the Environment. (http://www.populationenvironmentresearch.org/papers/Hunter-Twine_statement.pdf)

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2. Use strategies: concern households' decisions as to the purposes of natural resources (e.g. the household may decide to sell some natural resources to generate income).
3. Collection strategies: include changes as regards where resources are collected and who collects them (e.g. children can be involved in the collection process, with higher opportunity costs for education).
4. Consumption strategies: the reduction of quantity of natural resources consumed, directly affect household food security and nutrition outcomes, which in turn are key in contributing towards preventing HIV infection and delaying its progress.

According to Ternström³, HIV can also affect governance of local natural resources through the disruption of institutions (not just organizations, but also customs, etc.), which are necessary to ensure their efficient use.

It is clear that HIV and AIDS can have both direct and indirect impacts on natural resource management, use and governance and that these vary according to different context and sub-sectors. On the other hand, however, the agriculture sector and sub-sectors can indeed contribute to addressing HIV and AIDS, through reducing vulnerability to infection and moderating impacts, as will be discussed in greater detail in the following modules.

4. The role of the agriculture sector in responding to the epidemic?

Throughout history and across continents, cultures, societies, communities and households affected by a disaster, a natural reaction is to develop responses to reduce impact. Responses have always existed in order to ensure the survival of the society, tribe, clan or family. The AIDS epidemic is no exception. One of the real progresses of modern societies is the possibility to increasingly mitigate the impacts of disasters through organized responses. Here, one is interested in the organized responses by the agriculture sector. The emphasis is on the word 'organized' because the agriculture sector has considerable potential⁴ to develop and implement policies and activities that would result in *mitigating* the impacts of HIV and AIDS on production, food security and rural livelihoods, as well as (though generally less well perceived and understood) in *preventing* HIV. In fact, in view of the numerical importance of rural populations, close rural-urban linkages, and the importance of the agriculture sector for the lives of millions, committed and effective responses from the agriculture sector are essential in the response to the AIDS.

4.1 Mitigation

Mitigation corresponds to meeting an immediate challenge created by the impacts of HIV and AIDS. In this regard, efforts of the agriculture sector should aim to decrease intensity and reduce impacts of the epidemic. General areas of focus for the agriculture sector's response, and possible entry points, include:

³ Ternström, I. 2005. HIV/AIDS – *the true tragedy of the commons? Exploring the effects of HIV/AIDS on management and use of local natural resources*. Beijer Discussion Paper No 200. (http://www.beijer.kva.se/PDF/95770268_Disc200.pdf)

⁴ The word 'potential' is used because this area has been neglected and still remains largely under-developed and needs considerable research, experimentation, evaluation, etc.

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- Agricultural production: for example, strengthening the farming system through the replacement of labour intensive crops by crops requiring less labour or less inputs; improving access to fuel and water which divert considerable time and energy from production and care; identification and promotion of labour saving technologies and practices that ease labour requirements.
- Food security: for example, improving access to and availability of nutritious food⁵ through the promotion of home gardens; fuel saving methods of cooking; promotion of poultry.
- Rural livelihoods: for example, introducing income generating activities; facilitating access to micro-credit and to markets; introducing processing activities to add value to crops being sold by farmers; promoting farmer associations to better negotiate sale prices.
- Rural institutions: for example, ensuring access to antiretroviral treatments (ARTs) and health services for staff of institutions in order to maximize capacity and availability of services to farmers.

4.2 Prevention

Prevention efforts on the other hand focus on averting the further spread of HIV. At first sight, the role of agriculture in preventing the spread of HIV might seem far fetched – after all it is a virus infecting humans. The agriculture sector though has a great role to play in this regard and long-term and probably essential contributions can be developed.

Basic concepts:

To understand the role of agriculture in the *prevention of HIV infection* one needs to introduce several concepts: *vulnerability, resilience and capacity*. ‘Vulnerability’ can be defined as ‘capable of being physically wounded; open to attack or damage’⁶. This means that a person can find him or herself in a situation where they are not able to avoid HIV infection because they do not have enough control over their body. The health sector tries to increase this control through information, education and communication (IEC) or behaviour change communication (BCC) – for example by reducing the number of partners or by making condoms available. In the case of agriculture, this means taking generic measures such as ensuring that farming systems are less vulnerable to drought or price fluctuations; that women and widows can own land and do not find themselves in a situation in which they have to become sex workers or get involved in transaction sex to feed their families; that men can earn enough income from their crops so that they do not have to search for further income in cities; that orphans learn agricultural skills to enable them to survive without being vulnerable to exploitation.

In order to reduce the vulnerability of rural people to exposure to HIV infection, the agriculture sector can intervene to boost the *resilience* of farming systems, rural institutions,

⁵ The Health sector is also concerned with nutrition: its role is to inform the need for extra calories and the types and quantities of various nutrients for people living with HIV and for those under ARTs. The role of the agriculture sector is to support communities and households grow and access these foods. The complementarities and need for partnership between the two sectors is clear.

⁶ Merriam-Webster online dictionary.

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communities and households. Resilience is the opposite of vulnerability and therefore agricultural measures can aim at reducing vulnerability or at increasing resilience. Furthermore, the AIDS epidemic is a long-term issue – even if a vaccine were available today, the effects of the epidemics will be felt for decades. This means that the agriculture sector needs to also explore how long-term phenomena such as climate change increases agricultural and rural vulnerabilities which could lead to new infections. The search for agricultural policies and programmes which also focus on *capacity* for responding to future, as well as present, vulnerabilities is needed. Capacity is more than the knowledge of what needs to be done, it also requires the means to do so. Agriculture interventions should not focus just on reducing vulnerability or boosting resilience because once such interventions stop households and communities might fall back into their previous vulnerable situation. To have a lasting effect, the capacity of households and communities to face the causes of vulnerability to HIV and to reduce vulnerabilities is necessary.

Three levels of prevention by the agriculture sector:

In public health one talks about primary and secondary prevention. This is not directly applicable in the case of agriculture where prevention interventions can focus on direct causes of vulnerability, indirect causes and underlying causes of vulnerability. The vocabulary adopted by work on disaster prevention is adopted here based on the 'pressure and release model'⁷, also referred to as the 'crunch model'. Three levels of vulnerability are identified starting with 'Root causes', progressing through 'Dynamic pressures' and resulting in 'Unsafe conditions' which, in the case of HIV, refers to the 'immediate causes'. The resulting vulnerability of people through this progression creates the conditions for their possible HIV infection if the virus is encountered, generally through sex.

- *Level 1: Root causes*

Root causes correspond to background factors which are not directly linked to vulnerability, but which create the conditions under which people may find themselves vulnerable. Such root causes can be physical – for example climate change can increase droughts and if pastoralists or farmers cannot adjust to these conditions, they may try to cope by selling assets, migrating, reducing inputs, etc., which can increase their vulnerability.

Root causes can also be found in culture and institutions. For example, land tenure or water rights which exclude women represent forms of gender discrimination. This could lead to women engaging in transaction or commercial sex in order to support their livelihoods. Gender discrimination, as a root cause of vulnerability, cuts across a range of issues and therefore addressing gender issues is an important preventive action that the agriculture sector should undertake. It should be noted that such actions are important, not only based on HIV considerations but also based on human rights and production considerations.

Root causes can also be found in socio-economic issues such as poverty. Many studies have attempted to demonstrate direct links between poverty and AIDS. Although it is difficult to show direct links, they reveal that poverty does play a role and that populations living in poverty tend to have higher HIV prevalence.

⁷ Davis, I. 2004. Progress in analysis of social vulnerability and capacity. In G. Bankoff, G. Frerks & D. Hilhorst. *Mapping vulnerability – disasters, development and people*, p. 134. London, Earthscan. 236pp.

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- *Level 2: Dynamic pressures*

Two types of dynamic pressures interact with the root causes to increase vulnerabilities: Insufficient capital and macro forces.

Insufficient capital refers to rural populations with a lack of appropriate skills in agriculture, processing of products and their marketing. It should be clear that such populations have skills and these have been appropriate, but in a rapidly changing world they may no longer be adapted to the present situation. This is why one key preventive role of agriculture is to build the capacity to adapt. Measures to improve markets which often favour buyers rather than producers are also important in order to escape poverty. In relation to this, rural institutions can play a determining role.

Macro-forces includes changes such as deforestation, over-fishing and soil degradation. For example, with over-fishing the division of labour in which men fish and women buy the fish from the men to process and market it leads to competition between women to access the limited availability of fish. If the women cannot offer higher prices, they might have to make up the difference through transaction sex.

- *Level 3: Immediate causes*

The previously described root causes, interacting with the dynamic pressures, lead to immediate causes of vulnerability to HIV infection. Especially relevant as immediate causes are a fragile local economy, a vulnerable society and a lack of infrastructure and outreach of services.

In relation to a fragile local economy one can highlight the roles of food insecurity and subsistence farming, as well as vulnerability to price fluctuations. Food insecurity can lead to divestment of assets, migration, commercial and transaction sex. Subsistence farming implies very little margin of security and if the farming system can weather a drought, it can generally do so only up to a certain point, after which coping strategies of households and communities are triggered into action. Price fluctuations are also important since cash crops require inputs such as fertilizers and prices can increase unexpectedly for the farmer, due to for example increases in oil prices. Also, policies can promote over-reliance on a cash crop such as coffee, which, however, is vulnerable to over-production and to plant diseases.

With regard to a vulnerable society, one can highlight the role of increasing inequalities. These inequalities can be driven by the AIDS epidemic itself, which has a compounding effect on the other causes. One has to consider inequalities within and between communities, as well as between rural areas and towns. Rural areas also contain groups that may suffer from stigma and discrimination, such as widows and orphans.

Lack of infrastructure and outreach of services refers to issues ranging from lack of roads and transport to insufficient coverage from extension workers, or their lack of training to help farmers adapt the farming system to make them less vulnerable. Of course, it is not the role of the agriculture sector to build roads, but it can advocate the need for better transport and access to towns and markets with the transport sector. Roads are an interesting illustration of the needs for partnerships because roads and road construction have been found to facilitate the spread of HIV (e.g. truck drivers). Therefore if roads and markets are necessary for improving farmers incomes, which requires working with the transport and trade ministries,

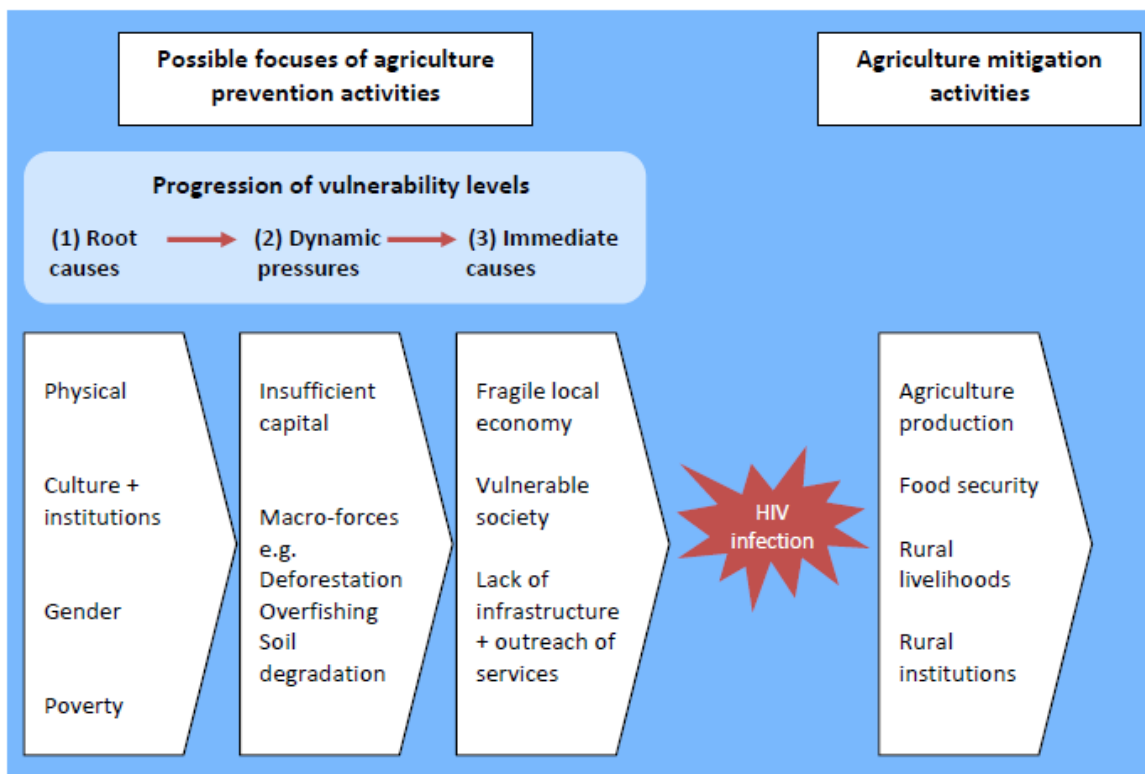
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they also need to be accompanied by programmes to reduce vulnerability of communities involved to HIV risks. Similarly, the insufficient outreach of health services in rural areas often makes it difficult for rural populations to access information on HIV. Again, it does not mean that extension workers should take on the role of health workers and distribute condoms, but they need to put pressure on the health sector to find solutions to their outreach problems. One can also highlight weaker education provision in rural areas and the role this plays in increasing vulnerabilities. Generally, the lack of public services compound existing agricultural vulnerabilities and therefore requires responses through partnerships of different sectors in order to build capacity and resilience.

There is a need for agricultural interventions to address the three levels in the progression of vulnerability, in order to achieve effective prevention. As well stated by the author of the ‘pressure and release’ (‘crunch’) model: “The premise of this (model) is that if actions are confined to addressing cosmetics of unsafe conditions, without tackling fundamental pressures or addressing the root causes that generate patterns of vulnerability, then patterns of vulnerability will keep returning”.

In summary, the scope and content of vulnerabilities to HIV, as well as impacts of AIDS, within the agriculture sector is represented in Figure 2 (inspired by the ‘pressure and release’ model).

Figure 2. HIV vulnerabilities and impacts in agriculture



NB. The contents are given as examples and need to be adapted to each situation.

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5. Agriculture and health sector approaches: divergences and convergences

The health sector has taken global leadership in developing responses to the AIDS epidemic. Phrased in simple terms, the health sector has a two-pronged approach, focusing on:

1. Preventing infection through information, communication and education for behaviour change, targeting specific groups as well as the general population. Voluntary testing and counselling are part of prevention work and are also linked, *inter alia*, to the prevention of HIV transmission from pregnant women to their infants.
2. Mitigating the impact of the virus on people living with HIV through ART and measures to control secondary infections and improve nutritional status.

Table 1 highlights the different perspectives and roles of the health and agriculture sectors in HIV prevention, care and impact mitigation. For a long time the health sector held a view that the agriculture sector had no (or only a very marginal) role in prevention and mitigation of HIV. It is only recently that in some countries the Ministry of Agriculture is represented on the National AIDS Commission. It is there important for the agriculture sector to sensitize and educate the health sector, as well as other development sectors such as education, transport or mining, on the role of the agriculture sector in responding to AIDS – largely through efforts focused on improving nutrition and ensuring household food and livelihood security. This task is all the more important because the agriculture sector needs to, in many cases, work in partnership with the health and other sectors in order to achieve the best results and thus the efforts of the sectors should be mutually reinforcing.

Table 1. Health and agriculture perspectives of HIV prevention, care and impact mitigation

| | Agriculture perspective | Health perspective |
|--------------------------|--|---|
| Prevention | <ul style="list-style-type: none"> • Reducing vulnerability – ensuring livelihood security and food security • Information and education | <ul style="list-style-type: none"> • Prevention of mother-to-child transmission (PMTCT) • Behaviour change communication (BCC), information and education |
| Care/treatment | <ul style="list-style-type: none"> • Nutrition • Food security (quantity and quality) | <ul style="list-style-type: none"> • Medical care and treatment (e.g. ARV, treatment of HIV-related illnesses, etc.) • Psycho-social care |
| Impact mitigation | <ul style="list-style-type: none"> • Strengthening livelihood and income sources • Enhancing skills and capacity | <ul style="list-style-type: none"> • Rehabilitation |

SUMMARY REMARKS

The module showed that HIV and AIDS and agriculture are inter-related and interact on various levels:

- HIV and AIDS affect the agriculture sector through impacts on agricultural production, food security and rural livelihoods. Understanding these impacts requires understanding the general context and the roles of people infected and affected. From this perspective, agriculture is not just a technical issue focusing on crop production or market prices, but requires a focus on the people behind all the steps of production and the sector as a whole.
- On the other hand, the agriculture sector has potential to develop and implement policies and activities that would result in reducing vulnerability and mitigating the impacts of HIV and AIDS on production, food security and rural livelihoods as well as in preventing HIV.
- Agriculture sector efforts in *mitigation* should aim to decrease intensity and reduce impacts of the epidemic. General areas of focus and possible entry points include:
 - agricultural production
 - food security
 - rural livelihoods
 - rural institutions
- As regards *prevention*, the agriculture sector can focus on direct causes of vulnerabilities, indirect causes and underlying causes.
- The agriculture sector needs to work in partnership with other sectors, such as the health sector. For a long time the health sector held a view that the agriculture sector had a very marginal role in preventing and mitigating HIV. One of the first tasks of the agriculture sector is therefore to sensitize and educate the health sector, as well as other development sectors, to work in partnership.

ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral treatment |
| ARV | Antiretroviral (drugs) |
| BCC | Behaviour change communication |
| FAO | Food and Agriculture Organization of the United Nations |
| HIV | Human immunodeficiency virus |
| IEC | Information, education and communication |
| MoA | Ministry of Agriculture |
| NGO | Non-governmental organization |
| PLHIV | People living with HIV |
| PMTCT | Prevention of mother-to-child transmission |
| VCT | Voluntary counseling and testing |

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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.

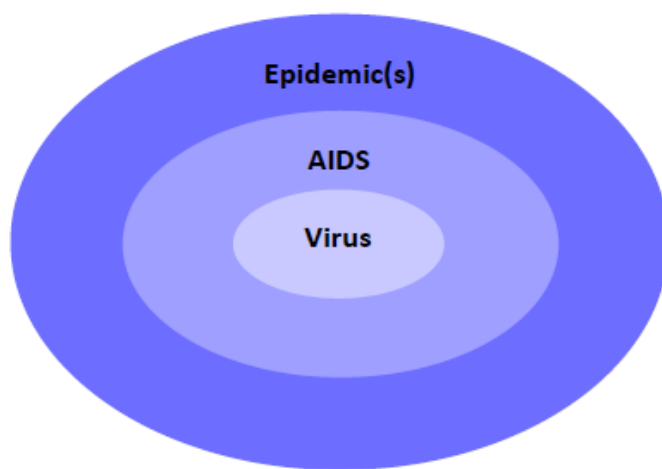
READINGS: AN OVERVIEW OF THE AIDS EPIDEMIC

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 AIDS¹

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)² 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

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

² 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 shorter³. 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.⁴ 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 strategies⁵ 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.⁶ 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.”⁷

Among these, the most common and most serious opportunistic infection is tuberculosis⁸. “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.”⁹ In effect, people die of a variety of illnesses because AIDS has destroyed their immune systems.

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

⁴ 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.

⁵ 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.)

⁶ UNAIDS. 2008. UNAIDS' Terminology Guidelines. Geneva via the internet (http://data.unaids.org/pub/Manual/2008/jc1336_unaids_terminology_guide_en.pdf).

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

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

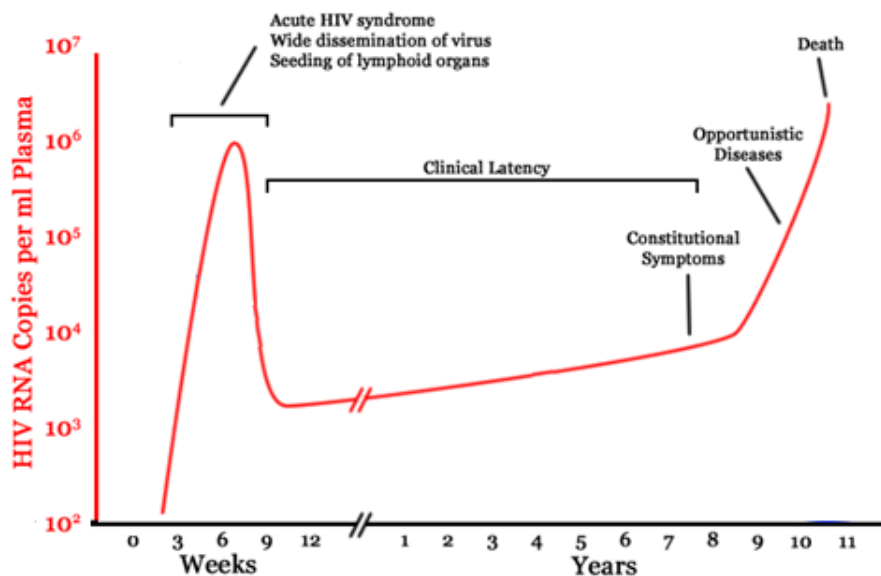
⁹ WHO, 2009.

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”¹⁰. 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

¹⁰ 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 represented¹¹.

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

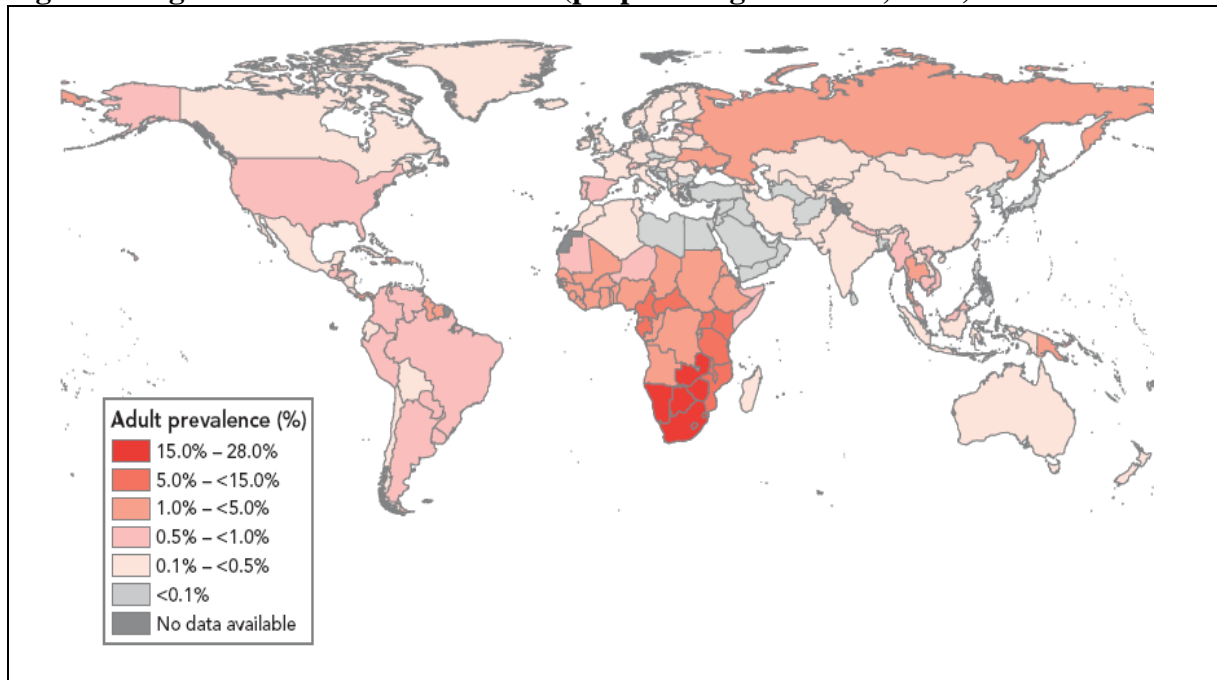
¹¹ Of course sex workers can play a role, particularly for rural-urban migrants. One can also expect that IDUs in Africa could play an increasing role in HIV infection depending on the changing drug trafficking routes.

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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)

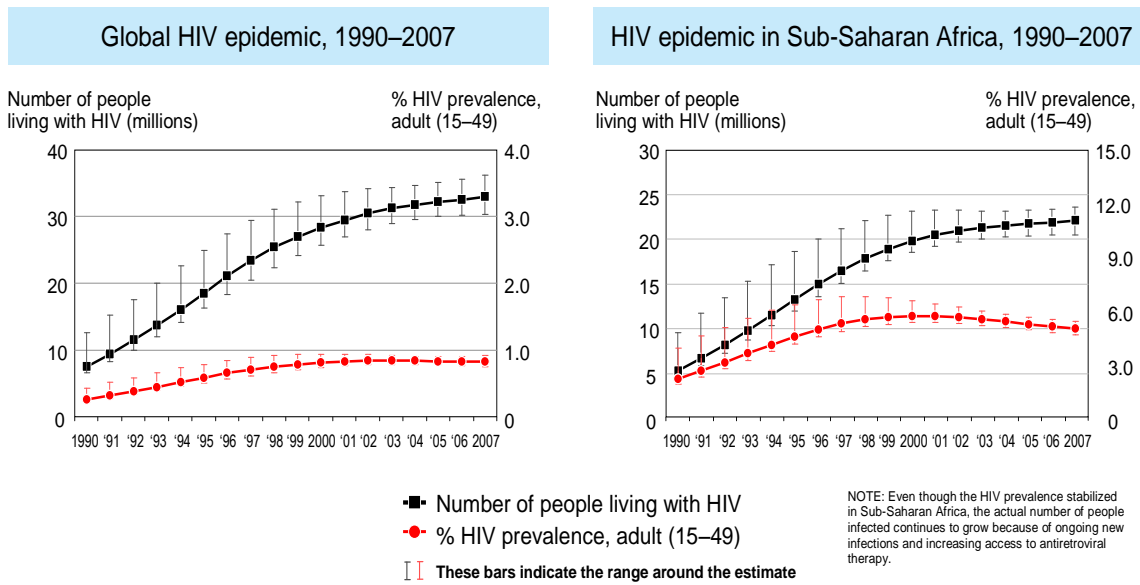
This map shows that the highest prevalence tends to be in sub-Saharan Africa, especially in Southern, Eastern and a few countries in Central Africa. This is also the region where the impacts on food security are the most important and this explains why the present series of Modules focus on these sub-regions.

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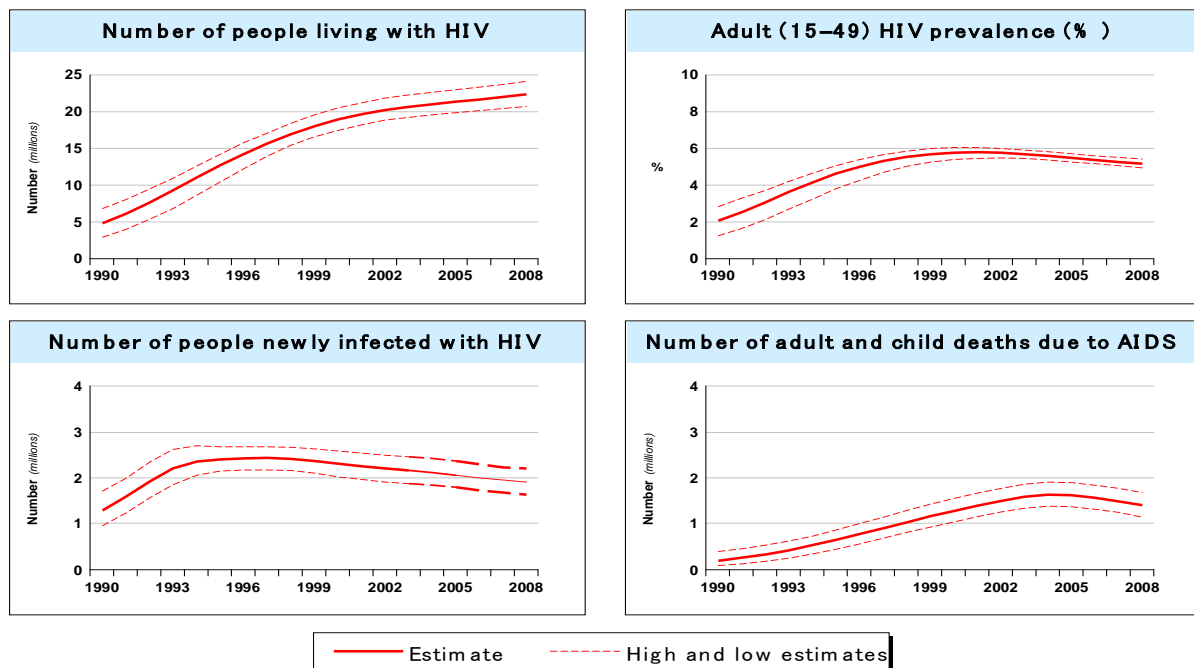
Figure 4. Global trends in HIV infection and prevalence, 1990 – 2007



(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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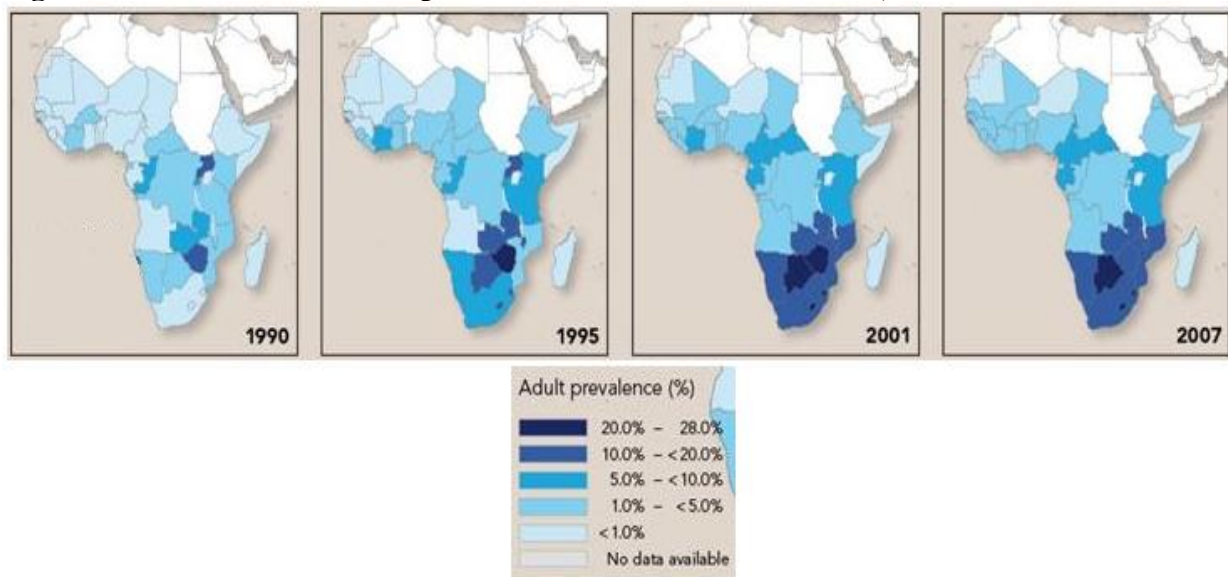
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It should be noted that the definition of “adult” as people aged between 15 and 49 years (that means up to their 50th birthday) is becoming less relevant with old and mature epidemics. People can be infected before age 15 and with ARVs there are an 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.

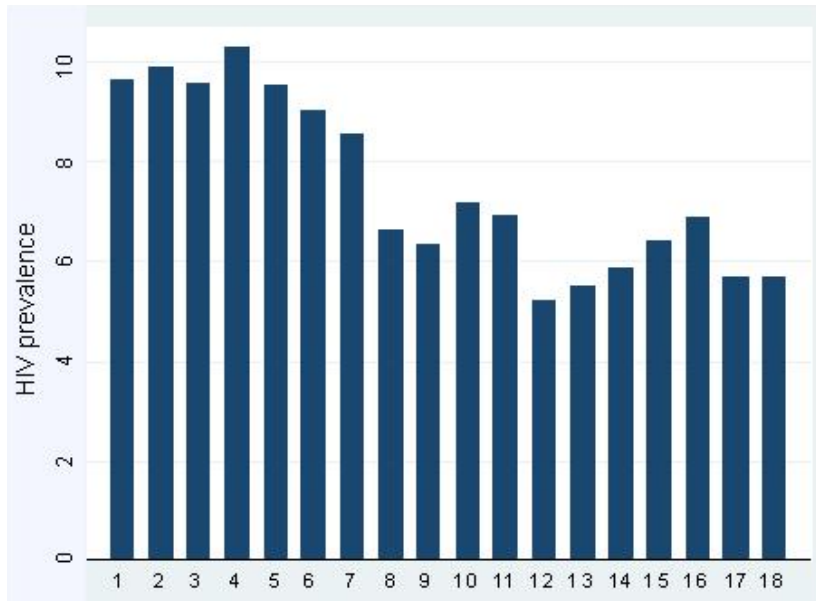
Figure 6. Trends in adult HIV prevalence in sub-Saharan Africa, 1990 – 2007



(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.¹² 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 areas¹³. Thus, a low prevalence country, based on its national average, can have “hot spots” where prevalence is much higher than the national average.¹⁴ The network formed by hotspots

¹² The important implications of ARVs for rural populations will be discussed later.

¹³ 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)

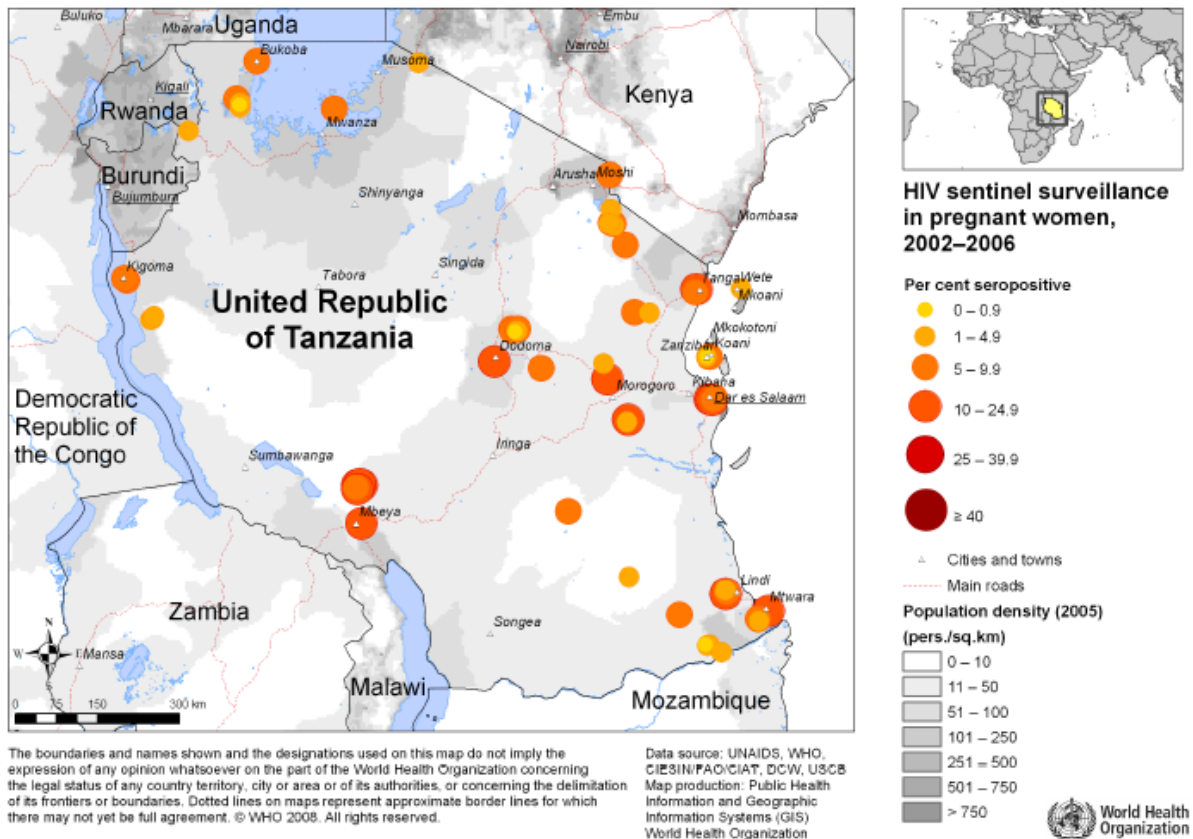
¹⁴ The expression “leopard skin” has been used as a metaphor for this phenomenon.

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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 prevalence¹⁵), 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 samples¹⁶. 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.¹⁷ More information on this issue can be found in Annex 5.

¹⁵ 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.

¹⁶ Using blood samples requires special storage facilities and laboratory analysis.

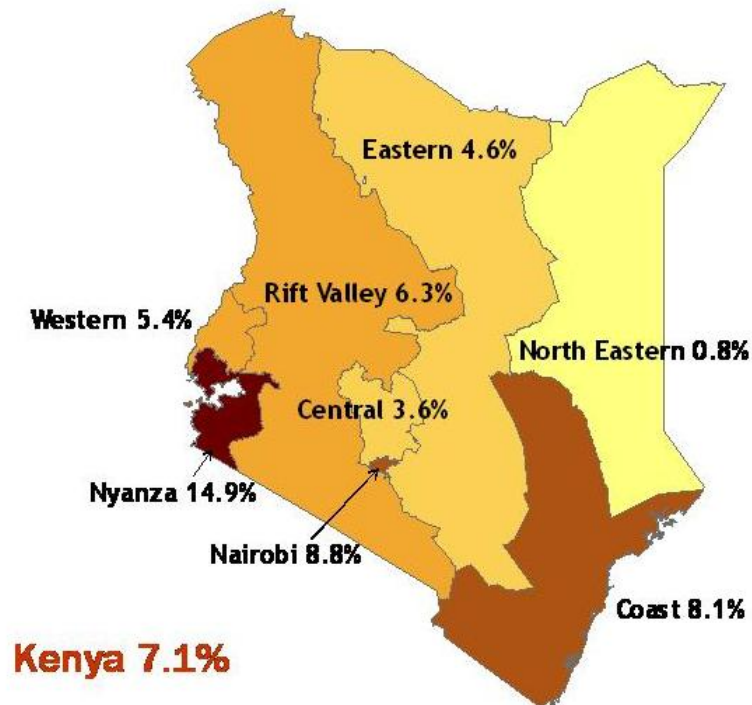
¹⁷ Demographic and Health Surveys have data on population, health, HIV and nutrition for over 75 countries (<http://www.measuredhs.com/start.cfm>). For an example from Zambia, visit: <http://www.scribd.com/doc/13992303/Zambia-Demographic-and-Health-Survey-2006-2007>.

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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

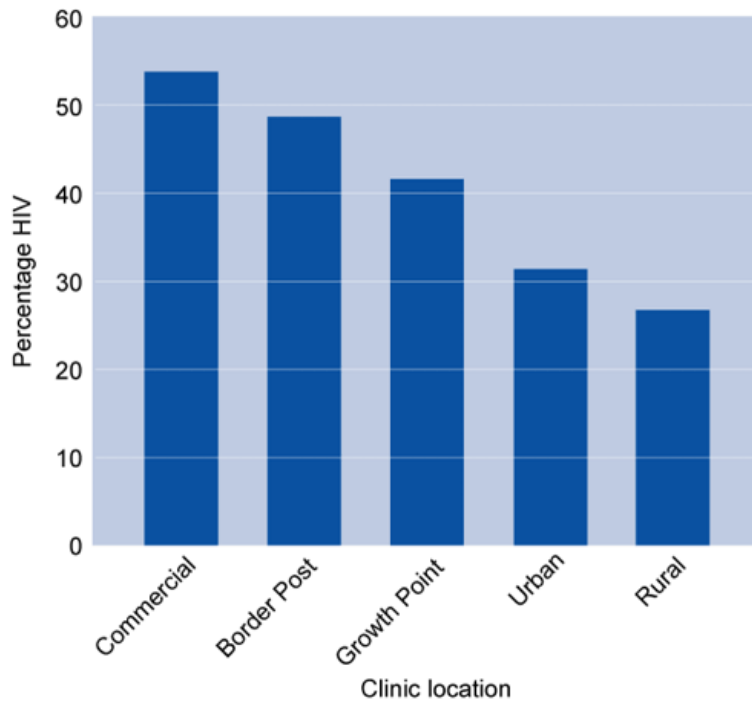


(Source: Muraguri, 2009)

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 Asia¹⁸.

¹⁸ See: UNDP South East Asia HIV and Development Programme (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 levels¹⁹. 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

¹⁹ 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 patterns²⁰, 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).

²⁰ 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 disease²¹ 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.

²¹ 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"*²²

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.²³ 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)²⁴

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)²⁵

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 HIV²⁶.

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

²³ UNAIDS. 2008. 2008 Report on the global AIDS epidemic. Geneva.

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

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

²⁶ Blumenthal. 2008. Cited in UNAIDS, 2008.

5.2 Types of HIV-related stigma and discrimination²⁷

- **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.²⁸ 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*²⁹

“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*³⁰

- **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.³¹

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

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

²⁸ 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)

²⁹ 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>)

³⁰ 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)

³¹ 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 affects 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”³² 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”³³ 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.

³² “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>)

³³ 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 |

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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 AIDS³⁴

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 20th century certainly created the necessary conditions for – there are far more urgent concerns to

³⁴ 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)

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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.”³⁵

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

³⁵ 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"³⁶.

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"³⁷. 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

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

³⁷ 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 medicines³⁸ are nonetheless administered during pregnancy and delivery to prevent transmission to the baby. In order to prevent transmission during breastfeeding, replacement feeding³⁹ 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.

³⁸ ARV medicines to prevent transmission typically contain nevirapine or zidovudine (AZT).

³⁹ 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”⁴⁰. 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>Isolation</p> <ul style="list-style-type: none"> ▶ Separating sleeping quarters ▶ Marking and separating eating utensils ▶ Separating clothing and bed linens ▶ No longer allowing person to eat meals with family ▶ Confinement to certain rooms of house ▶ No longer allowing person to participate in housework (e.g. cooking food) ▶ Public rejection (refuse to sit next to person on bus, bench, at church, tea shops or in bars) ▶ Separation from children ▶ Abandonment by family <p>Violence</p> <ul style="list-style-type: none"> ▶ Beatings ▶ Being kicked ▶ Throwing stones ▶ Arrests | <p>Isolation</p> <ul style="list-style-type: none"> ▶ Reduction of daily interactions with family and community ▶ Exclusion from and shunning at family and community events ▶ Loss of social networks ▶ Decreased visits from neighbors <p>Voyeurism</p> <ul style="list-style-type: none"> ▶ Increased visits from neighbors, not out of concern but to mock individual or report back to community <p>Loss of identity/role</p> <ul style="list-style-type: none"> ▶ Viewed and treated by community as having no future ▶ No longer considered productive member of society ▶ Automatically associated with “social evils” (e.g., drug use, sex work) ▶ Expected to adopt new role of teaching others about HIV and disclosing status ▶ Loss of power, respect, and standing in community ▶ Loss of right to make decisions about own life ▶ Loss of marriage and childbearing opportunities | <p>Gossip</p> <ul style="list-style-type: none"> ▶ Speculation on how person acquired virus ▶ Spreading rumors ▶ Whispering behind back <p>Taunting</p> <ul style="list-style-type: none"> ▶ Insults ▶ Mocking ▶ Finger-pointing ▶ Threats <p>Expressions of blame and shame</p> <ul style="list-style-type: none"> ▶ Scolding (e.g., blamed for not listening to elders) ▶ Blamed for bringing “bad luck” to whole family <p>Labeling and use of derogatory words to describe people living with HIV or AIDS</p> <ul style="list-style-type: none"> ▶ In Africa: “moving skeleton,” “walking corpse,” “keys to the mortuary” ▶ In Vietnam: “they are social evils,” “scum of society,” “deserves to die” | <p>Loss of livelihood/future</p> <ul style="list-style-type: none"> ▶ Loss of employment ▶ Loss of customers/business ▶ Denial of loans, scholarships, visas <p>Loss of housing</p> <ul style="list-style-type: none"> ▶ Denied housing ▶ Eviction by landlord <p>Differential treatment in schools</p> <ul style="list-style-type: none"> ▶ Teachers supporting the idea of separating children of HIV+ people to “protect” other students <p>Differential treatment in health care settings</p> <ul style="list-style-type: none"> ▶ Excessive and unnecessary precautions by health care staff ▶ Shuffled between providers to avoid caring for HIV+ patient ▶ Denial of health services ▶ Provision of substandard treatment ▶ Use of separate medical tools for people with HIV or AIDS ▶ Place patients with HIV in separate rooms <p>Differential treatment in public spaces</p> <ul style="list-style-type: none"> ▶ Refusal of services (e.g., will not be served food by vendors, or not served in shared containers) <p>Media and public health messages and campaigns</p> <ul style="list-style-type: none"> ▶ Posters and news stories emphasizing negative images of people with HIV and AIDS and employing fear tactics to warn about HIV and AIDS ▶ Posters and news stories presenting factual information about HIV and AIDS with a moral and judgmental tone ▶ Inflammatory news stories about HIV-positive individuals purposefully infecting others |

(Source: Ogden and Nyblade, 2005)

⁴⁰ 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)

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The effects of stigma

A study commissioned by the International Centre for Research on Women⁴¹ 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.”⁴²

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 treatment⁴³.

⁴¹ 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)

⁴² Ibid..

⁴³ 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 summary⁴⁴:

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).

⁴⁴ 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)

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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

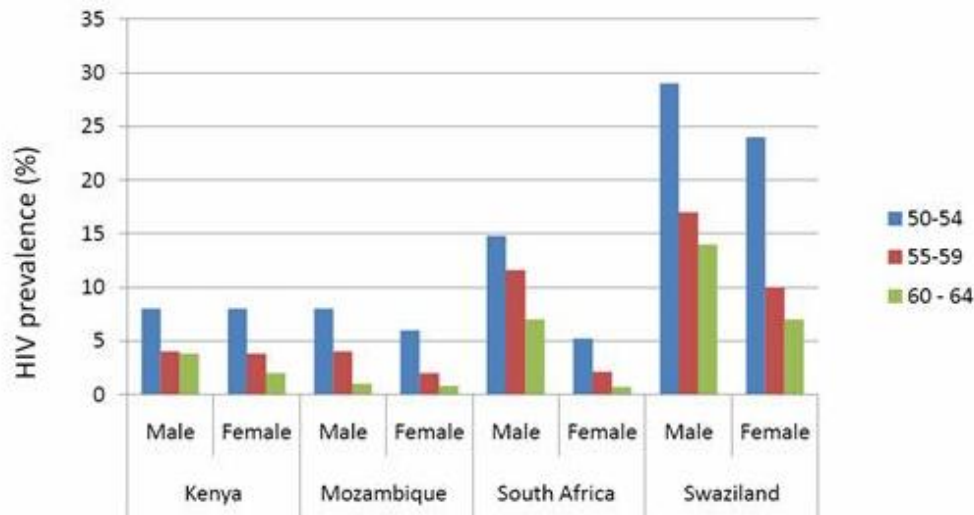
| Sub-Saharan Africa | | |
|-----------------------------------|-------------|--|
| Number of people living with HIV | <i>2008</i> | 22.4 million [20.8 million–24.1 million] |
| | <i>2001</i> | 19.7 million [18.3 million–21.2 million] |
| Number of new infections | <i>2008</i> | 1.9 million [1.6 million–2.2 million] |
| | <i>2001</i> | 2.3 million [2.0 million–2.5 million] |
| Number of children newly infected | <i>2008</i> | 390 000 [210 000–570 000] |
| | <i>2001</i> | 460 000 [260 000–640 000] |
| Number of AIDS-related deaths | <i>2008</i> | 1.4 million [1.1 million–1.7 million] |
| | <i>2001</i> | 1.4 million [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 50th 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 Africa⁴⁵.

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.

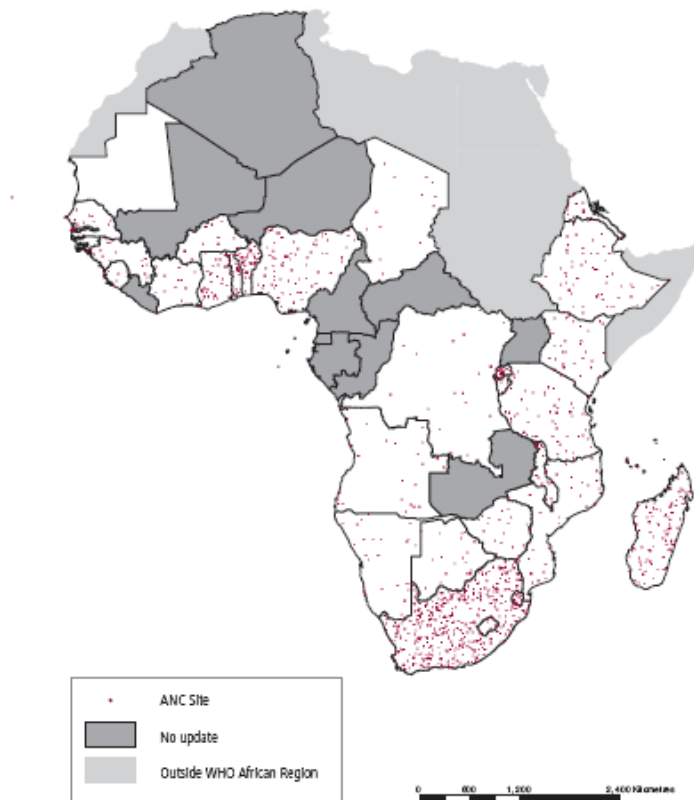
Some issues to address include: the extent to which elderly people benefit (or divert) from household resources (in particular financial resources) and time; the role of elderly people in HIV-affected households (e.g. looking after orphans, ensuring household food security); and whether they suffer particularly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

⁴⁵ 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)

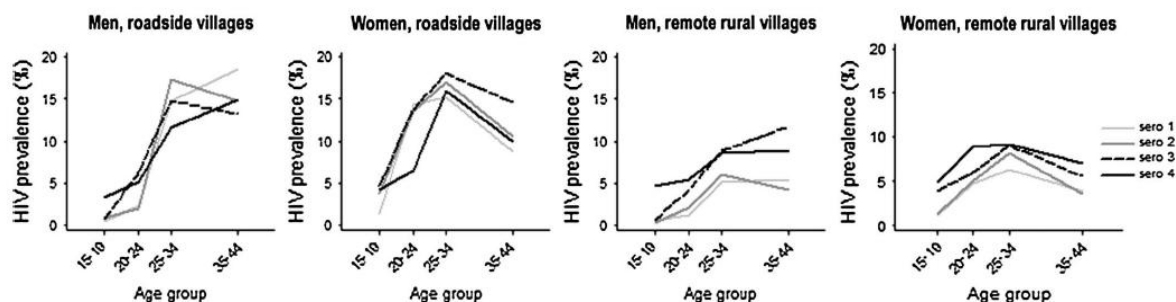
In the last few years, considerable progress has been made in collecting data to estimate prevalence levels through the Demographic and Health Surveys⁴⁶. These surveys are conducted on the basis of representative national samples and include the collection of rural HIV information. By looking also at intra-rural differences, one can make targeted agricultural interventions in high prevalence rural areas or “hotspots”.

⁴⁶ 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

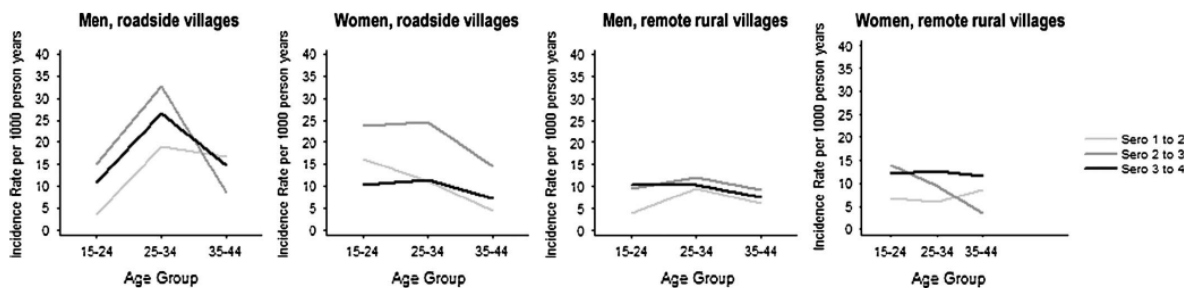
Aside from reading section 2.4 on prevalence and incidence, the reader is encouraged to browse through the technical but very informative study on the above subject carried out by Wambura et al in Northern Tanzania⁴⁷. The study provides a detailed presentation of the complexity of data collection and 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

⁴⁷ 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).

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A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

3

MODULE

**Linking HIV to Agriculture, Rural Livelihoods
and Food Security**



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AIMS

The aims of this module are the following:

1. To differentiate agricultural from health sector views of, and responses to, the epidemic while recognizing their complementarities.
2. To understand how HIV and AIDS impact agriculture, rural livelihoods and food security.

OBJECTIVES

Upon completing the module, the learner should:

1. Understand how the AIDS epidemic has affected population structure, and particularly young adults in the labour force.
2. Understand the concepts of household and community vulnerability and resilience to HIV.
3. Be able to describe the major impacts of HIV and AIDS on household and community social, financial and natural capital.
4. Understand how agriculture can strengthen food security, household and community resilience in an AIDS context.

QUESTIONS FOR REFLECTION

1. How do you think the AIDS epidemic has affected the population structure of the country where you work? How does it manifest in the agriculture sector?
2. What factors contribute to uneven distribution of the AIDS epidemic in rural areas (e.g. areas of high and areas of low HIV prevalence)?
3. Can you describe any specific interventions that have contributed to household or community resilience to HIV?
4. Working in the agriculture sector, have you ever sat in an AIDS meeting and wondered what you were doing there? Can you analyze why you had difficulties relating agriculture sector work and concerns to the topics discussed about AIDS? What would you have needed to participate effectively?
5. What do you know about AIDS and agriculture issues in the country where you work? Describe, if possible, how the FAO office, the Ministry of Agriculture, NGOs and other partners have been involved.
6. What development policies have had an unintended impact (positively or negatively) on HIV in the agriculture sector?
7. Cite any ongoing activities in the country where you work in the area of AIDS and Agriculture. How did they come about? Do you see opportunities for other activities? If so, which ones and what would be needed to make them happen? What partners could be involved?

INTRODUCTORY REMARKS

This module, on linking HIV to agriculture, rural livelihoods and food security, looks at how the epidemic affects the agriculture sector, with a specific focus on community and household level. It addresses both impacts and vulnerability to the epidemic and how this sector can contribute to national efforts in response to the epidemic. The importance of involving the agriculture sector is supported by the demographic impact of the epidemic on the age groups in the labour force and its tendency to worsen dependency ratios. The module also illustrates how household and community vulnerability and resilience to the epidemic need to be the focus of agriculture-sector interventions to strengthen resilience. The module also discusses the concepts of social, financial and natural capital as they relate to household and community vulnerability and resilience.

Learning activities are provided to explore how the use of farming system analysis and spatial mapping of HIV prevalence can be used to formulate appropriate strategies to ensure food security and support rural livelihoods.

READINGS: AN OVERVIEW OF HIV ISSUES IN AGRICULTURE, RURAL LIVELIHOODS AND FOOD SECURITY

1. The importance of developing AIDS responses in the agriculture sector

Evidence from research has shown that AIDS is an agricultural issue because:

- AIDS¹ can have a significant impact at community and household levels, affecting livelihoods and food security.
- Coping responses by affected rural populations can contribute to the aggravation of social and economic vulnerability.
- Although at present insufficiently recognized, the agriculture sector has a unique and crucial role in both prevention and mitigation.

The readings and the learning activities in this module are designed to provide general guidance about these issues and to build skills in analyzing strategies to deal with them.

Among the challenges facing organizations working in the agriculture sector is the lack of understanding among many development organizations of how agriculture is affected by and can influence responses to HIV. Due to the shorthand terminology of “agriculture”, the issues concerning rural populations in other sub-sectors (e.g. forestry, fisheries, pastoralism, etc.) tend to be overlooked. People in fishing areas have received some attention and it is known that they are highly vulnerable to HIV. Very little is known, however, about HIV prevalence among people living and working in forest areas. Pastoralists are numerically very important in many countries, but again, little is known about them in relation to the AIDS epidemic.

This module explores how the AIDS epidemic poses a threat to agricultural production (mainly through loss or weakening of the labour force), leading to food insecurity and loss of livelihoods at the household and community levels. The agriculture sector needs to develop responses to these impacts among farmers, pastoralists, and people in fishing and forest areas.

2. Impacts of HIV and AIDS on the population structure

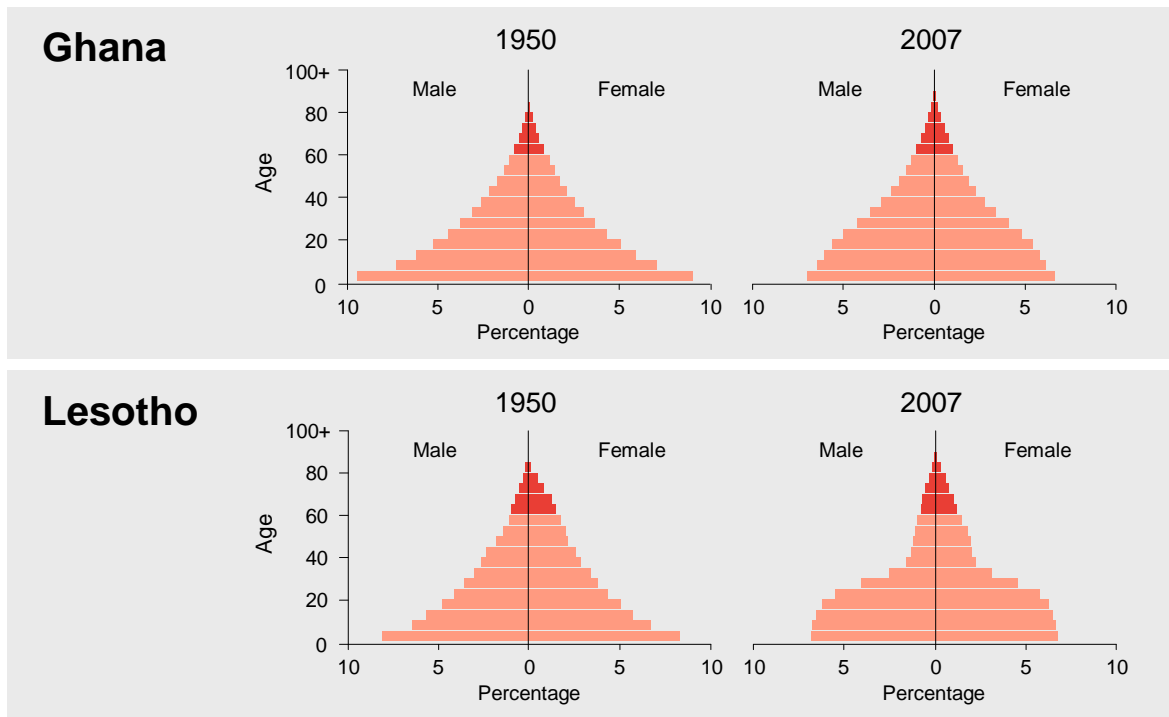
At the macro level, the AIDS epidemic can have an important impact on agriculture by affecting the age and the sex structure of the population.

2.1 Changing age structure

As illustrated in figure 1, deaths from AIDS-related illnesses affect the age structure of the population or accelerate the rate of change in the age structure of a given population. The figure compares the population pyramid of Ghana (with low HIV prevalence), with that of Lesotho (with very high HIV prevalence). Comparing changes in the population pyramids from 1950 to 2007, significant differences can be noted between a country with low prevalence and a country with high prevalence. The implication for the agriculture sector of such a change in population structure would mean a serious shortage of adults (particularly men) in the 20 to 40 age groups and thus reduced agricultural labour.

¹ To get an overview of the impacts of HIV and AIDS on agriculture and rural populations, as well as responses, visit the FAO HIV/AIDS and Food Security website (<http://www.fao.org/hivaids/>).

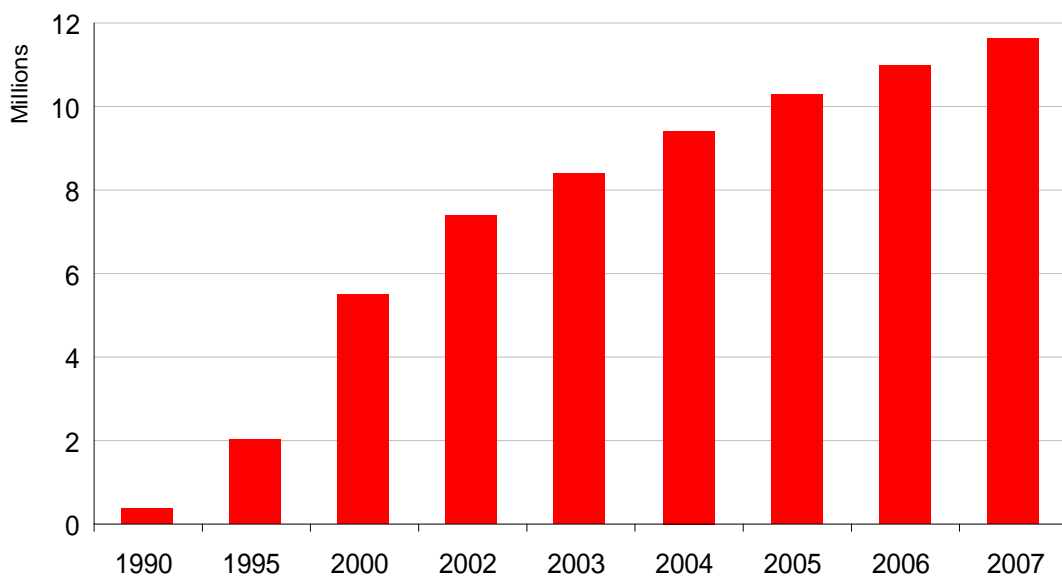
Figure 1. Changes in population structure – Ghana and Lesotho



(Source: UNAIDS, 2008)

AIDS has the potential to change the dependency ratio simply because the death of adult parents results in high numbers of orphans (see Figure 2). Orphaned children may be pulled out of school to reduce costs and compensate for labour losses. There is also a possibility that the elderly may have to contribute to the agriculture labour force. A related impact is the loss of inter-generational transfer of skills from older to younger generations.

Figure 2. Estimated numbers of children orphaned by AIDS (sub-Saharan Africa)



(Source: UNAIDS, 2008)

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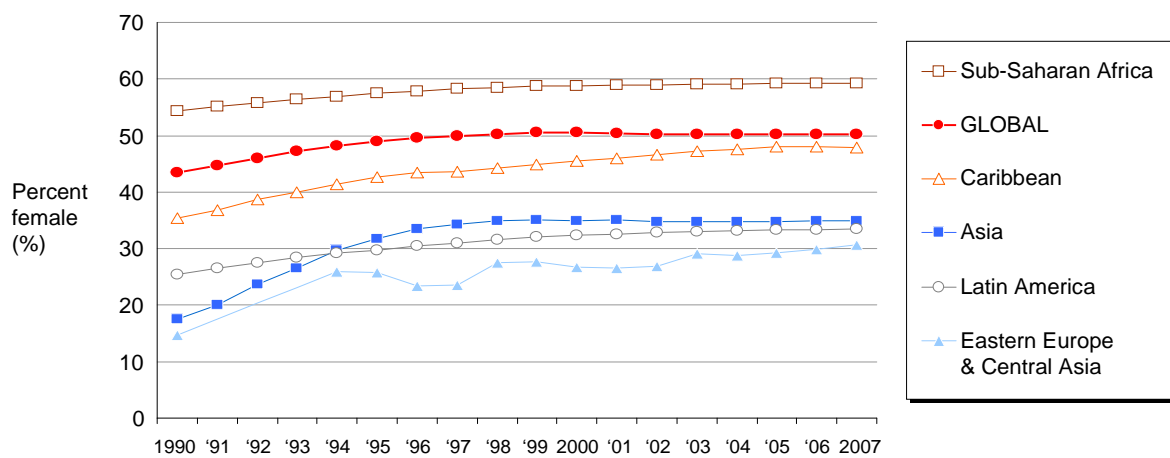
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The agriculture sector has to consider strategies to protect children while ensuring that they become productive agents for the future of the agriculture sector. The lack of adequate strategies will produce masses of unskilled children growing into unskilled adults, with negative consequences for both rural and urban areas as well as national development.

2.2 Differences in HIV prevalence between women and men

As seen in the graph in figure 3, globally speaking about 50 percent of adults living with HIV are women. However, in sub-Saharan Africa the figure is up to about 60 percent. In other regions (the Caribbean, Asia, Latin America and Eastern Europe and Central Asia), men account for the majority of people living with HIV.

Figure 3. Proportion of adults with HIV who are women



(Source: UNAIDS, 2008)

In view of the importance of gender roles in agriculture, these percentages have profound implications for the distribution of burden of work, coping strategies, crops grown, household food security status, as well as social capital in communities.

The differences in HIV prevalence between women and men challenges the agriculture sector to rethink gender and agriculture issues, ranging from land tenure to crops and home gardens. For example, there could be more openness to women growing cash crops, while men could be more involved in tending home gardens and growing nutritious plants, in addition to more equitable sharing of domestic chores such as fuel wood collecting.

3. Impacts of HIV and AIDS on farming communities and households

The reader is certainly familiar with many of the identified impacts of HIV and AIDS on agriculture and food security (e.g. decrease in areas cultivated, changing crops cultivated, etc.). Table 1 summarizes the wide range of impacts, going well beyond ‘agriculture’ as understood in a narrow sense of production. In a broad sense, an understanding of the impacts has grown significantly over the years².

² This can be explained by the fact that during the first years of research on ‘AIDS and Agriculture’, the key issue was to verify whether AIDS had an impact on agriculture. Once this was done, more effort was placed on ordering and explaining the impacts and linkages. The perception of ‘impacts’ has thus evolved over time. It is an on-going process as shown in this module.

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Table 1. Impacts of HIV and AIDS on food security and implications for households and communities

| Impacts of HIV on food security | Implications |
|---|---|
| Changes in the population structure | Increase in orphaned children Proportional increase in the elderly Increase in widows and female-headed households |
| Decrease in the agricultural labour force | Decrease in the area cultivated, in weeding, pruning and mulching resulting in a decline in crop variety, yields and ultimately soil fertility Increase in fallow land returning to bush' Less labour intensive cropping patterns and animal production Decrease in women's productive activities due to their role as care providers Missed planting seasons |
| Chronic illness or death of a household member | Increase in health expenditure Funeral costs |
| Change in household composition | Changes in the age or sex of the household head Increase in the household dependency ratio Out-migration of young adults |
| Increase in the number of orphaned children | Increase in the fostering of orphaned children Child-headed households resulting in reduced attendance or withdrawal of children from school |
| Change in household nutritional status | Increase in the malnutrition of people living with HIV and other household members due to the increasing impoverishment of the household |
| Decline in household income | Decrease in farm income sources and the proportion of farm output marketed Sale of land Liquidation of savings and slaughtering of livestock to provide income for health care and funerals Decrease in women's contributions to household income Decline in purchased items including food Increased need for cash income sometimes resulting in sex work Increase in the need for off-farm income sources |
| Decrease in credit availability and use | Increase in interest rates and more frequent loan defaults |
| Decrease in aggregate community income and assets | Reduction in investment Increase in community expenditure for formal and informal health care |
| Loss of agricultural knowledge, practices and skills and their transmission from one generation to the next | Decrease in the availability of skilled labour and essential agricultural knowledge for orphan-headed households Loss of gender-specific agricultural knowledge |
| Decrease in access to natural resources, especially land | Depletion of resource in close proximity to households, especially water and forest assets Decrease in biodiversity and the pool of genetic resources |
| Exacerbation of gender-based difference in access to resources | Increase in gender inequality, resulting in a decrease in access to land, credit and knowledge, for women in general, but particularly for widows |
| Changes in social resources | Less time available to participate in community-based organizations, associations and other support networks |

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| | |
|---------------------------------------|---|
| Increase in social exclusion | Increased stigma associated with HIV, thus increasing the difficulty of maintaining social and kin groups |
| Decrease in tangible household assets | Poor household maintenance Increase in sale of household goods, equipment and tools |
| Degradation of public services | Reduction in the quality and quantity of public service provision Less maintenance of communal irrigation systems, terraces, roads |

(Source: FAO, 2003)

It is important to look beyond the listed impact because each has knock-on effects. For example, a decline in the labour force can have the following consequences:

- A decrease in the area cultivated is likely to occur, especially if there are no labour saving technologies available. This, however, could also be modified if the land could be cultivated through renting or forms of community solidarity. In some cases where the land is marginal and overexploited, it might not always be bad if it is left fallow for a limited time.
- Weeding is a task that is typically done by women and requires both time and energy. When women have to divert time and energy to caring for the sick, weeding is typically one of the first tasks sacrificed, with subsequent impacts on yields. The issue here is the tradeoffs that have to be made when a sick household member reduces the available household labour.
- The implications of a decline in available labour depend largely on the sex and age of the person who falls ill. Illness and death of a child or an elderly member traditionally have little agricultural impact because their labour contribution is marginal or nil. In contrast, a long drawn-out illness and death of an economically active adult at the core of the farm household capacity in agriculture has a considerable impact. Furthermore, depending on the sex of the adult and due to the gender division of agriculture labour, the impact of the illness and death of man or woman is different. In the case of male illness, the cash crops may be neglected or abandoned, whereas for a woman the impact would be more on the home garden and consequently on household food security and nutrition.

It is important to note that the extent of such impacts and implications depends on several factors, such as the socio-economic condition of the household. For example, wealthier households are likely more resilient and better positioned to mitigate impacts, whereas the most severely impacted households are generally the poorest. Over the long run this could lead to a concentration of wealth and land in fewer households as poorer households may sell their assets for income and survival. This could also lead to, among others, an increase in the number of wage labourers and rural to urban migrants (see row 7 of table 1). This may not necessarily decrease overall food production, however, it increases food and livelihood insecurity for several households.

Table 2 summarizes the known immediate impacts confirmed by studies (in the early days of research on AIDS and Agriculture, there was a certain amount of educated guessing due to a shortage of field studies). As already mentioned, the impacts of the epidemic change over time and it is important to distinguish shorter and longer term impacts. It should also be noted that household responses general focus on the immediate impacts and one of the important roles of agriculture interventions is to assist in responses that have desirable short as well as long term effects. For example, in relation to the sale of assets, micro credit systems in the

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community could be an alternative so that households do not have to sell assets, which could lead to future food insecurity.

Table 2. Immediate and longer-term impacts of HIV and AIDS on rural households

| Immediate impacts | Noted* agriculture-related responses by households | Assumed longer-term consequences for agriculture and related activities |
|--|--|--|
| Loss of labour—due to illness and death and caring | Decreases in area cultivated and changes in crop mix; less attention to care of livestock and soil or water | Potential decreases in overall food production (food availability, access and stability) |
| Cutbacks in food availability and consumption | Decreased energy for farm or market tasks | Increased child and adult malnutrition (food utilization and access) |
| Loss of income and increased medical and funeral expenses | Disinvestment of assets, including sale of livestock and equipment; renting of land; piece work on other farms | Increased socioeconomic inequalities and new or deeper impoverishment for some |
| Increased dependency, with women and older adults assuming greater household responsibilities | Less time spent on farm production or marketing | Growing gender and age inequalities |
| Loss of knowledge and skills essential for agriculture | None known | Loss of efficiency; greater stress on natural resource base; increased food insecurity |
| Loss of access to land and equipment/livestock by widows and children | Female and child-headed households become dependent on non-farm employment and/or begging | Deepening impoverishment for affected household members |
| * Noted means cited in at least one study of a localized impact. Source: Adapted from Slater and Wiggins, 2005; from Rau, 2006. | | |

(Source: Rau et al., 2008)

The table distinguishes between immediate and longer-term impacts. The agriculture sector needs to be aware of these different time frames and respond accordingly. Agricultural interventions should thus focus on immediate mitigation, but also on preventing or at least mitigating longer term consequences. The table also differentiates between impacts and responses, a distinction that has often been overlooked. This is not just an issue of semantics, but more perception. What has often been described as an ‘impact’ is in fact a farm-household ‘response’ to a decline in human and financial capital. The ‘impact’ depends on how the household responds and the choices made by the household between options and priorities result in different or varying impacts on agricultural production and food security. The implication is that depending on the household, an AIDS-related death can produce different outcomes and interventions with an agricultural objective need to take into account household situations and contexts.

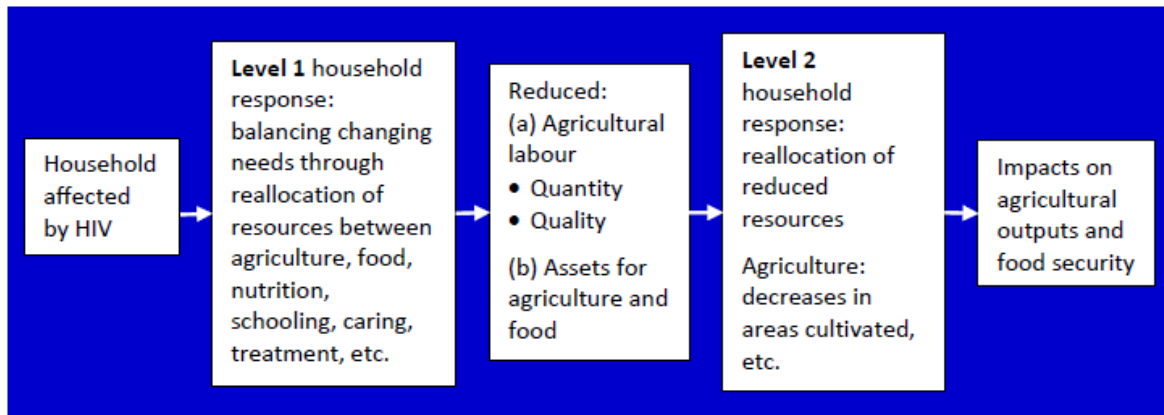
3.1 Household-level knock-on-effects of HIV

Tables 1 and 2 highlight the range of household and community-level impacts of HIV and AIDS on agriculture and food security. The other very important dimension is to understand the mechanism through which these impacts occur (illustrated in figure 4). Strictly speaking, because HIV is a human disease, its direct impact is on people. However, since people have specific functions within a farm-household, and these individual functions together make up

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the production and reproduction unit, illness and death of any one household member will have consequences for agriculture and food security.

Figure 4. Mechanism through which AIDS impacts agriculture and food security



Following the diagram in figure 4, several agriculture and food security impacts can be noted when a household is affected by HIV:

- When a household member falls sick or dies from an HIV-related illness, that household has to adjust to the new situation. This represents level 1 of the household responses. Often the household will have fewer resources at its disposal and increased needs, and therefore has to reallocate resources. This generally results in a reduction in the labour available for agriculture, fewer assets, and in particular less cash for agricultural inputs and food. The poorer the household is, the more likely it is to be affected by diminishing resources. If a household is wealthy, it will likely be in a better position to hire labour to compensate for reductions, whereas if it is poor it may instead pull children out of school to fill labour gaps or to reduce expenses.
- When there is reduced availability of agriculture inputs then households are faced with reallocating resources and prioritizing agricultural tasks, such as weeding or watering, etc. This is the second level of household responses and it is this level that is often highlighted in the literature as an “impact”. In fact this is an intermediary impact.
- The final agricultural impact is the outcome in production in terms of volume, value, yield and household food security.

Table 3 focuses only on the possible impacts that can occur in a household in which a member is sick with HIV. Households that are not affected by HIV might take advantage of the plight of affected households by buying assets or hiring labour cheaply, a situation that increases inequalities in wealth and food security in communities.

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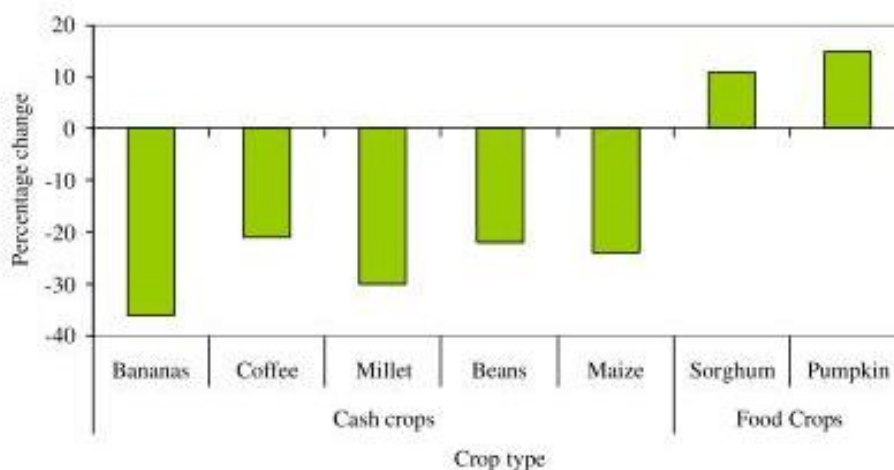
Table 3. Revised schema of HIV and AIDS impacts on affected households

| HIV and AIDS consequences | HH responses in agriculture | Agriculture output | | Food security |
|------------------------------|--|--|---|--|
| | | <i>Immediate</i> | <i>Longer term</i> | |
| Reduction in labour | Reduction in: <ul style="list-style-type: none"> • Area cultivated (but increase in fallow land) • Number of crops cultivated (especially cash crops) • Attention to crops, livestock, soil and water | Decrease in production: <ul style="list-style-type: none"> • Volume • Diversity • Value | Drops in: <ul style="list-style-type: none"> • Yields • Soil fertility • Quantity and quality of water | Increasing malnutrition Increasing inequality between HH members in nutrition (long-term impacts on children) |
| Reduction in assets and cash | <ul style="list-style-type: none"> • Sale of assets, livestock, equipment and renting out of land • Working outside the farm: non-farm employment, piece work on other farms • Begging, transactional sex | Decrease in percentage of production marketed | Less attention to management of natural resources | Less home production and/or capacity to buy food |

Case study: Impact of HIV on food and cash crops in Uganda

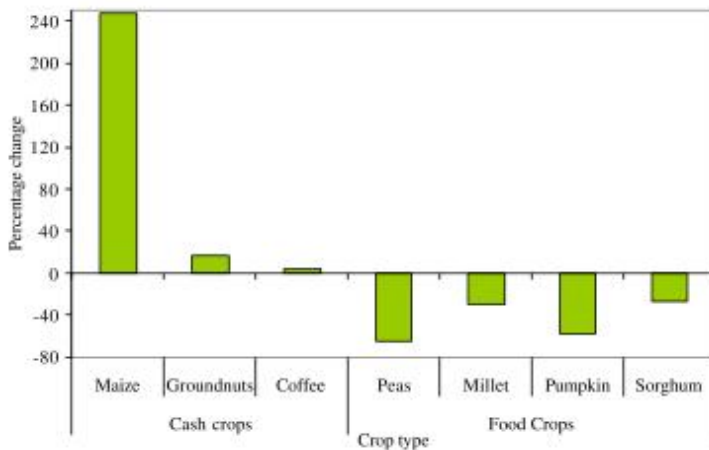
The changes in growing of food and cash crops in affected and non-affected households are illustrated in figures 5 and 6 (taken from a baseline study of the Ugandan National Agricultural Advisory Services³). The changes are reported over a five year period and show a dramatic divergence in the cropping patterns of HIV-affected and non-affected households: shifting from cash crops to food crops in the former and the opposite in the latter.

Figure 5. Percentage changes in food and cash crops grown in affected households



³ The National Agricultural Advisory Services (NAADS). 2003. The impact of HIV/AIDS on the agricultural sector and rural livelihoods in Uganda – Baseline Report. Uganda, FAO. (<http://naads.or.ug/manage/publications/48docHIVAIDStudyReport.pdf>)

Figure 6. Percentage changes in food and cash crops grown in non-affected households



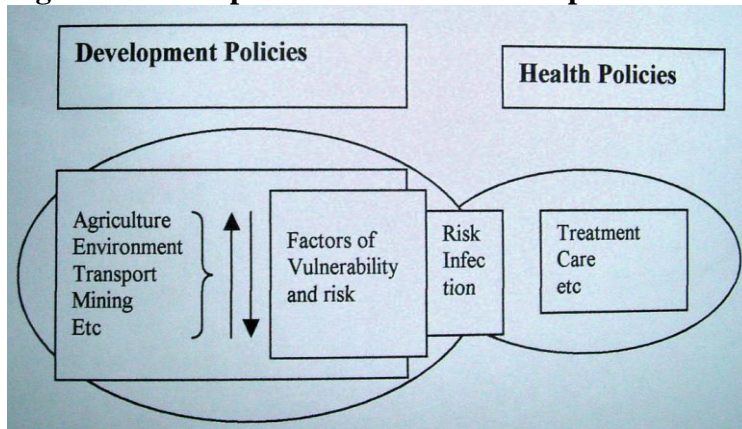
4. Factors of vulnerability and resilience to HIV

4.1 *Vulnerability and resilience*

There are two main dimensions of vulnerability: (1) vulnerability to HIV infection and (2) vulnerability to the impacts of HIV and AIDS. Resilience⁴ on the other hand is essentially the capacity to cope with, or recover from the impacts of AIDS-related illness or death. The socio-economic position of the household, in addition to social capital and support networks, largely determine vulnerability and resilience to HIV.

Many factors affect vulnerability to and risk of HIV infection. These risks can be modified intentionally or inadvertently by development policies in the relevant sectors as shown in Figure 7. Likewise, agriculture policies and programmes are not HIV neutral, and thus in achieving agriculture objectives, the sector needs to take into consideration the expected impact of activities and how they can reduce vulnerabilities and increase resilience to HIV. As can be seen in the diagram, agriculture is but one of the development sectors with a possible role in exacerbating of HIV vulnerability and therefore collaboration with other sectors is important.,

Figure 7. Development and health sector policies in HIV vulnerability and resilience



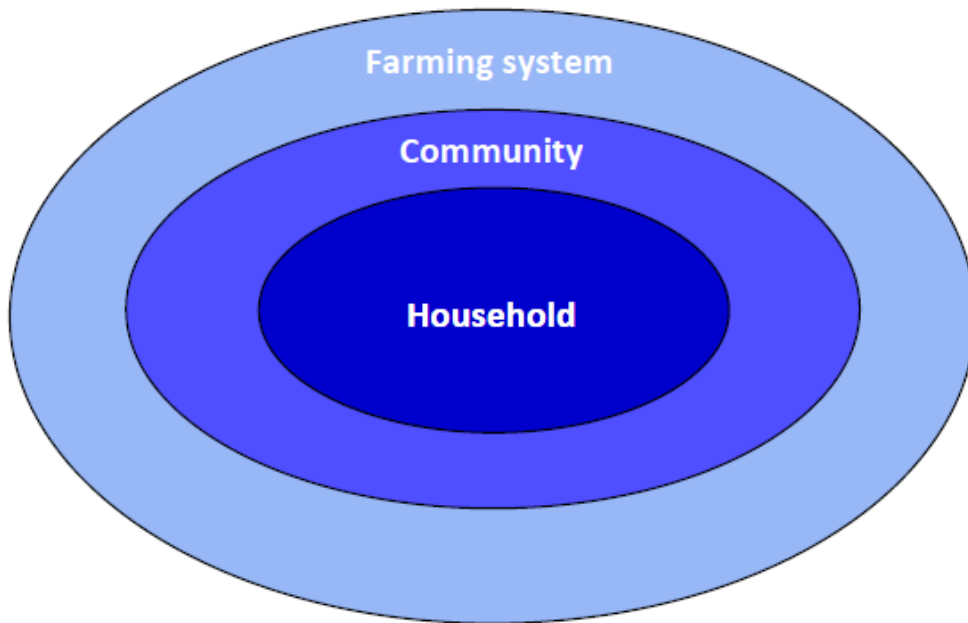
(Source: Du Guerny and Hsu, 2008)

⁴ The etymology literally means to jump back to the initial state.

4.2 Household vulnerability

One specific characteristic of the agriculture sector is that households and communities are embedded in farming systems, as illustrated in Figure 8.

Figure 8. Households, communities and farming systems



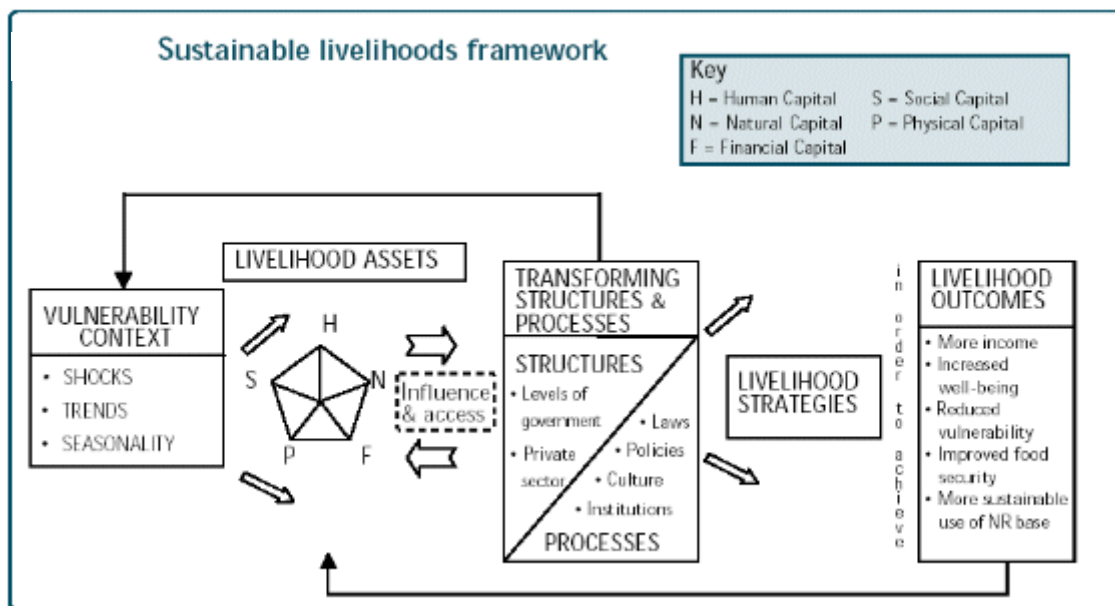
The focus of most studies on AIDS and agriculture has been at the household level, much less so at community level and even less so at farming system level. The following paragraphs explain why this imbalance should be addressed.

According to the sustainable livelihood approach⁵, rural households possess five sets of livelihood assets essential to their livelihood strategies: human capital, financial capital, natural capital, physical capital and social capital. Using these assets and capabilities, households develop livelihood strategies to cope with their physical, social, economic and political environments. The environments in which households operate contain a number of factors and events that render them vulnerable to negative livelihood outcomes: for example droughts, floods, pest infestations, crop and livestock shocks, economic shocks and the illness and death of household members, among others. The sustainability of a household depends on its ability to adjust to these situations without compromising their future ability to survive shocks. HIV represents a potential shock to farm households. The agriculture sector can intervene in different areas to alleviate the impact of shocks and stressors that affect rural households.

⁵ Shannon Stokes, C. 2003. Measuring impacts of HIV/AIDS on rural livelihoods and food security. Rome, FAO. (http://www.fao.org/sd/2003/PE0102a_en.htm)

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Figure 9. Household vulnerability to HIV through the sustainable livelihoods approach



(Source: DFID, 1999)

For agriculture-based livelihoods, several assets are particularly important:

- Human capital: the members of the household both adults (young and elderly, including relatives and resident farm workers) and children (very young or adolescent, in school or not in school); knowledge and skills related to land clearing, planting, weeding, fertilizer use, irrigation, harvesting, crop storage and marketing.
- Natural capital: ownership and access to land and water resources; farm animals and livestock; access to forage and wood resources.
- Financial capital: income from agricultural and off-farm employment; access to credit; personal and group savings; access to markets and agricultural supports.
- Social capital: relationships with extended family and clan members; membership in cooperatives; access to extension services, seed banks, etc.
- Physical capital: homestead, barns, storage bins, animal pens, fencing, farm and irrigation equipment and tools, vehicles (including carts), personal possessions (including furniture and jewellery).

It is important to look at and understand the processes through which HIV operates and has an impact on a household and its sustainability. The epidemic impacts on the human capital in the household as well as on social capital in the community, including extension services. By reducing the ability of these two forms of capital to function optimally, there are ensuing reductions of the other forms of capital.

4.3 Community vulnerability

Community vulnerabilities to the impacts of AIDS have been summarized in an FAO publication⁶ as including the following:

- Weak social cohesion and an absence of social networks and labour exchange between Households to provide support to each other in times of crisis;
- Limited opportunities to substitute between labour intensive livelihood activities and activities requiring fewer labour inputs;
- Limited opportunities to diversify livelihood activities into non-farm employment;
- Regular experiences of food insecurity;
- Insecure land tenure and weak system of property rights;
- Widespread poverty;
- Limited access to external support such as information, home-based care, food for work, school feeding programmes;
- Weak infrastructure, which makes many aspects of rural living very labour intensive – e.g. requiring household members to travel considerable distances (often on foot) to collect water, seek health treatment, etc;
- Advanced state of the epidemic, which has exhausted any tradition of welfare assistance within the community.

The capital-depleting effects of the epidemic on households tend to aggregate at community level. In looking at community vulnerabilities, it is important to address specific impacts on certain types of community capital – namely community-level financial and natural capital.

Community-level financial capital effects: Depending upon the prevalence of HIV in a region or community, the aggregate impacts on community financial capital could vary from modest effects to significant changes in the aggregate savings rate, credit markets, and reduced expenditure in the community. Some community-level financial capital effects include:

- Decrease in aggregate community income;
- Reduction in expenditures in community businesses;
- Reduction in aggregate community savings;
- Increase in demand for loans and credit from formal and informal sources;
- Decrease in demand for productive credit;
- Increase in price of credit;
- Increase in default rate in credit markets;
- Increased spending on traditional and modern health care.

Community-level natural capital effects: The epidemic may influence the natural capital of a community through reductions in the available human resources (labour and knowledge) to invest in preservation and conservation of land. Moreover, the presence and frequency of illness and death may make individuals and communities reluctant or unable to invest in conservation and preservation of natural capital such as biodiversity, community water and land resources that require long investment.

⁶ FAO. 2004. *Addressing HIV and AIDS through agriculture and natural resource sectors: a guide for extension workers*, by C. Bishop-Sambrook. Rome.

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Some community-level natural capital effects include:

- Reduction in quality of community land resources;
- Decline in conservation of land and water resources;
- Decrease in biodiversity;
- Increase in fallow land;
- Change in land use patterns;
- Change in the land market;
- Environmental deterioration, decline in maintenance of infrastructure (e.g. terraces, irrigation equipment).

This brings to light the complexity and inter-related nature of various forms of capital and resources of individuals, households and communities. In an AIDS context, the pivotal forms of capital are the human and social forms, as they are the ones directly affected by HIV. The agriculture sector and its policies have a unique role to play in strengthening the resilience of households and communities and in mitigating their vulnerability to HIV infection and impacts through measures to ensure food security and rural livelihoods.

5. The context for developing responses to AIDS in the agriculture sector

In order to develop appropriate responses, it is crucial to first understand the dynamics of the epidemic: an epidemic can flare up, spread, subside and be controlled through its drivers. These drivers can increase vulnerability to HIV infection and can make people and households more vulnerable to the impacts of the epidemic. Drivers can be short-term or they can work through long-term processes.

Short-term drivers include:

- Seasonal migration patterns;
- Fluctuations in the prices of agricultural products and food items;
- Scarcities of wood and other resources.

Long-term drivers include:

- Loss of skills when adults no longer train children in the skills of farming, herding, fishing or forestry, thus leading to future livelihood insecurity;
- Loss of arable land or pastures due to climate change, abusive practices like over-grazing, abandoned land; dwindling fish catches due to competition from industrial fishing practices, etc., leading to future food and livelihood insecurity.

5.1 Agriculture sector responses to AIDS

The agriculture sector can influence these drivers through interventions. Some examples of interventions include:

- Youth training programmes such as Junior Farm and Field Life Schools that teach orphans basic agriculture skills suited to the local environment;
- Strengthening legislation and mobilizing communities to protect widows and their children from land grabbing or ensuring security of tenure;

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- Promotion of practices such as home gardens for improved nutrition and household food security.

The agriculture sector cannot consider only the short-time framework, but has to consider and balance the effects of the short, medium and long term.

Box 1. Responding to medium and long-term needs of women in agriculture

An interesting example of how the agriculture sector can respond to the medium to long-term needs of women is illustrated by the Tahoua Rural Development Project, GTZ. Although not designed to respond specifically to HIV, the project provides resources and guidance for women to achieve food self-sufficiency on reclaimed land, an important response also within the AIDS context in rural areas. In the late 1980s about 250 widows and divorced women received the rights to abandoned, degraded land in Kolloma Baba, a village where farm productivity had declined by up to 90 percent. In return, the women pledged to restore the land by investing their labor in soil and water conservation techniques. After clearing the land of rock, each woman received a plot of about 60 square metres. In addition to sowing traditional millet and sorghum, many of the women also planted cow peas, groundnuts and okra.

In the early years, the female farmers worked through the Kolloma Baba Women's Association, established by the project, with members helping each other to develop their land. More recently, they have hired male labor, proof of their considerable economic capacity. By 2006, they had restored 2000 ha of degraded land and were selling excess crops, lifting themselves out of poverty and raising their social status. The women are self-sufficient in food and have money to buy clothes for their children. A village committee, principally made up of women, deals with protecting regenerated trees across the community.

5.2 Sensitivity to spatial variations in HIV prevalence

Spatial variations in HIV prevalence challenges the agriculture sector to analyze the role played by farming systems in conjunction with markets and transport in order to tailor policies and programmes to the specific situations on the one hand while taking into consideration the interconnections on the other. This increases complexity in policy and strategy choices in the agriculture sector, which also need to consider institutional aspects, as well as strategic thinking and vision. The following table illustrates the phenomenon of spatial variation in prevalence, using the example of the Eastern Province of Zambia, which borders Malawi and Mozambique.

Table 4. HIV Prevalence in the Eastern Province of Zambia and its districts, 2004

| Province/ District | HIV Prevalence (%) | HIV+ | | |
|--------------------|--------------------|---------------|---------------|---------------|
| | | Male | Female | Total |
| Eastern Province | 13.2 | 34,976 | 46,809 | 81,785 |
| Chipata | 26.3 | 15,565 | 20,320 | 35,884 |
| Chadiza | 9.8 | 1,216 | 1,675 | 2,891 |
| Chama | 9.8 | 1,049 | 1,417 | 2,466 |
| Katete | 18.1 | 7,178 | 9,509 | 16,687 |
| Lundazi | 18.1 | 5,642 | 7,446 | 13,089 |
| Mambwe | 9.8 | 653 | 856 | 1,509 |
| Nyimba | 9.3 | 974 | 1,291 | 2,266 |
| Petauke | 9.3 | 2,698 | 4,295 | 6,993 |

(Source: Eastern Province District AIDS Commission, 2006)

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HIV prevalence varies considerably from one district to another within the province. The highest prevalence (26.3 percent) was registered in Chipata District while the lowest (9.3 percent) was in Nymba and Petauke Districts. The table also shows the numbers of HIV-positive men and women aged 15 to 49 in each district, which ranges from nearly one in four to one in ten adults is living with HIV. These findings suggest that labour productivity in Eastern Province is badly affected; however, the severity varies from district to district. The agriculture sector needs to be conscious of these variations and responses targeted accordingly to the specific situation faced by different districts.

6. The role of gender in AIDS and agriculture

HIV is not gender neutral – it affects women and men in different ways. It is well known that gender inequality is one of the factors fuelling the spread of HIV. Women represent nearly half the people living with HIV globally, and account for about 60 percent in sub-Saharan Africa.⁷ In terms of both vulnerability and impacts, women and men experience HIV differently. This has implications for agricultural production and food security, and the agriculture sector has a role to play in addressing these issues.

6.1 Understanding gender in the context of AIDS and agriculture

In order to fully understand how gender issues interact with HIV and agriculture, it is useful to first refresh on what is meant by gender, how gender dimensions relate to HIV and finally how this fits into the agriculture sector. It is through this understanding that one is better positioned to address the role of the agriculture sector in responding to HIV with a gender lens.

(A) What is meant by gender?

The terms “sex” and “gender” do not refer to the same thing. As defined by the World Health Organization⁸:

- “Sex” – refers to the biological and physiological characteristics that define men and women.
- “Gender” – refers to the socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for men and women.

Aspects of sex remain rather consistent between different societies, whereas those of gender may differ significantly. FAO has developed a definition of gender, within the context of agriculture and as it relates to rural livelihoods. It is defined as “the relations between men and women, both perceptual and material... [It] is not determined biologically... but socially... Gender issues focus on women and on the relationship between men and women, their roles, access to and control over resources, division of labour, interests and needs”⁹. The definition of gender may be extended to include “the economic, social, political and cultural attributes and opportunities associated with being a man or woman”¹⁰. Related to the meaning of

⁷ UNAIDS. 2008. Report on the global AIDS epidemic 2008. Geneva.

⁸ WHO. 2010. What do we mean by “sex” and “gender”? via Internet. *In Gender, Women and Health* (available at <http://www.who.int/gender/whatisgender/en/index.html>).

⁹ FAO. 2004. What is gender. *In Building on gender, agrobiodiversity and local knowledge*. Rome.

¹⁰ World Bank, FAO and IFAD. 2009. *Gender in Agriculture Sourcebook*. Washington, The World Bank.

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gender, are “gender roles” and “gender relations”. The former refers to “behaviours, tasks and responsibilities that a society considers appropriate for men, women, boys and girls”, whereas the latter concerns “the ways in which a society defines rights, responsibilities and the identities of men and women in relation to one another”¹¹.

Gender inequalities are an important concern both in the development sector and in particular with regard to the AIDS epidemic. Gender inequalities refer to “[un]equal access to the opportunities that allow people to pursue a life of their own, choosing to avoid extreme deprivation in outcomes”. Addressing such inequalities is a goal in its own right, but the implications for the agriculture sector, and in particular in light of the implications for the AIDS epidemic, means that the agriculture sector response to AIDS cannot ignore gender dimensions.

Whichever way the reader may prefer to qualify gender, its importance should not be underestimated:

- Gender is given high priority globally – notably through the internationally agreed upon Millennium Development Goal 3 to promote gender equality and empower women¹² - and represents a common denominator around which partnerships can be built.
- Gender (and gender inequality) is relevant and important to the dynamics of the AIDS epidemic and in relation to agricultural production and food security, in terms of vulnerability, impacts and response.
- In the area of AIDS and agriculture, the impacts of socio-economic factors are often mediated through gender, which has important implications for policies and programmes.

(B) Gender and HIV

One needs to be careful to understand that both sex and gender play a role in differing HIV prevalence in men and women. From a biological perspective, women are more vulnerable than men to HIV infection. This is due to a range of factors, including the larger exposed surface area of the female genital tract, which increases risk of infection with every exposure, in addition to the health of the uterus and maturity of tissue.

Biological factors, however, are only part of the picture. Cultural factors play a significant role in prevalence and increased vulnerability for women. Such factors may include norms related to men being more dominant and women more passive in sexual relations, older men having sex with younger women, as well social pressures inhibiting women from expressing sexual choices and negotiating safe sex (e.g. insisting on the use of condoms or refuse unprotected sex).

Gender inequalities also play a role and can make women more vulnerable to HIV infection and its impacts. This may be associated with illiteracy and lack of knowledge about HIV, lack of access to information and services, lack of access to and control over resources, limited mobility or decision-making power.

¹¹ FAO. *Why gender*. Accessed 20 April 2010 (<http://www.fao.org/gender/gender-home/gender-why/why-gender/en/>).

¹² Millennium Development Goals website: <http://www.un.org/millenniumgoals/gender.shtml>

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(C) Gender and agriculture

Rural men and women play different and complementary roles in agriculture. Moreover, as AIDS affects rural demographics¹³ in several countries, more and more women are becoming key actors in the sector. It is important to recognize these differences and changes as they are integral to agricultural production, rural development and food security.

Inequalities between men and women, however, prevail and women and girls continue to face limited access to, and control over, resources and have fewer opportunities to improve their knowledge and skills. These inequalities undermine agricultural productivity. By not recognizing these different roles of men and women, agricultural responses may be ill-advised, with negative repercussions for agricultural production and food and nutrition insecurity.

The roles, responsibilities and situation of men and women differ between and within countries, however, some generalizations can be made:

- Agricultural Production and Food Security: Men are mainly involved in land preparation, and ploughing, while women are usually engaged in watering, planting, fertilising, weeding, harvesting and marketing. Men are usually responsible for cash crops, whereas women for crops for household for food consumption.
- Household Work: Women are generally responsible for domestic tasks, including collecting water and firewood, food processing and preparation, cooking, etc.
- Access to Land and Water: The majority of women in patrilineal customary system have access to land only through their husbands or fathers. Even when statutory provisions exist, in many rural areas customary practices that generally favour men may supersede.
- Access to Credit and Income: Women generally have little access to credit as they may lack collateral, male consent, security against the loan, etc. Access to land, credit and education deny women exposure to and control of new technologies that could support their livelihoods.

Agricultural responses need to take into account these gender dimensions and need to consider the distinct roles, priorities, knowledge, constraints and opportunities of both women and men. "Failure to recognize the roles, differences, and inequalities poses a serious threat to the effectiveness of the agricultural development agenda."¹⁴

6.2 Men's and women's vulnerability to HIV

Cultural norms can reinforce inequalities between men and women and increase HIV vulnerability. In some contexts, cultural norms may limit women's and girls' ability to negotiate safe sex or access to health services. On the other hand, social norms may condone multiple sexual partners for men and boys. Both situations increase risk of HIV infection.

¹³ For example, due to death and migration.

¹⁴ World Bank, FAO and IFAD. 2009. Gender in Agriculture Sourcebook. Washington, The World Bank.

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Gender inequalities in access and ownership of resources can increase vulnerability to HIV. Property grabbing¹⁵ can lead to loss of shelter, loss of livelihood and can further drive poverty and food insecurity. This type of insecurity can lead women to engage in risky sexual behaviour (e.g. commercial and transactional sex), which significantly increases risk of HIV infection. This also contributes to the further spread of HIV among sex workers and their clients.

Men who migrate in search of employment and to earn income may engage in risky sexual behaviour, which can lead to increased risk of infection for them and for their partners at home.

6.3 How rural men and women are effected differently by the epidemic

As already discussed, HIV largely impacts the agriculture sector through declines in labour, and thus can aggravate gender-based differences in labour burdens. It can also negatively effect access to resources – namely land, credit, education, agriculture service, etc. Some specific impacts of the epidemic include:

- Increasing inequalities: Poor rural households, women, orphans, the elderly and mobile groups tend to disproportionately face the impacts of HIV due to preexisting inequalities in accessing resources and opportunities.
- Access to productive resources: AIDS worsens inequalities in access to and ownership of productive resources, including land, credit, training and technology. Access to these resources tends to favour men and as a household's asset base shrinks in the face of AIDS¹⁶, women's access may be reduced further. Women who are widowed by AIDS may also face challenges in claiming access and rights to their husbands' property as relatives of the deceased spouse may take these assets upon his death.
- Increased workload: AIDS increases men's and women's workloads. Since men and women carry out different agricultural tasks, different aspects of production are affected as men's and women's labour is reduced or re-allocated as a result of HIV-related illness and death. For example, rural women's domestic workloads tend to increase as they are often the provide care for sick family members, which can take them away from other income earning and food production tasks.
- Livelihood insecurity: Poverty and the absence of livelihood options stemming from the epidemic may result in men migrating in search of employment and alternative livelihood options. This generally involves long absences away from home and general insecurity, which may lead to migrants engaging in casual sex and greater vulnerability to HIV. Women (in particular if widowed and left destitute as a result of the epidemic) on the other hand may resort to risky behaviour (e.g. engaging in commercial or transactional sex) in order to support their livelihoods.

¹⁵ This not only creates vulnerability to HIV, but is also an impact of the epidemic.

¹⁶ For example, household assets may be sold to cover medical expenses, funeral costs, and to compensate for lost income.

6.4 Addressing gender issues in AIDS and agriculture

Gender plays an important role in AIDS and agriculture:

- Gender influences sexual relations and the transmission of HIV.
- Gender influences the functioning of human capital and thus the impacts of AIDS.

As such, responses from the agriculture sector need to take into account gender dimensions in agriculture as well as those related to the epidemic itself. Also, the participation of both women and men is essential for agriculture responses to be effective.

Interventions should focus on improving agricultural production, in light of labour declines stemming from the epidemic. This may include the promotion of labour-saving technologies and practices to address the implications of the epidemic on agricultural labour. The promotion of such technologies and practices, however, must take into consideration the different kind of work undertaken by men, women, youth and the elderly.

Responses also need to focus on promoting food and livelihood security of households. This can have the effect of reducing the need for men and women to engage in risky behaviours. Such interventions could include, for example, the promotion of home gardens for household food security. Responses could also focus on promoting alternative livelihood options for men and women whose livelihoods have been affected by the epidemic. For example, agro-processing technologies and agribusinesses, alternative income-generating activities, as well as equitable access to credit could provide livelihood options so that people do not have to resort to riskier alternatives that increase vulnerability to HIV.

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Identification of farming system responses to HIV and poverty

We have learned that HIV has an impact on the population structure, particularly the 20 to 45 age groups, in high-prevalence areas. People living with HIV may have less strength and more frequent illnesses. Without ARVs, PLHIV die prematurely, leaving mainly very young and older people to carry out agricultural work. In planning strategies to support the resilience of farming communities, Ministries of Agriculture, FAO, NGOs and other partners working in the sector need to look at options that promote the sustainability of communities and households in situations where labour-intensive crops can no longer be grown and where alternative sources of income might be needed.

The following table presents a variety of farming systems and five strategies that can be adopted to mitigate household poverty resulting from the loss of productivity caused by illness and death. For example, in the cereal-root system there are opportunities through intensification and through increasing farm size, but these strategies require labour or replacement by technology. In the pastoral system, two strategies have some promise, increased off-farm income and exit of agriculture; however, both have strong links with increased risk of HIV infection.

Table 5. Some examples of potential and relative importance of household strategies for poverty reduction in sub-Saharan Africa and in East Asia

| Region | Farming system | Strategies for poverty reduction | | | | | Agricultural population (millions) |
|---------------------------|---------------------------|----------------------------------|-----------------|---------------------|---------------------------|-----------------------|------------------------------------|
| | | Intensification | Diversification | Increased farm size | Increased off-farm income | Exit from Agriculture | |
| Sub-Saharan Africa | Tree crop | 4 | 1.5 | 1.5 | 2 | 1 | 25 |
| | Cereal –root crop mixed | 3.5 | 2 | 3 | 1 | 1.5 | 59 |
| | Pastoral | 1 | 1 | 1 | 2 | 5 | 27 |
| | Sparse agriculture (arid) | 0 | 1 | 0 | 3 | 6 | 6 |
| East Asia | Lowland rice | 1.5 | 3.5 | 1 | 3 | 1 | 474 |
| | Tree crop mixed | 2 | 3 | 1 | 3 | 1 | 30 |
| | Upland intensive mixed | 1 | 3 | 0.5 | 3.5 | 2 | 314 |
| | Highland intensive mixed | 0 | 2 | 0 | 3 | 5 | 47 |

Source: Extracts of Tables 2.4 and 6.4. Dixon et al. Based on Expert judgement.

Note: Adding the numbers horizontally for each line (not including 'agricultural population'), the total score for each farming system equals 10. The number given to each strategy represents the relative importance of that strategy. Expert assessments refer to poor farmers only.

(Source: Du Guerny, 2002)

Questions for analysis:

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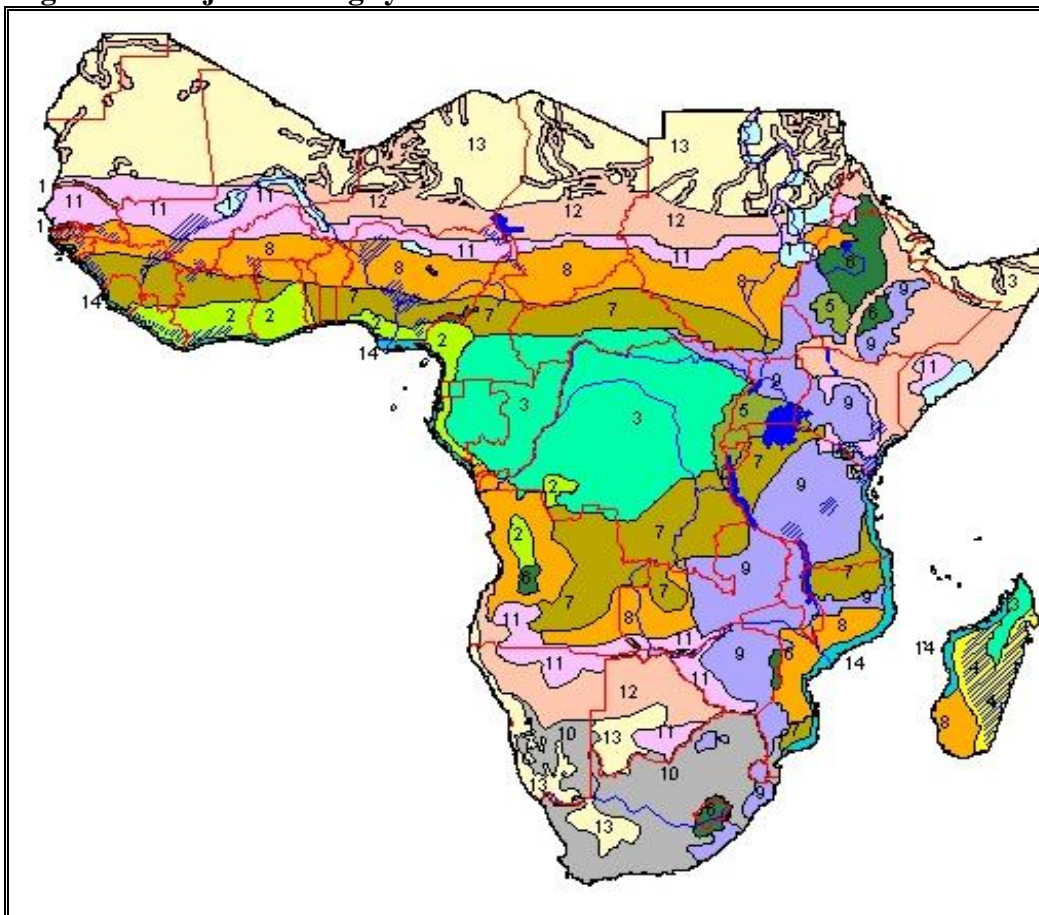
If a score of 3 or better can be chosen as an indication of a realistic strategy option to increase household resilience to HIV and poverty:

1. Which farming systems have the greatest potential for *intensification*?
2. Which farming systems have the greatest potential for *diversification*?
3. Which farming systems have the greatest potential for *increased farm size*?
4. Which farming systems have the greatest potential for *increased off-farm income*?
5. Which farming systems have the greatest potential for *exiting from agriculture*?

Activity 2: Comparing farming systems and HIV prevalence

Looking at Figure 10, one can note that the farming systems form parallel bands running from the West African Atlantic coast to Sudan. This makes it possible to analyze and compare many situations within the same farming system or between them. Many of the same farming systems are also found south of the equator.

Figure 10. Major farming systems in sub-Saharan Africa



Legend: Farming Systems

| | |
|---------------------------------------|---|
| 1. Irrigated Area (Sq Km) 45685 | 8. Cereal-root crop mixed Area (Sq Km) 300128 |
| 2. Tree crop Area (Sq Km) 221554 | 9. Maize mixed Area (Sq Km) 1571734 |
| 3. Forest based Area (Sq Km) 2537016 | 10. Large commercial & smallholder Area (Sq Km) 1010746 |
| 4. Rice-tree crop Area (Sq Km) 308489 | 11. Agro-pastoral millet/sorghum Area (Sq Km) 78410 |

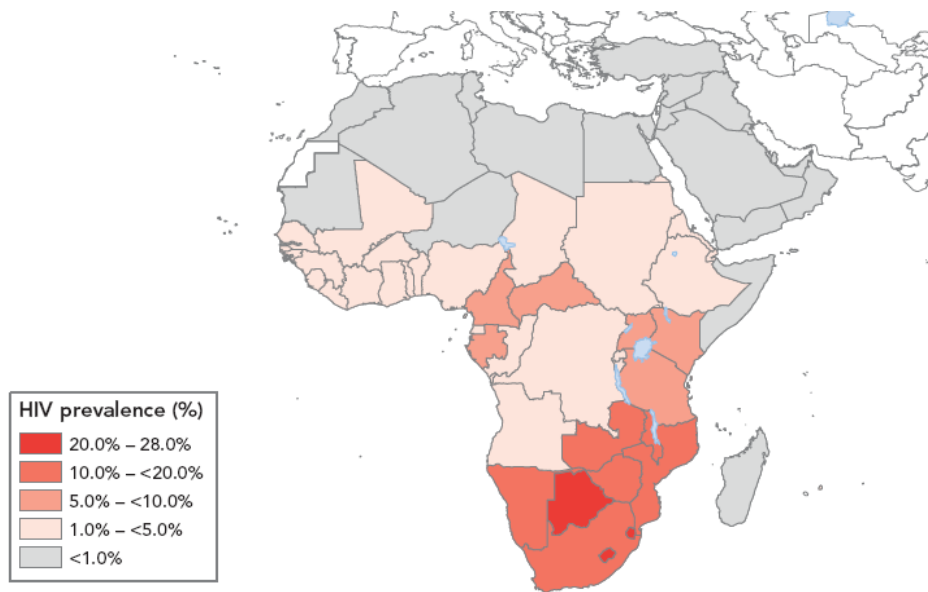
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| | |
|--|---|
| 5. Highland perennial Area (Sq Km) 66562 | 12. Agro-pastoral millet/sorghum Area (Sq Km) 78410 |
| 6. Highland temperate mixed (Sq Km) 270672 | 13. Sparse (arid) Area (Sq Km) 155114 |
| 7. Root crop Area (Sq Km) 1262547 | 14. Coastal artisanal fishing Area (Sq Km) 171942 |

(Source: FAO, 2010)

One can also note that some of the higher HIV prevalence levels correspond roughly with the following types of farming systems: root crops (7), maize mixed (9), large commercial and smallholder (10).

Figure 11. Adult HIV prevalence in Africa, 2007



(Source: UNAIDS, 2008)

In comparing the map of HIV prevalence in 2007 (Figure 11) with that of major farming systems (Figure 10), answer the following questions:

1. Comparing areas north and south of the equator, which farming systems are the most impacted by HIV and therefore the most vulnerable to:
 - i) A decline in labour availability and productivity?
 - ii) Increasing poverty?

| Northern Hemisphere | | Southern Hemisphere | |
|---------------------|------------------------|---------------------|------------------------|
| Number | Type of farming system | Number | Type of farming system |
| | | | |

2. In the country where you work, which farming systems are the most affected by HIV and household poverty? Describe the results of the impact on productivity and household

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income. What measures have been taken (or could be taken) to mitigate the impacts of HIV and AIDS in these farming systems?

| Number | Type of farming system |
|--------|------------------------|
| | |

Write your answers in the tables provided. If possible, discuss them in a group.

Activity 3: Policy responses to AIDS impacts on the agriculture sector

1. Examine some recent activities or projects in the agriculture sector of the country where you work:
 - i) Do they have an AIDS component?
 - ii) If not, would they have been designed differently if they were to be HIV-sensitive?
 - iii) Would they be more sustainable or effective with a concern for HIV issues?

2. Think of a district or community you know well. How have agriculture and health policies and practices had an impact on the following forms of capital (in relation to the AIDS epidemic):
 - i) Human capital (health, nutrition, education, knowledge and skills, capacity to work, etc.);
 - ii) Social capital (networks, formal and informal groups, rural institutions, protection of widows and orphans from asset “grabbling”, etc.);
 - iii) Physical capital (infrastructure, houses, land, productive assets, etc.);
 - iv) Natural capital (land, water, forests and forest products, etc.)
 - v) Financial capital (credit, remittances, etc.).

If there has been no impact or organized activities to address capital depletion stemming from HIV at household and community level, what measures would you recommend?

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

Activity 4: Developing resilience to AIDS impacts at household and community levels – scenario building

Read the following description of the process of depletion of various forms of rural capital (Shannon Stokes, 2003):

“[There is a hypothetical household where] the male head has been HIV-positive for eight years and has had a series of opportunistic infections and illnesses over the past two years.

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This has reduced his contribution to on-farm production by 50 percent. In addition, the man has had to forego three months of off-farm work that has traditionally supplemented household income. During the past year his disease has progressed to clinical AIDS and he is no longer able to contribute to productive work either on- or off-farm. His wife now devotes 50 percent of her time to caring for her husband and she has had to reduce her agriculturally productive labour by a comparable amount. The couple's four children range in age from 4 to 13 years of age. The oldest child has been withdrawn from school to assist with agricultural production and with child care.

A survey of this household employing human capital indicators should identify a number of impacts on the household's human capital. First is identification of a household member with a chronic illness that limits his productive activities. Secondly, the reduction in labour available to the household suggests a number of likely additional impacts on other dimensions of human capital, as well as other livelihood assets. The withdrawal of the eldest child from school, the reallocation of the wife's time away from productive labour, the loss of off-farm employment, the decline in on-farm labour that is likely to reduce the area cultivated and shift cropping patterns to less labour-intensive practices should all be measured by these indicators. These impacts on the human capital of the household can be expected to directly affect its financial capital. Income from both farm and non-farm sources would be expected to decline. The household will undoubtedly draw upon whatever savings it has and likely call upon remittances from the extended family to help pay for medical care. Depending upon the length of the husband's illness before he dies, the household may also need to liquidate some of its stores of value by selling jewellery, household goods, or other items. Given the total loss of on-farm labour by the husband and the reduction in productive labour by the wife, any surplus agricultural production is likely to be lost and the household becomes oriented toward subsistence and no longer is tied to the market. The household will likely become food insecure in the near future, if it is not already experiencing difficulties.”

Think of a district or community that you know:

1. Identify the type of farming system that predominates and what other kinds of rural activities also go on (e.g. charcoal making, fishing, livestock raising, weaving and handicraft production, palm oil production, etc.).
2. What are the risk factors associated with HIV infection (e.g. the presence of a transportation hub, migrant labour, risky cultural practices such as “widow cleansing”, etc.)?
3. Assume that adult HIV prevalence is over 5 percent (i.e. that there is a generalized epidemic in the community).
 - i) Draw up a scenario to respond to the depletion of the various forms of rural capital at the household or community level that the agriculture sector could support.
 - ii) In order to have a holistic response, what other sectors (e.g. health and education) might be included in the process of developing resilience to HIV and its impacts?

SUMMARY REMARKS AND LESSONS LEARNED

AIDS has been clearly shown to have an impact on agriculture, both in terms of its impact at macro level, as well as at community and household level. These impacts, however, are not widely known in the development community. It is important to note that AIDS-related population changes, including the depletion of adults in their productive years, negatively affect production, whether it is in farming, herding, fishing or forestry. This has resultant implications for household and community food security. The module reveals how the epidemic impacts several kinds of capital (human, social, physical, financial and natural) at the household and community levels. For example, human capital is affected as agricultural skills and knowledge are not transmitted to children and youth because of the death of parents – with serious long-term implications for food security.

Developing responses to AIDS in the agriculture sector means coordination with other sectors, particularly the health sector, which is responsible for providing prevention and treatment services. The response of the agriculture sector should focus on, for example, land-tenure issues for widows and orphans, support to less labour-intensive methods of cultivation and harvesting, emphasis on encouraging nutrition-rich crops and supporting women in all phases of agricultural production and marketing. Organizations working in the agriculture sector should identify “good practices” and promote them in areas with high HIV prevalence.

Lessons learned

1. Failure to recognize AIDS as an issue in the agriculture sector can lead to greater food insecurity and rural poverty.
2. A multi-sector response is needed to counter the impacts of the epidemic while strengthening household and community resilience. Transportation, public works, health, education and justice are among key partner sectors.
3. Analysis of how rural households and communities experience depletion of capital resulting from impacts of HIV and AIDS can enable the agriculture sector to devise strategies to mitigate or prevent such depletion.
4. Analysis of farming systems can be a tool in designing AIDS responses in the agriculture sector.
5. The agriculture sector has already developed a variety of strategies, such as less labor-intensive crops, which could be used in AIDS responses in rural areas.

ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral therapy |
| ARV | Anti-Retroviral (medicines) |
| BCC | Behaviour change communication |
| CD4 | Cluster of differentiation 4 ¹⁷ |
| CDC | Centers for Disease Control and Prevention |
| FAO | Food and Agriculture Organization of the United Nations |
| GTZ | Gesellschaft für Technische Zusammenarbeit |
| HH | Household |
| HIV | Human immunodeficiency virus |
| IDU | Injecting drug user |
| MoA | Ministry of Agriculture |
| MTCT | Mother-to-child-transmission |
| NGO | Non-governmental organization |
| PLHIV | Person Living with HIV |
| PMTCT | Prevention of mother-to-child transmission |
| STI | Sexually transmitted infection |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| WHO | World Health Organization |

¹⁷ A CD4 count indicates how good the immune system of a person is. It is particularly important in the case of HIV as the virus destroys the very immune system that is supposed to fight it. So a higher CD4 count reflects a strong immune system and hence its ability to fight the virus. A person infected with HIV is provided ART only when his/her CD4 count comes below 200.

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ANNEX 1 – AIDS and agriculture issues in the 2008 Report on the Global AIDS Epidemic¹⁸

The epidemic's impact on the agricultural sector

As agriculture is a primary livelihood base for many people living with, or affected by HIV, the epidemic has had major effects on food security in high-prevalence countries. The weight of the limited but growing body of evidence indicates that HIV-affected households experience a loss of agricultural production, although some of the radical HIV-related effects feared earlier in the epidemic, such as a widespread shift toward subsistence crops, have not been documented in the few rigorous studies that have been undertaken in rural African settings (Jayne et al., 2004). Average bean production in death-affected households in Rwanda, for example, is 18 per cent lower than the national average (Donovan, 2004). The tendency of urban-dwelling, underemployed household members to return to rural communities when the household becomes affected by HIV sometimes compensates for productivity losses. However, it is unclear how long the surplus of workers in the informal sector will persist if the epidemic's burden continues to mount (Jayne et al., 2004).

Mitigating the impact on agriculture

Few scaled-up interventions have been implemented, much less evaluated, to mitigate the epidemic's impact on agricultural sectors and food security (Barnett, 2004). A four-pronged approach is recommended to mitigate the epidemic's effects on agriculture and food security. The approach consists of: initiatives to protect and improve the livelihoods of rural households (through both farm and non-farm avenues); social protection policies to provide financial and nutritional assistance where appropriate; focused nutrition programmes for key populations at higher risk (e.g. girls and women); and improvements in the development, implementation, and accountability of policy-making in the agricultural sector (Gillespie & Kadiyala, 2005).

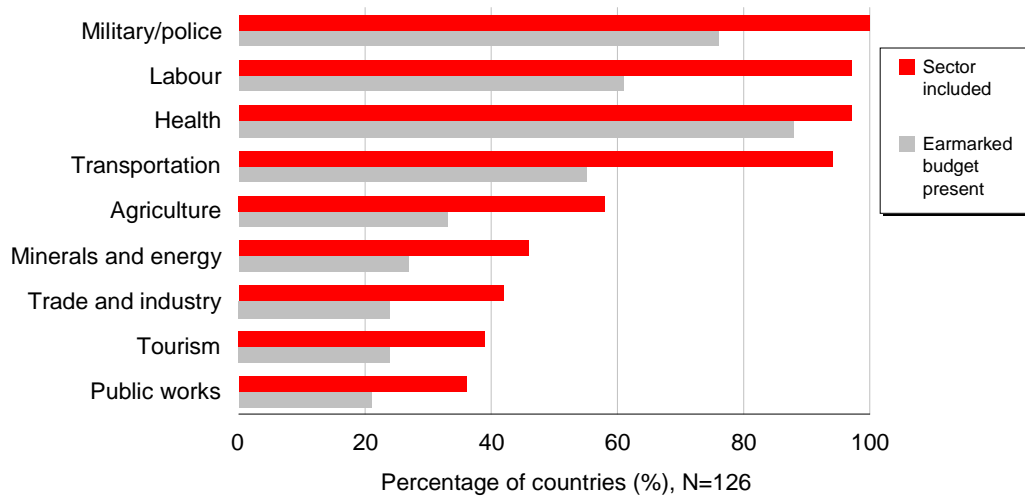
Of the 33 countries with generalized epidemics reporting these data, 58 per cent report including the agricultural sector in national HIV strategies, although one in three (33 per cent) governments report that there is no earmarked budget to address HIV in the agricultural sector (UNGASS Country Progress Reports 2008).

The 33 countries with generalized epidemics reporting these data generally include labour (97 per cent), military and police (100 per cent), and transport (94 per cent) in their national HIV strategies. Other areas are included less frequently in national HIV strategies; agriculture is addressed in 58 per cent of strategic plans in countries with generalized epidemics, trade and industry in 42 per cent, minerals and energy in 46 per cent, tourism in 39 per cent, and public works in 36 per cent. Even when they are included in national HIV strategies, many non-health sectors do not receive budget support to address the epidemic's sectoral impact, according to government reports (UNGASS Country Progress Reports 2008) (Figure 6.7) page 172.

¹⁸ The sections are quoted in full from p.174 of the report. UNAIDS. 2008. 2008 Report on the global AIDS epidemic. Geneva.

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Figure 12. Percentage of countries with sectors included in the national AIDS strategy and earmarked budgets



Food distribution and agriculture support by donors

International donors should devote increased financial and technical resources to efforts to mitigate the epidemic's impact. In addition to project-specific activities, such as food distribution or psychosocial support to HIV-affected families, donors should deliver the budgetary support required to implement strong social cash transfer regimes. Governments, donors and nongovernmental organizations should pay increased attention to strategies focused on supporting kinship and community networks that are struggling to care for the large and growing number of children orphaned or made vulnerable by HIV.

Strong national capacity for data collection and analysis, and multidisciplinary policy development is required to ensure the soundness of national approaches to impact mitigation. As noted, many of the policy reforms proposed to alleviate the epidemic's effects may inadvertently exacerbate other problems, such as HIV risk and vulnerability, economic inequality, and HIV stigma. The traditional "silo" approach to decision-making—whereby decision-making jurisdiction for individual ministries is sharply delineated and ministerial 'turf' is carefully guarded—does not promote the long-term effectiveness and sustainability of impact mitigation strategies. Agriculture ministries, for example, may have impressive expertise on crop distribution, agricultural productivity and the like, but they may lack an understanding of the ramifications of particular policies on rural wages, population migration, or subgroups of HIV-affected households. Similarly, finance ministries, while rightly focused on balancing budgets in the short term, may be poorly equipped to assess the long-term financial wisdom of immediate investments in impact mitigation. Page 177.

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A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS



MODULE

The Role of Nutrition in the AIDS Response



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Module 4: The Role of Nutrition in the AIDS Response

AIMS

The aims of this module are the following:

1. To achieve a general understanding of the role of nutrition in responses to AIDS.
2. To understand ways of using the comparative advantage of the agriculture sector in promoting appropriate nutrition for people affected by or living with HIV.

OBJECTIVES

Upon completing the module, the learner should have a basic understanding of the following issues and practices:

1. The association between HIV and nutrition and the benefits of good nutrition for people living with HIV.
2. Nutrient needs for people living with HIV according to sex, age and disease stage.
3. Antiretroviral therapy interactions with food and nutrition and the nutritional management of these side effects.
4. Dietary management of HIV co-infections such as tuberculosis.
5. Impacts of HIV and AIDS on household nutrition.
6. Preparation of safe and nutritious food using low cost and labour-saving methods.
7. The role of the agriculture sector in supporting household and community-level responses for the nutritional needs of PLHIV, as well as the role of other sectors, such as education and health

QUESTIONS FOR REFLECTION

1. What is the role of the agriculture sector in nutritional care, treatment and impact mitigation for PLHIV?
2. What can other sectors such as health and education do? How can partnerships between agriculture, health, education and other relevant sectors be established, and what are their respective comparative advantages?
3. What factors does one need to consider when setting up or implementing suitable nutrition interventions to support PLHIV in urban and rural households?

INTRODUCTORY REMARKS

It has been found that improving nutrition and food security for people living with HIV (PLHIV) is an important aspect of the response to the epidemic. Nutrition is an area of comparative advantage that actors in the agriculture sector (e.g. FAO staff, Ministries of Agriculture and NGO staff) have in responding to HIV. This module provides practical insights into how to integrate HIV issues into nutrition programmes. In addition, it serves as a useful guide for policy and programme development on nutrition issues, giving particular guidance on how to address HIV challenges. Evidence has shown important links between improved HIV outcomes and nutrition. Adequate nutrition is necessary to maintain the immune system, manage opportunistic infections, optimize response to medical treatment, sustain healthy levels of physical activity and support an optimal quality of life for people

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living with HIV (PLHIV) as well as their households. Good nutrition can also contribute to slowing the progression of the disease.

READINGS: AN OVERVIEW OF NUTRITION ISSUES AND HIV

1. Nutrition and HIV

Poor nutrition quickens the progression from HIV to AIDS while good nutrition slows it down. Adequate nutrition is necessary to:

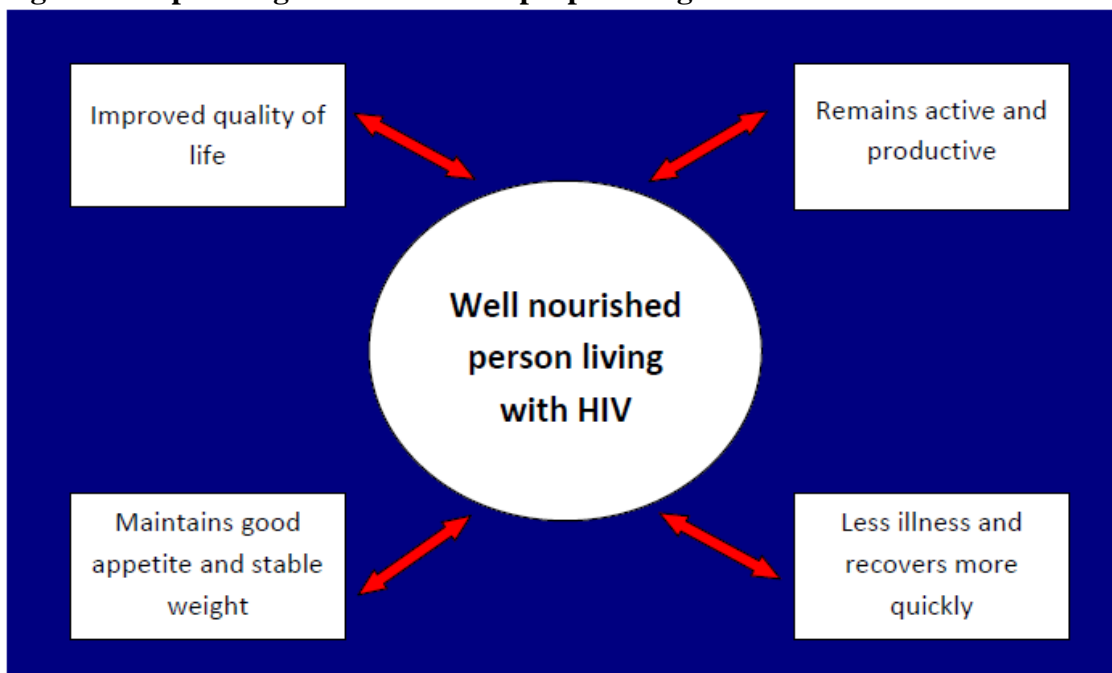
- Maintain the immune system
- Manage opportunistic infections
- Optimize the benefits of antiretroviral drugs and increase compliance with treatment regimens – both of which are essential to prolong the lives of people living with HIV and to prevent the transmission of HIV from mother to child
- Sustain healthy levels of physical activity
- Support optimal quality of life for a people living with HIV (PLHIV)

1.1 The role of nutrition in supporting people living with HIV (PLHIV)

People living with HIV who are well nourished are likely to:

- Have improved quality of life and thus able to work and contribute to family income
- Have prolonged good health and thus remain active and able to care for themselves and help with the care of children and other dependants
- Have reduced illnesses and recover more quickly from infections, therefore reducing costs for health care
- Maintain a good appetite and stable weight
- Children can go to school regularly, resulting in better education and development

Figure 1. Impact of good nutrition on people living with HIV



(Source: FAO and WHO, 2002)

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Evidence has shown important links between improved HIV outcomes and nutrition. Epidemiological studies show a strong relationship between micro-nutrients and HIV and progression, and the efficacy of ARV drug treatment is greatly increased by sound nutrition¹. Two studies, one from India and another from Kenya are provided below to illustrate the role of nutrition in the well-being of people living with HIV.

Box 1. Case study of nutritional therapy for HIV-positive people in India

A study conducted in India found conclusive evidence that providing micro and macronutrients to people living with HIV greatly improves their health and quality of life.

| | |
|---------------------------------|--|
| <i>Description of the study</i> | The 18-month study was undertaken in three centres, in India covering 10 districts that provide antiretroviral therapy (ART). It involved the supply of both micro and macronutrients to people, both adults and children, who were on ART as well as those who did not require it. The objective was to study how nutritional supplementation helped in improving the subjects' health, which in turn improved the socio-economic parameters. Macronutrient supplements (calories, protein, carbohydrate, fat and fibre) were provided to 10,780 people and micronutrient supplements (Vitamin A, B, C and folic acid, to name a few) in the form of tablets to 11,109. |
| <i>Results</i> | CD4 count showed most significant improvement in those on treatment. In the case of those on ART, the CD4 count that was 113 at the time of starting the study, shot up to 309 six months after the supplementation programme, and finally reached 402 at the end of the 18-month study period. In the case of those who do not require ART, the improvement was marginal — 494 at the start to 515 at the end of the study duration |
| <i>Delay progression</i> | For those already on ART, an improvement in CD4 count delays the onset of AIDS related health problems. Weight gain was 5 kg in the case of men and 4 kg in the case of women on ART; it was 4 kg in men and 2 kg in the case women who were not did not need treatment |
| <i>TB co-infection</i> | As the health of people improved, the rate of TB dropped. Most significant drop was seen in those on ART — from 25 per cent co-infected with TB at the start of the study to 5 per cent at the end of the study period. This is only to be expected as those on ART had a weaker immune system. In the case of those who did not need treatment, TB rate dropped from 10 to 3 per cent after 18 months. Other than TB, the major opportunistic infections affecting people with AIDS showed a drastic drop from 46 per cent to 10 per cent at the end of the study period. The drop was 20 to 10 per cent in the case of those who did not require ART. |
| <i>Percentage employed</i> | Nutritional supplementation improved health hence significant improvement in the number of people being employed. Greatest impact on those who were on ART — the percentage more than doubled from 30 at the start of the study to 62 after 18 months. In the case of those not on ART, the percentage increase was 48 to 64 at the end of 18 months. In addition the number of hours worked in a week shot up from 11 to 31 at the end of one year and then dropped to 27 at the end of 18 months in those on ART. The second group showed a steady increase from 19 hours to 27 hours for the same period. The increase in the number of hours worked thus resulted in more income generation in both groups — those on ART and those who were not. In the case of children, the school going status and attendance improved significantly |

(Source: Prasad, 2008)

¹ Piwoz, E. and Preble, E. 2000. HIV/AIDS and nutrition: a review of the literature and recommendations for nutritional care and support in sub-Saharan Africa. Washington, Academy for Educational Development. (http://repository.forcedmigration.org/show_metadata.jsp?pid=fmo:3406)

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Box 2. Findings from a programme in Kenya: Academic model for the prevention and treatment of HIV (AMPATH)

In Kenya, as part of AMPATH, which started in 2002, nutrition support is being provided to patients lacking food security in 19 locations (as determined by the programme criteria). By the beginning of 2008, an estimated 50 000 people living with HIV were to have been reached. At any given site, an estimated 20-50 percent of people living with HIV are accessing food support through the HAART and Harvest Initiative of AMPATH. A review in 2006 found that patients enrolled in the nutrition supplement programme, while taking antiretroviral therapy reported greater adherence to their medication, fewer food-related side effects and a greater ability to satisfy increased appetites. The majority of patients experienced weight gain, recovered physical strength and were able to resume labour activities. Food is provided for individuals and their dependents for up to six months after the start of antiretroviral therapy. Patients unable to meet their food needs after this period can enter a weaning programme that provides food and training aimed at enhancing long-term food security.

(Source: Byron, Gillespie and Nangamib, 2006)

1.2 Nutrition requirements for PLHIV²

A nutritious diet is one that contains a variety of foods as no single food contains all the nutrients that our bodies need³. Eating a variety of different foods supplies the nutrients that are essential to our bodies⁴. “By taking care to choose foods that are in season and locally available, eating can be enjoyable, healthy and affordable.”⁵ A healthy diet, particularly for those living with HIV, can be achieved by choosing and eating a variety of foods that provide energy, proteins, vitamins, minerals and water. People living with HIV should choose and eat foods from different food groups at each meal. These food groups include the following:

Table 1. Food groups

| Food group | Example | Explanation |
|--|---|--|
| 1. Staple foods (Cereals, cooking bananas, roots and tubers) | Maize, rice, millet, wheat, sorghum; yams, cassava, potatoes; and cooking bananas (plantains) | Staple foods make up the largest part of a meal. These foods are relatively cheap and supply a good amount of energy and some vitamins, minerals and protein. |
| 2. Legumes, nuts and foods of animal origin | Beans, peas, lentils, groundnuts (including peanut butter), soybeans, beef, poultry, fish, offal, pork, milk, milk products, eggs, peas, beans, peanuts and insects such as caterpillars or grasshoppers, | These foods provide a person with the proteins needed to develop and repair the body and also to build up strong muscles. This group contains food from both plant and animal sources. Plant sources provide good amount of protein vitamins, minerals and fibre and help to keep the immune system active. Animal sources provide an excellent quality of proteins, vitamins and minerals and extra energy. |

² Information in this section is largely taken from: WHO. 2003. Nutrient requirements for people living with HIV/AIDS: report of a technical consultation, World Health Organization, Geneva, 13–15 May. Geneva. (http://www.who.int/nutrition/publications/Content_nutrient_requirements.pdf); Government of Kenya – Ministry of Health. 2006. Kenyan National guidelines on nutrition and HIV/AIDS. Nairobi. (http://www.fantaproject.org/downloads/pdfs/Kenya_Nutrition_Guidelines_2006.pdf).

³ Except for breast milk for babies up to the age of six months. See: FAO and WHO. 2002. Living well with HIV/AIDS: a manual on nutritional care and support for people living with HIV/AIDS. Rome, FAO. (<http://www.fao.org/docrep/005/y4168e/y4168e00.HTM>)

⁴ FAO. 2004. Family nutrition guide. Rome, Italy. (<http://www.fao.org/docrep/007/y5740e/y5740e07.htm#bm07>)

⁵ FAO and WHO. 2002. Living well with HIV/AIDS: a manual on nutritional care and support for people living with HIV/AIDS. Rome, FAO. (<http://www.fao.org/docrep/005/y4168e/y4168e00.HTM>)

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| | | |
|----------------------------------|--|--|
| 3. Fruits | Pawpaw, mangoes, oranges, tangerines, guavas, peaches, passion fruit, grapefruit, pineapples and baobab fruits | They are good sources of vitamins and minerals. These foods are especially important for people living with HIV to fight infection. Eat a wide variety as each one provides different vitamins and minerals. |
| 4. Vegetables | Sweet potato leaves, cassava leaves, pumpkin leaves, amaranth, okra, carrots, pumpkins, tomatoes, spinach, eggplant, green peppers as well as indigenous vegetables | They provide vitamins and minerals. These foods are important for people living with HIV and AIDS to fight infection. Eat a wide variety as each one provides different vitamins and minerals. |
| 5. Fats/Oils and sugar | Butter, lard, margarine, cooking oil (vegetable, coconut and palm oil), cream, and coconut cream. They are also found in avocados, oilseeds (sunflower, groundnut and sesame), fatty meat and fish. Sugars and sugary foods include honey, jam, table sugar, cakes and biscuits. | They are good sources of energy and can help one gain body weight, which can be particularly important for those living with HIV. They also add flavour to food, thereby stimulating appetite. |
| 6. Water and other fluids | Drinking water, fruit juices, soups | Clean and safe water is important for life and is necessary every day. A person needs about eight cups of fluid per day which is equal to two and half litres of water per day. |

(Source: Tanzania Food and Nutrition Centre, 2003)

Nutritious eating patterns and lifestyle strengthen the immune system. Nutrients have particular importance in maintaining a healthy immune system, especially for PLHIV. It is therefore necessary to eat a variety of foods to get adequate nutrients. Important nutrients, and specifications for PLHIV, include:

- **Carbohydrates:** provide a rich source of energy for all body functions. When a person does not eat sufficient carbohydrates the body will use its stored protein for energy. It is therefore important for PLHIV to meet their daily carbohydrate requirements so as to avoid the use of stored protein which is highly needed.
- **Protein:** when a person does not eat enough protein, the body begins to break down its muscle tissue, resulting in weight loss and muscle wasting. People living with HIV have increased protein requirements.
- **Fats:** provide a concentrated form of energy. “There is no evidence that total fat needs are increased beyond normal requirements as a consequence of HIV infection. However, special advice regarding fat intake might be required for individuals undergoing antiretroviral therapy.”⁶
- **Vitamins and minerals:** help build a strong immune system and keep the linings of the lungs and the gut intact. This makes it more difficult for germs to enter the body and cause infection. Vitamins A, C, E, selenium, zinc and iron act as antioxidants. They are associated with the prevention of body cell damage and protection from infections. Adequate intake of vitamins and minerals is best achieved through an adequate diet. HIV-infected adults and children should maintain healthful diets that ensure micronutrient

⁶ WHO, 2003.

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intakes at recommended levels. However, dietary intake of vitamins and minerals may not be sufficient to correct nutritional deficiencies in HIV-infected individuals. In settings where these intakes and status cannot be achieved, multiple micronutrient supplements may be needed for high-risk groups such as pregnant and lactating women. Nevertheless, there is evidence that some supplements e.g. zinc and iron, can produce adverse outcomes in HIV-infected people.

- **Dietary fibre:** food high in dietary fibre helps to promote bowel function and to prevent and treat constipation.
- **Water:** although water is not food, it may be regarded as the most important nutrient as it is the body's principal transporting agent and an indispensable agent in metabolic activities of all cells.

There are a range of factors that influence the nutritional requirements of people living with HIV – e.g. age, physiological changes (pregnancy, breastfeeding), physical activity, clinical stages of health, metabolism and viral load count. The stage of disease progression also influences nutritional requirements. For example, the absence or presence of symptoms such as fever, diarrhoea, weight loss, and wasting can determine the advisable intake levels.

Table 2. Daily nutrient requirements of PLHIV⁷

| Category | Energy requirements | Examples of portions of food needed to meet energy requirements |
|--|---|---|
| Healthy HIV uninfected adult | 1,999 to 2,580 Kilocalories | |
| Adult-infected (early/asymptomatic stage) | 10% more energy (additional 210 kcal) | One fistful of phutu ⁸ or a cup of porridge taken during the course of the day. |
| Adult -HIV infected (late/symptomatic stage) | 20% to 30% more energy (additional 420 to 630 kcal) | Two to three fistfuls of phutu or two to three cups of porridge taken during the course of the day. |
| HIV-infected children | 10% more energy if asymptomatic 20 to 30% if symptomatic 50 to 100% for children losing weight. | |

*The requirements for adults also apply to pregnant and breastfeeding women.

Specific requirements for children with HIV include:

- For HIV infected children (5-59 months) living in resource limited settings, periodic vitamin A supplementations (100, 000 IU for infants aged six-12 months) and 200,000 IU for children > 12 months).

⁷ Extracted from: Government of Kenya – Ministry of Health, 2006.

⁸ Phutu (pronounced "poo-too") is a traditional maize meal from South Africa. It is a crumbly or grainy type of pap or porridge eaten mainly by the Basotho, Bantu and Afrikaner people. It is cooked in cauldrons or *potjies* over an open fire, stirred with great effort until a consistency in texture is reached. It is often eaten with meat, beans, gravy and/or sour milk. In West Africa, corn meal *tuwo* (Hausa) or *toh* (Bamana) is very similar. In northern Italy, *polenta* is the traditional peasant equivalent.

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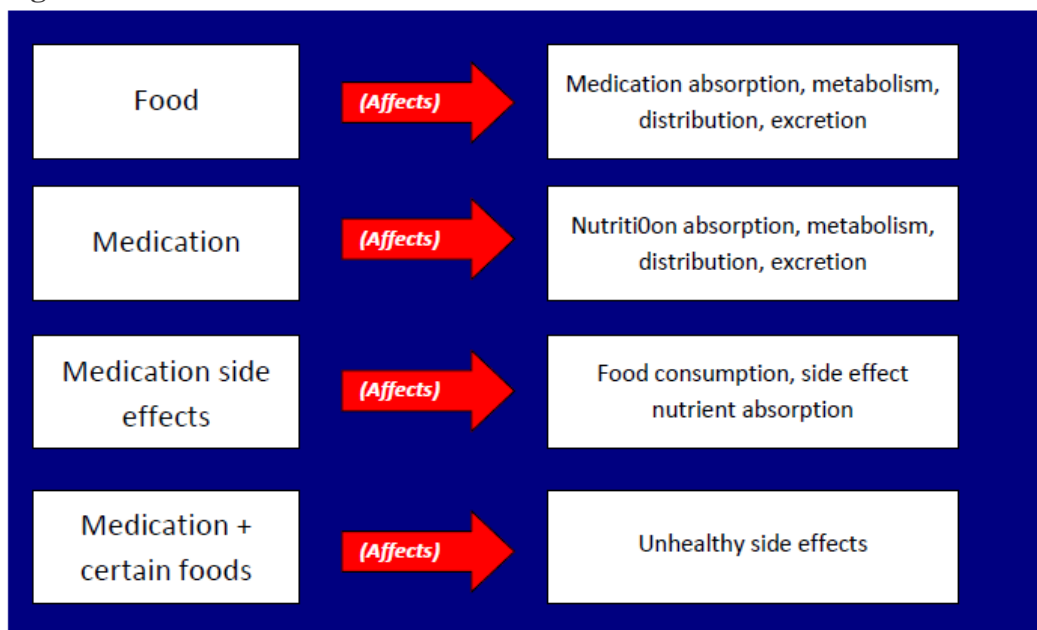
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- There are no data on the efficacy of other micronutrient supplements for HIV-infected children.
- To prevent anaemia, daily iron-folic acid supplementation (400 µg (microgrammes) and 60mg of iron) during 6 months of pregnancy and twice daily to treat severe anaemia. This applies to both pregnant women living with HIV or not.
- Daily vitamin A intake by HIV-infected women during pregnancy and lactation should not exceed the recommended levels. A single high-dose of vitamin A (200, 000 IU) is given to women as soon as possible after delivery, but no later than six weeks after delivery.

1.3 ART and nutritional requirements

Nutrition is an essential component of antiretroviral therapy (ART) interventions, particularly in resource limited settings. For ART to be effective there must be regular food supply, a good nutrition plan and continuous support to ensure healthy eating. Poor nutrition reduces the body's ability to absorb medication and individuals may find it difficult to cope with the side effects of ART. Good nutrition helps improve the effectiveness of ART, hence supporting the recovery of the defence system and improving overall well-being. "Interactions between antiretroviral therapy (ART) and food and nutrition can affect medication efficacy, nutritional status, and adherence to drug regimens."⁹ Drug-food interactions consist of the effects of food on medication efficacy, the effects of medication on nutrient utilization, the effects of medication side effects on food consumption, and negative side effects caused by medication and certain foods (see Figure 2).

Figure 2. Interactions between medications and food/nutrition



(Source: Castleman, Seumo-Fosso and Cogill, 2004)

⁹ Castleman, T., Seumo-Fosso, E. and Cogill B. 2004. Food and nutrition implications of antiretroviral therapy in resource limited settings. Food and nutrition technical assistance – Technical note No. 7. Washington, Food and Nutrition Technical Assistance Project, Academy for Educational Development.
(http://www.fantaproject.org/downloads/pdfs/tn7_ARVs.pdf)

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In order to address these implications resulting from the interactions, there is need to work with people living with HIV and caregivers to identify the specific food and nutrition requirements of the medications being taken and to develop feasible food and drug plans to meet these requirements. Programmes working with people taking ART may need to strengthen human capacity to address nutritional issues, establish linkages to food and nutrition programmes, incorporate information about drug-food interactions into communication materials and introduce staff training, orientation and supervision. Table 3 shows antiretroviral medicines (ARVs) and related food recommendations. It should be kept in mind that some drugs are to be taken with food and this could prove to be a challenge for resource poor settings. It is advisable to work closely with food support programmes such those supported by the World Food Program (WFP) or other local food aid support organizations.

Table 3. ARVs: possible side effects and food recommendations

| Medication generic name (abbreviation) | Food recommendations | Avoid | Possible side effects |
|---|--|--|--|
| efavirenz (EFZ) | Can be taken without meals, except do not take with a high fat meal (A high fat meal reduces drug absorption). | Alcohol | Elevated blood cholesterol levels, triglyceride levels, rash, dizziness, anorexia, nausea, vomiting, diarrhoea, dyspepsia, abdominal pain, flatulence. |
| nevirapine (NVP) | Can be taken without food. | St. John's wort | Nausea, vomiting, rash, fever headache, skin reactions, fatigue, stomatitis, abdominal pain, drowsiness, paresthesia, high hepatotoxicity. |
| abacavir (ABC) | Can be taken without food. | | Nausea, vomiting, fever, allergic reaction, anorexia, abdominal pain, diarrhoea, anaemia, rash, hypotension, pancreatitis, dyspnea, weakness, insomnia, cough, headache. |
| didanosine (ddI) | Take 30 minutes before or two hours after eating. Take with water only (taking with food reduces absorption). | Alcohol. Do not take with juice or antacids containing aluminium or magnesium. | Anorexia, diarrhoea, nausea, vomiting, pain, headache, weakness, insomnia, rash, dry mouth, loss of taste, constipation, stomatitis, anaemia, fever, dizziness, pancreatitis. |
| lamivudine (3TC) | Can be taken without food | Alcohol | Nausea, vomiting, headache, dizziness, diarrhoea, abdominal pain, nasal symptoms, cough, fatigue, pancreatitis, anaemia, insomnia, muscle pain, rash. |
| stavudine (d4T) | Can be taken without food. | Limit the consumption of alcohol | Nausea, vomiting, diarrhoea, peripheral neuropathy, chills and fever, anorexia, stomatitis, anaemia, headaches, rash, bone marrow suppression, pancreatitis. May increase the risk of lip dystrophy. |
| tenofovir (TDF) | Take with a meal. | | Abdominal pain, headache, fatigue, dizziness. |
| zidovudine | Better to take without food, but if it causes | Alcohol | Anorexia, anaemia, nausea, vomiting, bone marrow suppression, |

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| (ZDV/AZT) | nausea or stomach problems, take with a low-fat meal. Do not take with a high-fat meal. | | headache, fatigue, constipation, dyspepsia, fever, dizziness, dyspnea, insomnia, muscle pain, rash. |
| indinavir (IDV) | Take on an empty stomach, one hour before or two hours after a meal. Or take with a light, non-fat meal. Take with water. Drink at least 1500 ml of fluids daily to prevent kidney stones. | Grapefruit. St John's wort | Nausea, abdominal pain, headache, kidney stones, taste changes, vomiting, regurgitation, diarrhoea, insomnia, ascites, weakness, dizziness. May increase the risk of lipodystrophy. |
| lopinavir (LPV) | Can be taken without food. | St John's wort. | Abdominal pain, diarrhoea, headache, weakness, nausea. May increase the risk of lipodystrophy. May increase the risk of diabetes. |
| nelfinavir (NFV) | Take with a meal or light snack. Taking with acidic food or drink will cause a bitter taste. | St John's wort. | Diarrhoea, flatulence, nausea, abdominal pain, rash. May increase the risk of lipodystrophy. |
| ritonavir (RTV) | Take with a meal if Possible. | St John's wort | Nausea, vomiting, diarrhoea, hepatitis, jaundice, weakness, anorexia, abdominal pain, fever, diabetes, headache, dizziness. May increase the risk of lipodystrophy. |
| saquinavir (SQV) | Take with a meal or light snack. Take within two hours of a high fat and high calcium meal. | Garlic supplements. St John's wort. | Mouth ulceration, taste changes, nausea, vomiting, abdominal pain, diarrhoea, constipation, flatulence, weakness, rash, headache, insomnia. May increase the risk of lipodystrophy. |

(Source: Castleman, Seumo-Fosso and Cogill, 2004)

Some drugs only work well when taken at a specific time in relation to a meal. Other drugs will bring about side effects as shown in the previous table (table 3). Table 4 highlights the nutritional management of ARV side effects.

Table 4. Nutritional management of ARV side effects

| Side Effect | Recommended nutritional management |
|-------------------------|--|
| Anorexia | Eat small and frequent meals. Eat favourite foods. Select foods that are energy dense. Avoid strong smelling foods. |
| Change or loss of taste | Use flavour enhancers such as salt, spices, or lemon. Chew food well and move around in mouth to stimulate receptors. |
| Constipation | Eat foods high in fibre content. Drink plenty of liquids. Avoid processed or refined foods. Exercise regularly according to capacity. |
| Diarrhoea | Drink plenty of fluids. Continue eating during and following illness. Prepare and drink rehydration solution regularly. Avoid fried foods. |
| Fever | Drink plenty of fluids. Eat energy and nutrient dense foods. |
| Flatulence | Avoid gas-forming foods, such as beans, cabbage, broccoli, and cauliflower. |
| High blood cholesterol | Eat a low fat diet and limit intake of foods rich in cholesterol and saturated eat. Eat fruits and vegetables daily. Exercise regularly according to capacity. |
| High triglycerides | Limit sweets and excessive carbohydrate and saturated fat intake. Eat fruits, vegetables, and whole grains daily. Avoid alcohol and smoking. Exercise |

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|--------------------|---|
| | regularly according to capacity. |
| Nausea or vomiting | Eat small quantities of food at frequent intervals. Drink after meals and limit intake of fluids with meals. Avoid having an empty stomach. Avoid lying down immediately after eating. Eat lightly salty and dry foods to calm the stomach. Rest between meals. |

(Source: Castleman, Seumo-Fosso and Cogill, 2004)

1.4 HIV and co-infections and the role of nutrition

When the immune system of a person living with HIV is weakened, they are more susceptible to opportunistic infections, such as tuberculosis, pneumonia, chronic diarrhoea and oral thrush. Vulnerability to infection is influenced by the nutritional status of an individual. It therefore becomes critical to support good nutrition in people living with HIV.

The role of nutrition in tuberculosis (TB):

Nutrition plays an important role in the aetiology, complications and therapy of tuberculosis.¹⁰ The combined burden and effect of TB and HIV co-infection is notable. In the context of TB and HIV, attention should be focused on specific symptoms, such as weight loss, diarrhoea, loss of appetite, nausea, as well as micronutrient deficiencies known to commonly occur among TB and HIV-infected individuals, and to cause adverse impacts in the short and longer-term. Factors that affect food intake, such as food availability, appetite, eating patterns, medication side effects, traditional food taboos, lifestyles (e.g. smoking, alcohol consumption, physical activity, caffeine intake, use of social drugs), psychological factors (e.g. stress and depression), stigma and economic factors are also very important to consider.

Drug-nutrient interactions:

Isoniazid is one of the most frequently used drugs to treat tuberculosis. The drug may cause Vitamin B6 deficiency and therefore adults should take daily B6 supplements¹¹. Children are not routinely given vitamin B6, but if their blood levels are low or if they take large doses of isoniazid, they will also get vitamin B6 supplements. Table 5 highlights the potential side effects of TB drugs and the drug-nutrient interactions.

Table 5. TB drugs: Potential side effects and drug-nutrient interactions

| Drug | Guidelines for use | Potential Side Effects | Potential drug-food and nutrient interactions | Nutrition management |
|-------------|---|--|---|--|
| Isoniazid | <ul style="list-style-type: none"> • Take on empty stomach, 30 minutes before or 2 hours after meal. • Increased requirements for pyridoxine, folate, niacin) and magnesium | <ul style="list-style-type: none"> • Hepatitis, constipation, anaemia, fatigue • May decrease absorption of pyridoxine, calcium, vitamin D | <ul style="list-style-type: none"> • May react with bananas, beer, pickled fish, yeast and yoghurt | <ul style="list-style-type: none"> • Bananas, beer, pickled fish, yeast and yoghurt should be avoided |

¹⁰ Gauss, H. 1936. Nutrition and tuberculosis. *Chest*, 2: 20-24. (<http://www.chestjournal.org/content/2/7/20.full.pdf>)

¹¹ Consult national nutrition guidelines for supplements dosages.

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| | | | | |
|----------|---|--|--|--|
| Rifampin | <ul style="list-style-type: none"> • Take on empty stomach, 30 minutes before or 2 hours after meal. • Supplement with 10mg vitamin B6 daily. • Not to be taken with alcohol | <ul style="list-style-type: none"> • GI irritation, anaemia, jaundice, pancreatitis | <ul style="list-style-type: none"> • Altered taste • Anorexia • May interfere with folate and vitamin B12 | |
|----------|---|--|--|--|

(Source: NICUS., 2000)

2. Nutrition and the household

HIV has an impact on household nutrition. When an adult becomes sick, the household faces increased spending for health care, decreased ability to carry out work and higher demand on time for care. The household may find itself without cash reserves and may become indebted and forced to sell livestock and other productive resources¹².

2.1 Impacts of HIV and AIDS on household nutritional status

Food consumption generally decreases in HIV-affected households. This is due to both a lack of food and the time and the means to prepare meals, particularly in situations where the mother dies. A study in Tanzania found that that “per capita food consumption decreased 15 percent in the poorest households when an adult died”, while in Uganda “food insecurity and malnutrition were foremost among the immediate problems faced by female-headed AIDS-affected households”¹³.

Households affected by HIV also face nutrition vulnerabilities as availability of, and access to, food declines. Also, as demand for care increases, households may be forced to reallocate labour from food preparation to patient care. Households facing labour shortages may replace valuable and nutritious crops that are labour-intensive with root crops that require less labour input and mature quickly. In addition as households face income shortages, they may not be able to purchase nutritious food. Household members therefore consume mainly starchy foods. High levels of malnutrition among children, especially orphans, likely stem from these changes in crops grown.¹⁴

Households facing income shortages may sell livestock to generate cash to meet medical expenses and to compensate for labour shortages. Some animals are slaughtered for food consumption, while others may die because of poor management and neglect. The sale and death of animals subsequently leads to declines in draught power, manure for fertilizer and milk. These factors negatively impact household food consumption and nutrition status.

¹² Egal, F. and Valstar, A. 1999. HIV/AIDS and nutrition: helping families and communities to cope. In J.L. Albert, ed. Food, nutrition and agriculture, pp. 20-26. Rome, FAO.
<ftp://ftp.fao.org/docrep/fao/X4390t/X4390t04.pdf>

¹³ FAO. 2001. *The impact of HIV/AIDS on food security*. Committee on World Food Security, Twenty-seventh Session. Rome. (<http://www.fao.org/docrep/meeting/003/y0310e.htm>)

¹⁴ Barnett, T. and Rugalema, G. 2001. HIV/AIDS – A critical health and development issue. In P. Pinstrup-Andersen and R. Pandya-Lorch, eds. *The unfinished agenda perspectives on overcoming hunger, poverty, and environmental degradation*. Washington, International Food Policy Research Institute.
<http://www.ifpri.org/sites/default/files/publications/ufa.pdf>

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Evidence from eastern and southern Africa reveals that households affected by HIV and AIDS not only eat fewer meals and consume nutrient-poor foods, but also tend to invest less in the health of surviving members.¹⁵ This can have knock-on-effects in terms of household livelihood and food insecurity and can drive some household members to engage in transactional sex to secure income and food, thus creating further vulnerability to HIV.

2.2 Improving the quality of household foods to enhance nutrition

Most staple foods are low in energy and important nutrients, and they generally need to be processed to make them digestible and to improve the absorption of nutrients. This is particularly relevant for people living with HIV due to their additional nutrient requirements and since HIV may affect food digestion and absorption. It is therefore important for HIV-affected households to get the most nutrients possible from the food they eat. For example, processing foods can improve the absorption of nutrients and can make it easier for food intake.¹⁶

Several steps can be taken to improve the quality of food:¹⁷

1. Enrich foods by adding other foods that are high in energy and nutrients (proteins and micronutrients):
 - High energy – e.g. oils, butter, margarine, ghee, sugar
 - High protein – e.g. groundnut paste, milk, milk powder, eggs
2. Add germinated and sprouted seeds to local foods to improve nutrient availability and digestibility:
 - Germinated and sprouted foods are easily digested and absorbed and help the body digest and absorb other foods.
 - Cereals such as maize, sorghum and millet can be germinated, dried and milled into flour which can be used to prepare porridge.
 - Legumes such as beans, cowpeas, chickpeas and green peas can be sprouted and prepared as vegetables to eat with other foods.
3. Use fermented foods:
 - Fermentation helps digestion and absorption.
 - If eaten with other foods, fermented foods help the body digest and absorb those foods.
 - Fermented foods include sour milk, yoghurt, sour porridge and sour water.
4. Use fortified foods:
 - Some cereal flour, cooking oils and margarine are fortified with nutrients.
 - Supplementary foods such as corn-soy-blend are fortified with vitamins and minerals.

¹⁵ de Waal, A. and Tumushabe, J. 2003. HIV/AIDS and food security in Africa, a report for DfID. (http://www.sarpn.org/documents/d0000235/P227_AIDS_Food_Security.pdf)

¹⁶ Some symptoms related to HIV (e.g. mouth sores, thrush, altered taste, nausea and vomiting) or side effects of ARVs require modifying foods to make it easier for PLHIV to chew and swallow them. Also, some patients may be too sick to eat solid foods.

¹⁷ Extracted from: Regional Centre for Quality of Health Care. 2008. Nutrition care for people living with HIV and AIDS: training manual for community and home-based care providers facilitators guide and participant handouts. Kampala. (http://www.fantaproject.org/downloads/pdfs/CHHNHM_FacilitatorsGuide_2008.pdf)

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5. Preserve nutrients during cooking:
 - Steaming vegetables, fish, potatoes, bananas, etc., helps preserve nutrients in the food and is cheaper than boiling or frying.
 - Wash vegetables and cut using a sharp knife. After cutting, cook immediately in very little water (or steam) and add a little oil. Eat immediately after cooking.
6. Improve taste and flavour to manage altered tastes or increase appetite:
 - Sprout, ferment or roast food to improve the taste.
 - Add avocado or lemon to improve flavour.
7. Use spices:
 - Add spices to food or drinks to increase appetite.
 - Some spices (e.g. ginger, garlic, cinnamon, cardamom, turmeric and onions) can help digestion.
 - Use hot pepper sparingly, as it may irritate the stomach.
8. Change the texture of food for people who are sick:
 - Mashing or pureeing food makes it easier to chew, swallow and digest.
 - Pounding meat before preparation makes it soft and easy to eat.
9. Reduce cooking time and fuel:
 - Soak beans overnight.
 - Hull cereals such as dry maize.
 - Ferment foods.

2.3 Food safety and hygiene

As part of good nutrition, it is important that the food people eat and the water they drink is safe from harmful germs. Food and water can be contaminated with harmful bacteria, viruses, fungi (called germs) and sometimes chemicals like pesticides. Food poisoning and infection can range from mild to severe bouts and in some cases can even be fatal. Contaminated food can harm the body and cause infection that can be severe in PLHIV. Agriculture extension workers and other actors working on nutrition should be provided with updated information agricultural practises that ensure production of safe food, including on improving hygiene in food processing and conservation.

Because HIV affects the immune system and the body's resistance to disease, people living with HIV are more vulnerable to infections and therefore have to be more careful with the food they eat and the water they drink, since any illness (including those caused by food and water) could further weaken their immune system. They have to strictly observe food and water safety and hygienic practices since unhygienic preparation, handling and storage of food and water can lead to contamination and infection¹⁸. Table 6 summarizes important considerations for good hygiene and safer food, while table 7 highlights some indications of poor quality food.

¹⁸ FAO and WHO, 2002.

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Table 6. Considerations for food safety and hygiene

| | |
|------------------------------------|---|
| Faeces disposal | <p>PLHIV and other household members should dispose of faeces safely – using a toilet or latrine is the best way. Latrines and toilets need to be cleaned frequently. Latrines should be kept covered and toilets should be flushed.</p> <p>All household members should wash their hands thoroughly with soap and water or ash and water after contact with faecal matter, particularly before touching food and before feeding children. Local governments and NGOs should help communities build sanitary latrines by giving advice on the design and construction of low-cost latrines.</p> |
| Use safe water | <p>PLHIV should be advised to only use water that is derived from a safe source or water that is purified. Water containers need to be kept covered to keep the water clean. An adequate supply of clean water and knowledge of how to keep it free of germs reduces the chance of germs and therefore reduces illnesses. If water is not clean it can be purified by boiling or filtering.</p> <p>Clean water sources include properly constructed and maintained piped systems, tube-wells, protected dug wells and springs. Water from unsafe sources (such as ponds, rivers, open tanks and step-wells) can be made safer by boiling. Water should be stored in a covered container and care must be taken during collection and storage to prevent contamination to keep it free from contamination.</p> |
| Personal hygiene | <p>PLHIV and other household members should always wash their hands with clean water and soap or ashes before, during and after preparing food or eating, and after visiting the toilet. People should: (1) use a clean cloth or towel to dry hands; (2) cover all wounds to prevent contamination of food during preparation and handling; (3) use safe clean water from protected sources (as discussed in the previous cell).</p> |
| Hygiene in the kitchen | <p>PLHIV and other household members should: (1) keep all food preparation surfaces clean; (2) use clean dishes and utensils to store, prepare, serve and eat food; (3) wash vegetables and fruit with clean running water; (4) cover food to prevent both flies and dust from contaminating the food; (5) keep rubbish in a covered bin (and empty it regularly) so as to reduce bad smells and flies, which can contaminate food with germs.</p> |
| Cooking and storage of food | <p>Germs multiply more quickly in warm food and therefore storing food in a refrigerator or cool place slows down their growth. Cooking on high heat can also kill most germs. PLHIV and other household members should be advised to eat food as soon as it is cooked. If there are leftovers, they should be covered and stored in containers away from insects, rodents and other animals. Fresh food should be stored in a cool place or refrigerator if available (see Box 3). Raw and cooked foods should not be stored together – containers should be used to avoid contact between them.</p> |
| Animal foods | <p>Meat and fish have to be cooked well (meat should have no red juices). Utensils and surfaces that have come in contact with animal products have to be washed with hot water and soap before preparing other foods. Meat and fish have to be kept separate from other foods. Eggs should be hard boiled. Do not eat soft-boiled eggs, raw eggs, cracked eggs or any foods containing raw eggs.</p> |

(Source: FAO and WHO, 2002; UNICEF et al., 2002)

Table 7. Signs of poor-quality food

| | |
|-----------------------------|---|
| Cereals and other dry foods | <ul style="list-style-type: none"> • Contain insects and dirt • Looks or smells damp or mouldy • Bag is broken • Legumes are wrinkled • Flour is lumpy |
| Roots | <ul style="list-style-type: none"> • Soft, sprouting, bruised and damaged • Rotten spots |
| Meat, poultry and fish | <ul style="list-style-type: none"> • Bad smell or colour • Fish have dull eyes or loose scales • Uninspected meat, liver, etc. may contain dangerous parasites |
| Fresh milk | <ul style="list-style-type: none"> • Smells bad • Is (or has been) exposed to dirt and flies |
| Canned foods | <ul style="list-style-type: none"> • Can is swollen, rusty or damaged |

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| | <ul style="list-style-type: none">• Food has leaked out• Food looks, smells or tastes bad• Any of these signs means the food may be very poisonous |
| ➤ People should check “sell by” (and “use by”) dates on labels and should not to buy (or use) foods after this date. | |

Box 3. Storage of fruits and vegetables in resource-constrained settings: Clay pot fridge

➤ This simple and hygienic device is used for keeping vegetables fresh.

Materials needed

- Clay pot
- Basin of water
- Cloth

Method

1. Wet the pot and the cloth.
2. Place the pot in the basin of water.
3. Put vegetables inside it and cover the pot with the wet cloth.
4. Place one corner of the cloth in the basin of water, so that water is continuously sucked into the cloth as it dries out. Vegetables can be kept for up to one week provided that clay pot fridge is kept under normal room temperature.

(Source: Food and Nutrition Council of Zimbabwe, FAO and UNICEF, 2007)

Households should take into consideration the following:

- Buy fresh foods, such as meat and fish. Look for signs of poor quality of food (Table 7). Poor-quality food has little nutritional value and poses the risk of causing food poisoning, hence increasing the risk of infection in people living with HIV.
- Wash all raw fruits and vegetables thoroughly with safe water before use.
- Dry cereals and legumes thoroughly and store them in dry place to avoid mould from growing. Mouldy cereals and legumes contain “aflatoxin” that can make people seriously ill.
- Be aware that food may also be contaminated from the point of production.
- Avoid tasting any food that may be spoiled.
- Some foods are poor value for money because they contain few nutrients – e.g. sodas (bottled fizzy drinks), ice lollies and sweets, which are mainly sugar. These foods should be kept as treats, and not eaten regularly.

3. Building the capacity of communities and households

Nutritional support for people living with HIV should be provided in a holistic manner that strengthens all three of the main preconditions of good nutrition – food security, health and environmental services and care. Various sectors, such as agriculture, health and education, have important roles to play in promoting good nutrition. Improving nutrition and food security for people living with HIV is a major aspect of the comparative advantage that organizations working in the agriculture sector have in responding to AIDS.

3.1 Role of the agriculture sector

Countries with high HIV prevalence can face challenges in ensuring adequate nutrition among the population. This is due to supplementary nutritional requirements of people living with HIV, coupled with reduced numbers of people fully active in agriculture, and hence diminished production. In other words, this can result in a reduced agricultural labour force facing difficulties meeting the increased food requirements. Nutrition policies and programmes need to address this issue further, while looking at the specific situation in countries.

The agriculture sector is in a strong position to assist in both the prevention of HIV and in mitigating impacts of the epidemic. Moreover, it has a responsibility to those who depend on agriculture for subsistence. The sector should continue to encourage and strengthen the use of appropriate labour-saving technologies (e.g. low-input agriculture, lighter ploughs and tools that can be used by older children, women and the elderly). Further areas of intervention can include the promotion of improved seed varieties that require less labour for weeding, intercropping and minimal tillage. These types of interventions promote food production and thus enhance household nutrition. Particular attention must also be paid to improving the nutrition of those living with HIV.

- Support training and awareness at community level: Training and awareness raising at community level should also involve home-based care givers, particularly those providing nutritional care and support for people living with HIV. Capacity to effectively manage food and nutrition implications of HIV is essential in ensuring the success of care and support initiatives for PLHIV in resource-limited settings. Therefore, there is need to build the capacity of service providers and groups (including home based care givers) at community level on nutritional care and support. FAO and WHO are working in this area in several countries in Southern Africa.
- Raise awareness on HIV and nutrition linkages and promote nutritional care for PLHIV: FAO and WHO have produced "Living well with HIV/AIDS: A manual on nutritional care and support for people living with HIV/AIDS"¹⁹. This manual provides home care agents and local service providers with practical recommendations for a healthy and well balanced diet for people living with HIV, emphasizing local solutions and home-based care and support. FAO and Ministry of Agriculture staff should work together to develop information communication materials to enhance people's knowledge on the nutritional needs of different age groups and to disseminate information on nutrition and HIV using appropriate channels (e.g. leaflets, posters and rural radio).
- Strengthen community-based initiatives to support HIV-affected households: It is important to conduct gender-sensitive training for extension staff and health and nutrition personnel on promoting food and nutrition for PLHIV. Possible strategies could include: home and community gardens; use of improved crop management and plant varieties; use of small ruminants for consumption, sale and manure; and nutrition education. In addition, special strategies must ensure that basic agricultural skills are transmitted to orphans and that local knowledge, including biodiversity and gender-specific skills are preserved.

¹⁹ FAO and WHO, 2002.

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Ensuring food and livelihood security can reduce the need for widows and orphans to engage risky behaviours (e.g. commercial sex) to acquire food.

- Promote equitable access to land and resources: Effort must be made to reduce sex-based differences in access to and control of resources and livelihood assets – in particular, access to land, credit, employment, education and information.

All of these strategies require the agriculture sector to be more creative and responsive in the delivery of services and necessitates multi-sector partnerships. The subsequent sections look at some examples of what the agriculture sector can do in response to nutritional concerns, in particular in the context of HIV.

3.2 Advocate for strengthening the role of nutrition in HIV care, treatment and impact mitigation

Major actors in the agriculture sector, including FAO, ministries of agriculture, agricultural institutions and related agencies need to promote awareness of the role of nutrition in responding to HIV. For example in Zimbabwe, the Agriculture Sector Strategy on HIV and AIDS puts forth strengthening the role of nutrition as a key priority area.²⁰ The Tanzania Agriculture strategy for HIV and AIDS and other related chronic diseases also prioritizes the need to improve food and nutrition security²¹. The inclusion of nutrition concerns in agriculture strategies on HIV is essential in the response to the epidemic. This emphasis also provides a starting point for advocating for the importance of food and nutrition security in AIDS responses within the agriculture sector.

3.3 Increase access to micronutrient-rich foods

The agriculture sector should promote the production and consumption of diversified diets with particular attention to special nutritional requirements for people living with HIV. This can be facilitated through continued support in the setting up and running of home, school and community nutrition gardens²². Fish farming and small livestock raising should also be encouraged. Evidence suggests that such interventions are effective in increasing micronutrient intake and status, in particular when coupled with effective behavioural change and communication interventions. “In northeast Thailand, for example, production of green leafy vegetables in home gardens – combined with social marketing – increased vitamin consumption among the poor.”²³

There is a need for appropriately-designed strategies in order to ensure that interventions are successful and sustainability. Strategies should also address the possible risk of trade-offs between income gains from selling home-produced products and dietary gains from consumption. On a larger scale, a recent agricultural approach to micronutrient malnutrition is

²⁰ Zimbabwe Ministry of Agriculture. 2006. Zimbabwe Agricultural Sector Strategy on HIV and AIDS. Harare, Zimbabwe Ministry of Agriculture and FAO.

²¹ United Republic of Tanzania. 2006. Agriculture Sector Strategy for HIV/AIDS and Other Related Chronic Diseases. Dar es Salaam, Ministry of Agriculture, Food Security and Cooperatives and FAO.

²² This is discussed further in Section 4.

²³ Hawkes, C. and Ruel, M.T. 2006. Agriculture and nutrition linkages: old lessons and new paradigms. In C. Hawkes and M.T. Ruel, eds. *Understanding the links between agriculture and health*, brief 4. Washington, IFPRI. (<http://www.ifpri.org/2020/focus/focus13/focus13.pdf>)

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through the production of biofortified crops²⁴. “Biofortification complements other interventions and is a means to provide micronutrients to the most vulnerable people in a comparatively inexpensive and cost-effective way, using an agricultural intervention that is sustainable.”²⁵ In Mozambique, for example, a biofortification programme has begun to show some positive nutritional outcomes through the development and dissemination of vitamin A-rich, orange-fleshed sweet potatoes (see Annex 2 for more information about orange-fleshed sweet potatoes).²⁶

3.4 Empower women

It is widely acknowledged in agricultural development that women play a critical role in ensuring household nutrition, in particular providing nutrition to their children. Therefore, increased effort should be made to ensure the participation of women in agricultural development strategies while also recognizing the importance of facilitating women's continued involvement in household management and childcare. A successful intervention in Mozambique, for example, showed that support for production of orange-fleshed sweet potatoes among women increased consumption, while nutritional outcomes were greatly improved when accompanied by strategies to promote appropriate child feeding and caring practices²⁷.

A gender approach should be used, in which men are informed of the benefits of such interventions and strategies to themselves, their children and the entire household. Naturally, such an approach needs to be culturally sensitive. To begin with, emphasis can be placed on teaching children about the value and importance of food-related tasks. For example, the role of cooking in promoting health through better nutrition should be emphasized, in addition to the value of related knowledge and the importance of both boys and girls learning such skills. Such approaches and learning can be supported by schools and extension workers. In Junior Farm Field and Life Schools (JFFLS), both boys and girls learn the same things (e.g. about nutrition and medicinal plants) and carry out similar tasks, without a division of labour, and this is accepted by the communities.

4. Promoting home and school gardens

Home and school gardens are essential to improving the nutrition security of households (in particular those affected by HIV), and are a feasible response to nutrition challenges in communities. Home and school gardens should be part of a comprehensive nutrition strategy for people living with HIV in rural areas as they are a source of nutrition security and play an important role in supporting livelihoods of PLHIV and their households.

²⁴ The process of biofortification entails breeding micronutrients into staple crops.

²⁵ Bouisa, H.E. and Welch, R.M. 2010. Biofortification—A sustainable agricultural strategy for reducing micronutrient malnutrition in the global south. *Crop Science*, 50: S-20-S-32. (http://crop.scijournals.org/cgi/content/full/50/Supplement_1/S-20)

²⁶ Low, J. Uaiene, R., Andrade, M.I. and Howard, J. 2000. *Orange-flesh sweet potato: promising partnerships for assuring the integration of nutritional concerns into agricultural research and extension*. Results from the Department of Policy Analysis, MARD-Directorate of Economics, No. 20E.

(<http://www.aec.msu.edu/fs2/mozambique/flash/flash20e.pdf>)

²⁷ Ibid.

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4.1 Home gardens

Well-tended and structured home gardens do not only complement the protein-energy requirements of PLHIV, but can also provide them with the necessary antioxidants to boost their health and immune systems. Apart from providing health and nutrition for PLHIV, home gardens can serve as an excellent source of livelihood. With proper referrals and marketing practices, surplus produce could be sold, providing additional and much needed income. Home gardens help to address the difficulties faced by many PLHIVs in accessing affordable, locally available, nutritional foods. There are different types of small gardens (see Figure 3): kitchen gardens, sack gardens, tyre gardens, pot or wall container gardens, hanging gardens conventional double dug organic gardens, square foot gardens. These methods are low-cost and locally available and thus viable for households facing resource and labour constraints (see Box 4). Gardens are usually located at the back of the homestead. This allows one to tend to the garden easily during breaks in daily chores (e.g. caring for children, cooking, washing clothes and house cleaning).

Figure 3. Examples of small home gardens



(Source: FAO, 2009; Philips)

Box 4. HIV and homestead gardening: livelihoods recovery through agriculture programme (LRAP), Lesotho

In Lesotho, where adult HIV prevalence rates had reached 29% by the end of 2003, agricultural support is increasingly focused on HIV and AIDS-affected households with limited labour or capital, or both. LRAP is a joint project between the Ministry of Agriculture and Food Security and CARE that supports homestead vegetable production through the provision of inputs, extension and marketing support. Homestead vegetable production is less physically demanding than maize production in distant fields (which requires draught power). It also provides a wider range of foods for home consumption.

(Source: Slater and Wiggins, 2005)

Other benefits of home gardens include being able to recycle household waste into organic manure and they can serve as an income generating activity for PLHIV. By selling surplus production for income, PLHIV can help support their livelihoods. Income generated from home gardening can help households meet expenses so that they do not have to resort to selling household assets or engage in risky livelihood alternatives.

4.2 Challenges in implementing home gardens for PLHIV²⁸

There are several challenges encountered when implementing home garden projects for PLHIV. One key issue is the lack of sufficient land to grow enough vegetables to continuously meet household requirements. There is also the possibility of allergic reactions – especially by people taking anti-retroviral treatment – to the chemicals used in pesticides and fertilizers. A possible response to this is the promotion of organic farming techniques.

Potential difficulties may also relate to integrating home garden projects with livelihoods opportunities. People may require financial support to start up such endeavours, however, may face challenges in accessing government loans and other credit. Another concern is that growing vegetables for daily subsistence is a time-consuming activity and thus households facing labour shortages (e.g. related to HIV morbidity and mortality) may face difficulties. Finally, attention is required to ensure that households have access to water for irrigation and can access extension services and expertise on selecting appropriate vegetables, procuring quality seeds and using appropriate and effective gardening methods.

4.3 Labour-saving technologies, gardening methods and livestock practices

Labour-saving technologies are an important support for nutrition interventions for PLHIVs and their households in light of reduced labour availability stemming from HIV-related morbidity and mortality. The labour-intensive nature of rural livelihoods means that people spend a significant amount of time fetching water and firewood, preparing land, weeding and food processing, etc. In order to reduce the burden of labour shortages, the agriculture sector can promote technologies and practices that reduce or spread labour inputs, thus supporting HIV-affected households.²⁹ The following suggestions are useful for households facing reduced labour availability or capacity (e.g. with people living with HIV, or where children and the elderly must take on additional housework and agricultural tasks)³⁰:

1. Reducing the burden of work in the home:

- Fuel-efficient stoves – reduce the amount of fuel required;
- Woodlots, agro-forestry, trees and shrubs – plant on fallow land to improve access to fuel;
- Domestic roof water harvesting – improve water supplies for household consumption;
- Donkeys and carts – save time and energy transporting goods;
- Small-scale, simple food processing equipment, operating at either household or community level (e.g. village mills).

²⁸ This section is largely drawn from: Ghosh, G., Ganguly, E.M.R.R, Anuradha, T. N. and Nabeel, M. K. 2009. Query: 'home gardens as a source of nutrition to PLHIV – experiences; referrals. Solution exchange: food and nutrition security community – AIDS community. New Delhi, Knowledge Management Partnership Project of UN Country Team in India. (<http://www.solutionexchange-un.net.in/en/Food-Nutrition/Browse-Consolidated-Replies.html>)

²⁹ FAO. 2004. Labour saving technologies and practices for households. Rome. (<ftp://ftp.fao.org/docrep/fao/007/ae502e/ae502e04.pdf>)

³⁰ Ibid.

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2. Reducing the burden of work in crop production:

- Light-weight high quality hand hoes – hoes should meet basic quality standards so that households do not waste money buying poor quality tools;
- Encourage and support local manufacturers and small artisans to meet local requirements in tool design;
- Planting basins and raised planting beds once formed they remain as permanent features, only requiring light work to replenish the mulch cover and minimal weeding.

3. Reducing time and energy required specifically for weeding:

- Weed at the right time – before weeds become established and damage the crops;
- Row planting and appropriate planting patterns – ease the task of weeding;
- Crop rotation – to break support for dominant weed species;
- Recommend seed varieties – some varieties are weed tolerant;
- Crop residues – left between the planting rows to cut sunlight and prevent weed seeds from germinating and developing;
- Mulch cover – place additional cover on the field to suppress weed growth (the additional labour required initially is offset by the reduced time spent weeding).

4. Switching to less burdensome cropping systems:

- Choose less labour-intensive crops – take care this does not compromise the nutritional value of the diet;
- Plant crops with different seasonal requirements;
- Plant high value crops on a small area – maximize the value of labour input;
- Opt for a low-cost irrigation system.

5. Reducing the burden of working with livestock:

- Tether or fence livestock, or cut and carry fodder – saves time herding animals;
- Choose less labour-intensive livestock – switch from cows to goats;
- Fodder – integrate food production with crops, on-farm conservation or agro forestry.

4.4 School Gardens³¹

One response to the impacts of HIV and AIDS on children is the promotion of garden-based learning in schools. These gardens seek to educate children about food production and natural resource management for good nutrition and improved life and livelihood prospects. Revival or re-orientation of school gardens for these purposes however faces conceptual, practical, and social challenges mainly with regard to the purpose of the school garden, its image, its links to good nutrition, agricultural approaches and resources, its relationship to the mainstream curriculum, and its perception in the community.

³¹ This section is largely extracted from: FAO. 2007. Garden-based learning for improved livelihoods and nutrition security of school children in high HIV-prevalence areas in southern Africa. Workshop Report, 12 – 14 June 2007. Harare, FAO Regional Emergency Coordination Office for Southern Africa. (http://www.fao.org/fileadmin/templates/tc/tce/pdf/Regional_Gardens_Workshop_Report_Part_I.pdf)

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Potential of garden-based learning:

- Increase the relevance and quality of children's education by introducing them to food and nutrition-related knowledge and skills.
- Provide children with practical experience in food production and natural resource management.
- Introduce innovations and techniques that children can take home to their families and apply in their own household gardens and farms.
- Improve pupils' nutrition by supplementing school feeding programmes with fresh micronutrient and protein-rich products, and increasing children's nutrition knowledge and skills to the benefit of the whole family.
- By enhancing food and nutrition security and livelihood prospects, contribute to the mitigation of the health and social impacts of HIV and AIDS.

FAO guidelines on school gardens:

- Children are the primary direct beneficiaries;
- The main purpose of school gardens is learning for children;
- School gardens are not intended to provide commodities for school feeding;
- School gardens are not an exit strategy for school feeding;
- Schools use locally-adapted crops, including indigenous crops;
- Poultry and other small animals can be raised in school gardens;
- School gardens use organic gardening techniques;
- No dangerous chemicals should be used in school gardens.

In countries with high HIV prevalence and many orphans and other vulnerable children (OVCs), the agriculture, health and education sectors have the potential to provide nutritional support to infected or affected school children through agricultural activities. Two examples of how the agriculture sector can respond are highlighted in the following two sections: Junior farmer field and life schools and forming partnerships with other sectors.

4.5 Junior farmer field and life schools (JFFLS)³²

When parents fall sick and die due to HIV-related causes, their children may be marginalized and vital agricultural knowledge and life-skills may not be passed down. This can leave these children facing food and livelihood insecurity, both in the short and long term. In response to this issue, junior farmer field and life schools (JFFLS) were developed in several countries in eastern and southern Africa to improve children's agricultural and life skills for livelihood support and food security.³³ The JFFLS approach incorporates a range of creative and expressive activities appropriate to the local culture. It uses a participatory methodology to pass on agricultural knowledge and life skills to boys and girls between the ages of 12 and 18. The one-year learning programme follows the crop cycle and pays particular attention to linkages between agriculture, nutrition, gender equality and life-skills knowledge so that

³² This section is largely extracted from: FAO. *Junior Farmer Field and Life Schools*. Best Practices. Rome. (http://www.fao.org/bestpractices/content/11/11_04_en.htm); FAO. 2009. *Junior farmer field and life schools inventory*, by F. Dalla Valle. Rome. (<ftp://ftp.fao.org/docrep/fao/012/ak595e/ak595e00.pdf>)

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young participants learn to grow nutrient-rich crops while making informed decisions for leading healthy lives.

Nutrition education should include a range of information, including: how food is obtained, processed, prepared and eaten; how it is digested, absorbed and used by the body; and how it influences people's well-being. JFFLS teach children that food consists of different nutrients (e.g. carbohydrates, proteins, fats and micronutrients, including vitamins and minerals) and by the end of the first year children gain knowledge about how a good diet can help people living with HIV delay the progression of the virus, support drug treatments and prevent malnutrition. This includes introducing and examining locally available remedies, such as herbs and spices, that can be used to ease HIV-related symptoms.

Children participating in JFFLS also learn the importance of a nutritious and balanced diet for their growth, functioning, development and health. In this regard, they learn which crops are rich in energy and what key nutrients are important for good health. Given that the nutrient content of food depends on the processing, preservation and preparation methods used, the JFFLS curriculum may also include sessions in which boys and girls are directly involved in cooking, food processing and preservation.

4.6 Partnerships between agriculture and other sectors

AIDS responses should be mainstreamed across key sectors, including agriculture, health and education. Based on their own comparative advantage, these sectors should work in collaboration, maximizing synergies.

A good example of this is the World Bank, who is focusing on developing stronger links between education and other sectors (e.g. health) to mainstream HIV into new programmes. This promotion of sectoral collaboration involves making resources available for HIV in the sectors. Similarly, FAO has recently teamed up with UNICEF to begin projects in Malawi and Lesotho that aim to encourage orphans and other vulnerable children to attend school and receive a basic education, while benefiting from school feeding and other incentive programmes. These projects will also support children's needs for life skills and vocational training, particularly as it relates to food, nutrition and agriculture. The two examples in box 5 illustrate partnerships between agriculture, education and health.

Box 5. Collaboration among agriculture, health and education sectors in Malawi and Lesotho

In Lesotho and Malawi, a project was implemented by FAO on protecting and improving food and nutrition security of orphans and HIV and AIDS affected children. The project had many positive impacts:

Improved education status of the orphaned and vulnerable children: UNICEF successfully assisted Ministry of Education and Training in developing and incorporating life-skills into the school curriculum. Teachers trained in life-skills education provided instructions in roof-water harvesting techniques, sewing, weaving, lamp-making from cow horns, and bottling of peaches to help in earning cash to purchase food. Ministry of Agriculture and food security extension agents assisted in training the students in keyhole gardening and planting of fruit trees with the aim of improving micronutrient intake of orphans and HIV and AIDS affected children. See Annex 4 for a description of keyhole gardens and their usefulness in HIV and AIDS-affected settings.

Improved access to health care and nutrition education for OVCs and HIV affected families: Through National AIDS Commission (NAC) staff and support groups, assistance in health care was provided to the terminally ill and OVCs and their families. In collaboration with NAC and the Ministry of Health,

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support groups were trained on home-based care and primary health care messages to extend to target communities. The project facilitated nutrition education training for support groups and other community members to complement the health education activities and to improve the understanding of the link between illness and nutrition. Because nutrition education in primary health care centers was virtually non-existent, project staff conducted training needs assessment for staff in project area clinics. Following the assessment, nutrition training workshops were conducted for nursing assistant students. These trainees were highly motivated and brainstormed numerous ways of including nutrition information into their sessions with clients.

(Source: FAO, 2008)

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Developing strategies on nutrition and HIV for national and international partners

Based on your personal knowledge and the knowledge that you have acquired from this module, sketch a multisectoral HIV programming initiative that incorporates effective food and nutrition interventions as a way of reducing vulnerability to HIV infection and increasing resilience to AIDS impacts. Tailor your initiative to specific contexts such as school feeding, home or communal gardens, cash transfers, income-generation activities and actions to increase agricultural production using labour-saving technologies and methods.

Include the following elements in your strategy outline:

- The sectors involved (in addition to agriculture).
- The organizations involved (or types of organizations to consider)
- The types of interventions and activities to be developed and implemented. For example:
 - Base-line surveys and needs assessments
 - Consultations among partners to agree on objectives and activities
 - Technical assistance, training and institutional capacity building.
- How the initiative could be funded and supported
- A monitoring and evaluation component. Identify nutrition indicators in HIV monitoring and evaluation activities, including links to the monitoring and evaluation of the national AIDS strategy.

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

Activity 2: Policy dialogue

1. You have just finished presenting your country's policy brief on agriculture and AIDS and you have incorporated the role of nutrition in care and treatment of people living with HIV. The majority of people in the meeting seem to not agree with this suggestion. How will you convince them to agree with your proposal and the importance of nutrition in AIDS responses?
2. In your meeting with an organization working in the agriculture sector (e.g. the ministry of agriculture or another ministry, an international or national NGO) you discover that nutrition services are not part of their strategies on care and treatment of PLHIV. You are knowledgeable on various activities that the agriculture sector should do to support nutrition in AIDS responses. How will you explain this?
3. In conducting a survey, you find that health centres give clients ARVs without any nutrition information. You try to ask and they respond that "it is not important to know about nutrition information if you know your dose". What action will you take? How would highlight the importance of providing nutrition information?

SUMMARY REMARKS AND LESSONS LEARNED

This module comprises four main themes. The first theme, Nutrition and HIV, provided a basic understanding of the importance of good nutrition for people living with HIV, as well as the role of nutrition in HIV care, treatment and impact mitigation. It also details the nutrient requirements of people taking ARVs in addition to those who are not. Given that HIV interacts with other infectious diseases, nutritional needs in treating other illnesses (e.g. tuberculosis) are also provided.

The second theme, Nutrition and the Household, is designed to enhance the learner's understanding of the nutrition impacts of HIV on the household. Food and nutrition security are essential for all households, with particular needs for HIV-affected households. On the other hand, food and nutrition insecurity (as well as livelihood insecurity) could lead members of households to engage in behaviours that increase vulnerability to HIV infection. The section goes on to propose recipes for resource-strained households, and that require low labour inputs (ideal for households facing the negative impacts of HIV) in order to prepare safe and nutritious food. For example, certain easily-grown crops, like orange-fleshed sweet potatoes, can be grown in many environments, including urban gardening plots. Orange-fleshed sweet potatoes are very rich in Vitamin A and can be easily cultivated and cooked with little effort. This crop is therefore ideal for HIV-affected communities and households.

The third theme in the module addresses building the capacity of communities and households to ensure good nutrition, and the role of the agriculture sector in this regard. With adequate capacity, household- and community- level responses are essential to ensuring that the nutritional needs PLHIV are met. Important in this regard is the development of agriculture and HIV policies and strategies that take into account the role of nutrition.

Finally, the module looks at the role of home and school gardens in responding to nutrition challenges within and AIDS context. The section gives examples of simple and adaptable innovations, such as setting up of home gardens and school gardens, that can contribute to household food and nutrition security and that are appropriate for resource-poor settings. Such gardens are also suitable for HIV-affected households due to the low labour input required. The success of these interventions depends largely on close collaboration with agricultural extension workers, NGOs and other organizations working in rural areas. Furthermore, inter-sectoral partnerships are essential, such as those of health, education and agriculture.

Lessons learned

1. The role of nutrition in ART is poorly understood and inadequately addressed by many AIDS policies and programmes in developing countries.
2. The agriculture sector has a comparative advantage in supporting adequate nutrition at community and household levels through its ability to provide guidance and technical support on nutrition-rich crops and labour-saving technologies and cultivation methods appropriate for households affected by HIV.
3. The nutritional value of crops for home consumption must be balanced with the commercial value of crops.

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4. Including nutrition in AIDS responses requires an inter-sectoral approach, and thus partnerships should be fostered between the agriculture and other sectors, particularly between the health and education sectors. A proactive policy dialogue and joint programming is needed to build effective inter-sectoral partnerships on nutrition and HIV.

ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| AIDS | Acquired immunodeficiency syndrome |
| AMPATH | Academic model for the prevention and treatment of HIV |
| ART | Antiretroviral therapy |
| ARV | Antiretroviral [medicines] |
| FAO | Food and Agriculture Organization of the United Nations |
| HAART | Highly active anti-retroviral therapy |
| HIV | Human immunodeficiency virus |
| JFFLS | Junior farmer field and life schools |
| NGO | Non-governmental organization |
| OVC | Orphans and other vulnerable children |
| PLHIV | People living with HIV |
| TB | Tuberculosis |
| WFP | World Food Programme |

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ANNEX 1 – WHO disease classification³⁴

| <i>Stage</i> | <i>Symptomatic or Asymptomatic</i> | <i>Characteristics</i> |
|--------------|------------------------------------|--|
| Stage 1 | Asymptomatic | <ul style="list-style-type: none"> • Persistent generalized swelling of the lymph nodes |
| Stage 2 | Symptomatic | <ul style="list-style-type: none"> • Weight loss < 10 percent of body weight • Minor mucocutaneous manifestations such as seborrhoeic dermatitis, prurigo, fungal nail infections, recurrent oral ulcerations, angular cheilitis. • Herpes zoster within last five years • Recurrent upper respiratory tract infections such as bacterial sinusitis. |
| Stage 3 | Symptomatic | <ul style="list-style-type: none"> • Bedridden for < 50 percent of the day during the last month AND • Weight loss > 10 percent of body weight • Unexplained chronic diarrhea > 1 month • Unexplained prolonged fever (intermittent or constant > 1 month. • Oral candidiasis (thrush) • Oral hairy leukoplakia • Pulmonary tuberculosis • Severe bacterial infections such as pneumonia or pyomyositis |
| Stage 4 | Symptomatic | <ul style="list-style-type: none"> • Bedridden for > 50 percent of the day during the last month AND • HIV Wasting Syndrome • Candidiasis of the oesophagus, trachea, bronchi or lungs • Cryptococcus, extrapulmonary • Cryptosporidiosis with diarrhoea for > 1 month • Cytomegalovirus disease of an organ other than the liver, spleen or lymph nodes • Herpes simplex virus infection, mucocutaneous for > 1 month or visceral for any duration • HIV dementia (encephalopathy) • Kaposi's sarcoma • Lymphoma • Extrapulmonary tuberculosis • Atypical mycobacteriosis, disseminated or pulmonary • Any disseminated endemic mycosis • Pneumocystis carinii pneumonia • Progressive multifocal leukoencephalopathy • Salmonella septicaemia (non-typhoidal) • Toxoplasmosis of the brain |

³⁴ Extracted from: WHO. 2006. WHO case definitions of HIV for surveillance and revised clinical staging and immunological classification of HIV-related disease in adults and children. Geneva, Switzerland. (<http://www.who.int/hiv/pub/guidelines/HIVstaging150307.pdf>)

ANNEX 2 – Orange-fleshed sweet potatoes in nutrition and household food security³⁵

Since 1994, Mozambique has made considerable progress in reducing its dependence on imported basic foodstuffs, raising agricultural production while macro-economic conditions have improved impressively. However, the majority of the rural populace continues to be poor, depending principally on semi-subsistence agriculture to survive. The Nutrition Division of the Ministry of Health has played a strong role in promoting the integration of food security and nutritional concerns into national agendas. In July 1999, the government approved its Strategy for Combating Micronutrient Deficiencies, emphasizing both short- and longer-term approaches for reducing iodine, iron and vitamin A deficiencies. The orange-fleshed sweet potato, which is extremely rich in Vitamin A and is easy to grow in Mozambique, is part of this strategy. Mozambican women control the production and sale of sweet potatoes and in some areas, it serves a source of timely income which women use to pay for salt, sugar, medicines, and other basic household needs. For these reasons, orange-fleshed sweet potatoes can be an important tool in strengthening food security and nutrition in HIV and AIDS-affected households.

While sweet potatoes grown in Mozambique are playing an important role in assuring adequate caloric intake, most of the varieties currently growing in the country are white-fleshed. White-fleshed varieties lack beta carotene, the plant precursor of Vitamin A, an essential component of all human diets. Orange-fleshed varieties, on the other hand, are outstanding sources of beta -carotene. Regular intakes (100 grams per day or half-cup) of orange-fleshed sweet potato roots provide the recommended daily amount of vitamin A for children less than five years of age (400 µg Retinol Equivalents [RE]). Since two harvests per year of these early-maturing varieties is feasible in many areas of Mozambique, particularly in the central and northern provinces, widespread adoption will help reduce seasonal fluctuations in calorie availability particularly in isolated communities with limited market access. Market survey results indicate that orange fleshed sweet potato roots would be the cheapest dietary source of vitamin A in most parts of Mozambique.

The availability of orange-fleshed sweet potato within the household provides women with a productive, low cost source of pro-vitamin A as a base for preparing weaning foods of higher nutritional value. Improving vitamin A intake among older children and adults is much simpler, as most of the tested varieties are acceptable to consumers in terms of taste and appearance.

The common practice for root preparation is simply to boil or steam the roots. However, the vitamin A content of products such as bread, chapatis, and fried doughnuts was vastly enhanced through the replacement of just of the wheat flour ingredient in these products produced in Uganda and Kenya.

Providing women with access to improved sweet potato planting material reduces the amount of land and labour needed to produce sufficient household calories and consequently, helps reduce the labour burden of women. Labour-saving strategies are important in supporting food security in HIV and AIDS-affected households.

³⁵ Low, J. Uaiene, R., Andrade, M.I. and Howard, J. 2000. Orange-flesh sweet potato: promising partnerships for assuring the integration of nutritional concerns into agricultural research and extension. Results from the Department of Policy Analysis, MARD-Directorate of Economics, No. 20E.
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Targeting any sweet potato processed product development at women enhances their ability to improve diet quality within the home and obtain additional value-added income from selling vitamin A-enriched food products to consumers outside the home. Sweet potato sales are an important source of timely income for rural women. As large urban markets develop for the product, men are also likely to become more involved in larger-scale sweet potato production, as is the case in Western Kenya. Sweet potato is playing an ever increasing role as a commercial crop aimed at feeding the urban poor in countries such as Malawi, Kenya, and Uganda.

Implications for agricultural and nutrition policy in Mozambique: The careful integration of nutritional concerns into agricultural research and extension systems can significantly contribute to the reduction of child malnutrition and mortality and improve food security for all household members. This necessarily implies the establishment of strong collaborative arrangements between nutritionists and agronomists, researchers and extension agents, as well as finding secure funding over the medium term. As sweet potato is a vegetatively propagated crop, the private sector never will have great interest in developing and marketing improved sweet potato planting material. The public sector must lead efforts such as these on crops like sweet potato which typically benefit the poorest in society (especially women and children) by helping to assure their nutritional well-being. Moreover, the public sector needs to support the development of agro processing activities that utilize crops produced by the family sector to enhance rural incomes and reduce the labour burden associated with traditional agro-processing methods.



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ANNEX 3 – Recipes³⁶

| Recipe | Ingredients | Method |
|--|--|---|
| Ugali (Stiff Porridge)  | <ul style="list-style-type: none"> • Maize Flower ½ kg • Water 850 ml for Ugali | <ol style="list-style-type: none"> 1. Boil 850ml of water. 2. After boiling, then start adding maize flour while mingling fast. 3. Turn the flower and mix constantly until soft dough appears after 10 min. 4. Put the dough in the hot pot and serve immediately. |
| Sweet Potatoes  | <ul style="list-style-type: none"> • 6 Sweet potatoes -- washed • Cold water | <ol style="list-style-type: none"> 1. Keep the potatoes whole or cut into 1-inch chunks. 2. Cover with water and boil 30-35 minutes until tender. 3. Carefully remove from water cut in half lengthwise or slip skin off using a knife. |
| Cassava  | <ul style="list-style-type: none"> • 1 sweet cassava tuber • Cold water • Salt | <ol style="list-style-type: none"> 1. Peel cassava, wash and cut into cubes. 2. Place in a deep pot. Place enough water to cover. 3. Bring water to boil on the stove top. Place pieces in the water and boil until it is soft. 4. Test by sticking a fork through one of the pieces. It is ready if the fork passes through easily. Drain off water |
| Bean Stew  | <ul style="list-style-type: none"> • ¼ kg Dried beans • Coconut 1 medium size • Onions 2 • Tomatoes 2 • Salt 1 teaspoon level | <ol style="list-style-type: none"> 1. Boil beans for 30 min or until they are tender; 2. Peel and chop tomatoes and onions. 3. Grate coconut. Make juice out of it by adding 1 cup of warm water to the grated coconut, squeeze well and sieve to obtain the first coconut juice, add again one cup of warm water to obtain the second coconut juice as you did when you do the first. 4. Fry onions, add tomatoes and salt and fry them for two minutes. Add boiled beans, mix them well. 5. Add the second coconut juice into the mixture; let it boil until tender for 5-10 min. 6. Then add the first coconut juice |

³⁶ Taken from: Government of the Republic of Zambia. 2007. Improved complementary foods recipe booklet – family foods for breastfed children in Zambia. Rome, FAO. (<ftp://ftp.fao.org/docrep/fao/010/ai208e/ai208e.pdf>); Caribbean Food and Nutrition Institute. 2006. Common Caribbean foods and your health. *Cajanus*, 39(1): 2-57. (<http://www.paho.org/English/CFNI/cfni-caj39No106-art.pdf>).

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| | | |
|--|--|--|
| | | and reduce heat, leave to boil for 5 minute then its ready. |
| <p>Cow Pea Stew</p>  | <ul style="list-style-type: none"> • 1 cup cow peas • Water • 1 onion, ground • Vegetable oil | <ol style="list-style-type: none"> 1. Wash and boil cow peas till soft. 2. Fry onions, add tomatoes, and add salt. 3. Add boiled cowpeas. Add water to make stew. |
| <p>Sautéed green vegetables</p> | <ul style="list-style-type: none"> • Vegetable oil • 1 medium onion • 1 pinch of salt | <ol style="list-style-type: none"> 1. Wash vegetables 2. Cut green vegetables and onions 3. Fry onion into golden brown, add salt and vegetable. 4. Cover it to sauté for not more than eight minutes. |
| <p>Steamed Spinach</p>  | <ul style="list-style-type: none"> • Spinach leaves • Water • Cooking materials • Pot, sieve or loose-waved threshing basket, wooden spoon, source of heat | <ol style="list-style-type: none"> 1. Wash the spinach leaves, and tear them. 2. Place them in the sieve or loose-weaved threshing basket. 3. Place the sieve/basket over the rapidly boiling water and cover so that the steam cooks the leaves. <p><i>**Make sure sieve or basket do not touch the water. The spinach should be cooked in about five minutes.</i></p> |

Cooking tips for vegetables

In order to prevent the loss of water soluble vitamins:

- Cook vegetables for less than 8 minutes
- Tear leaves into pieces rather than cutting them with a knife
- Do not use bicarbonate soda
- Use a small amount of water to steam vegetables rather than boiling them
- Cover the pan after adding the vegetables
- The less time you cook, the more nutrients you will preserve
- Eat vegetable immediately after preparation
- Prepare vegetables as the last meal

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ANNEX 4 – Keyhole gardens³⁷

NUTRITION and HIV/AIDS - Keyhole gardens in Lesotho -

PROJECT TITLE

"Protecting and Improving Food and Nutrition Security of Orphans and HIV/AIDS-affected Children (GCP/RAF/388/GER)"

INTERVENTION DOCUMENTED

Keyhole gardens

CONTEXT

The district of Mafeteng was selected for a pilot project carried out between November 2004 and May 2008 to support food and nutrition security and livelihoods of vulnerable HIV-affected communities, in particular orphans and vulnerable children (OVC). This initiative was supported under the umbrella of a wider project for southern Africa, and is in line with the National Policy for Food Security. The district is affected by recurrent droughts and high rates of HIV. According to the district situation analysis conducted in 2004, Mafeteng had the country's highest rate of orphans. A baseline study commissioned by the project highlighted high stunting rates and moderate underweight in children under the age of five, particularly in resource-poor households that host OVC. The main problems identified included poor dietary diversity, lack of awareness of nutritional needs and inadequate food safety. In addition, households that look after OVC were less likely to have developed vegetable gardens.

TARGET POPULATION

OVC; rural food-insecure, HIV affected communities; district and local institutions

STAKEHOLDERS

The project focused on capacity building as well as intersectoral and interagency collaboration. The National Project Steering Committee, responsible for policy guidance and support, was co-chaired by the Ministry of Agriculture and Food Security and the Ministry of Health and Social Welfare and included, among other members, the Ministry of Education and the National AIDS Commission. A Technical Working Group composed of FAO, WFP and UNICEF provided technical assistance to the Project Management Team. The District Child Protection Team, composed of professional and technical staff from relevant government departments and development partners oversaw, coordinated and monitored activities at district level. Community groups were involved from the planning process, through participatory approaches. This intervention on keyhole gardens and capacity building was implemented by the NGO, Send a Cow Lesotho.

THE INTERVENTION

Within the framework of the Mafeteng pilot experience, Send a Cow Lesotho implemented a variety of activities aimed at increasing homestead food production through bio-intensive agriculture, for more healthy diets. **Keyhole gardens** were the most effective intervention in this regard.

A keyhole garden (so-called because of its shape) is a round raised garden, supported with stones. Underneath, the first layer of soil has been dug out, levelled and covered with multiple layers of locally-made compost (manure, organic waste, scrap metal, wood ash, plant waste, yard sweepings, etc). A central basket made with sticks and filled with grass and leaves serves for irrigation purposes: water is poured in it, allowing for its dispersal through the whole enclosed garden. A small pathway leading to the central basket allows a person to easily work the garden without bending and the soil surface is sloped to allow runoff. Keyhole gardens are built in places where it is difficult to build normal gardens (rocky areas, shallow arid/or compacted soils, etc), near the entrance of dwellings to facilitate their watering with household waste water.

Keyhole gardens are made with low-cost locally available materials. Compared to regular vegetable gardens, keyhole gardens require less labour (ideal for elderly, children or sick persons), less water and no costly fertilizers or pesticides. A keyhole garden also has important comparative advantages: its structure ensures soil fertility for 5 to 7 years; it can produce food all year round even under harsh temperatures; it can support the production of at least 5 varieties of vegetables at a time - thus supporting dietary diversity; and it is so prolific that its produce is more than enough to feed a family of 8 persons.

Crop rotation and growing of insect-repellent plants are important to balance nutrient demands, fight insects and plant diseases, and deter weeds. The garden is divided into four parts allocated for leafy plants (except spinach), root crops and spinach, peas and beans (or other legumes) and the fourth section stays fallow, covered by a thick layer of manure and mulch. Crops should rotate in turn approximately every two months.

Household gardening interventions have been complemented with small livestock rearing, hygiene (tip-taps) and food processing (fuel saving stoves) interventions, to increase their positive impact on food and nutrition security of the recipient households and communities.



German
Federal Ministry of
Food, Agriculture and
Consumer Protection



Send a Cow
Change a family's future



Keyhole gardens



Keyhole gardens' structure with the
central basket for irrigation

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³⁷ FAO. 2009. Nutrition and HIV/AIDS – keyhole gardens in Lesotho. Rome.
(http://km.fao.org/AgriHealth/images/FSNL_Fact_sheet_Keyhole_gardens.pdf)

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CAPACITY BUILDING

At community level:

Community groups (including teachers, priests, peer group farmers and others) and community management committees were trained on group dynamics, conflict resolution, meeting management, record-keeping and social skills, to enable communities to collaboratively undertake development activities. Community trainers received training on group dynamics and on bio-intensive, environment-friendly horticulture techniques such as:

- building and maintaining keyhole gardens;
- making liquid manure and natural pesticides from plant origin;
- saving waste water ("grey water") from household use for irrigation;
- protecting plants from excessive temperatures and hail stones (use of mulch and hail-nets);
- growing medicinal and insect-repellent plants.

Communities also benefited from nutrition education (sessions on nutrition for children, nutrition and HIV, etc) and from training on marketing of surplus production to increase household income.

At district and national level:

Relevant government and NGO staff benefited from capacity-building interventions that raised their awareness of nutrition issues and on the linkages between nutrition and HIV. The knowledge acquired enhanced their ability to plan and implement effective responses.

MATERIAL PRODUCED

The compiled *Training Modules for trainers* will be refined for distribution. They include relevant "how-to" training materials on organic gardening, group dynamics, livestock husbandry, dam-building, fuel saving stoves, tip-taps and marketing.

CHALLENGES AND...

- initial construction of keyhole gardens is labour-intensive;
- social and human factors are unpredictable and can determine the success or failure of an intervention;
- lack of communication and coordination with other projects in the same area of intervention can lead to tension;
- solutions must be explored to allow peer farmers to attend training sessions with the rest of the community and support the intervention without neglecting their own crops.

...OPPORTUNITIES

- productivity of keyhole gardens is high;
- maintenance of keyhole gardens is easy, low-cost requires few inputs and minimal labour;
- materials for keyhole gardens can be replaced by similar products obtainable locally;
- the intervention strengthens and creates social networks and capacities which contribute to the community's ability to deal with other development/social issues.

IMPACT ASSESSMENT

Qualitative impact assessments have highlighted that the promotion of vegetable gardens – in particular keyhole gardens - to improve access to a variety of food, even during the winter months, proved particularly successful. Participating households noted the increase in the availability of food, the wider diversity of their diet and the surplus in vegetables which they were able to sell to generate income. Implementing Partners noted that neighbouring villages outside the project intervention area were reproducing keyhole gardens on their own initiative, clearly indicating the success of the intervention and its potential sustainability.



Home-made tip-tap for hand washing



Fuel saving stoves



Beneficiaries cooking and consuming the food they have produced

UPSCALING/REPLICABILITY OF THE INTERVENTION

The experience described here can be successfully scaled-up/replicated under the following conditions:

- the intervention is carried out within an integrated policy and programme development framework at district, national (and sometimes regional) level rather than in isolation, to ensure that all stakeholders are involved and gain ownership, and that it is sustainable and coherent with other interventions;
- through participatory approaches, beneficiaries are involved in all stages of project activities: planning, implementation, monitoring and evaluation;
- the building of keyhole gardens is preceded by community group formation and capacity-building (basic management, conflict resolution, etc) to ensure effective participation, ownership and sustainability;
- the construction of keyhole gardens is implemented by the whole community to alleviate the burden on the elderly and the chronically ill;
- the development of keyhole gardens is accompanied by relevant training, in particular nutrition education;
- the selection of the most appropriate local varieties for cultivation in keyhole gardens is based on their nutrient content and potential for inclusion in diets;
- systematic retrieval of knowledge and experience of local populations is applied: nobody knows the constraints and opportunities of their environment better.

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ANNEX 5 – Glossary of key nutrition terms³⁸

| | |
|-----------------------------------|---|
| Anti-retrovirals or (ARVs) | Drugs used for the HIV prophylaxis or treatments that aim to slow or stop the HIV virus from multiplying in the body. However, they are not a cure for HIV. |
| CD4+ count | A CD4 count is an indicator of the resilience of the immune system. It is particularly important in the case of HIV and AIDS, as the virus destroys the very immune system that is supposed to fight it. So, a higher CD4 count reflects a strong immune system and hence its ability to fight the virus. A person infected with HIV is given ARVs only when his or her CD4 count drops below 200. |
| DRI | Daily Recommended Intake (DRI) refers to the lowest continuing intake level of a nutrient that, for a specified indicator of adequacy, will maintain a defined level of nutriture in an individual. The term DRI is a collective term encompassing Estimated Average Requirement (EAR), the Recommended Dietary Allowance (RDA), the Adequate Intake (AI), and the Tolerable Upper Intake Level (UL). |
| Diet | The customary mix or pattern of the foods and drink taken by a person from day to day. The word means more than just a special diet or a weight-loss diet. |
| Digestion | The process of breaking down foods into forms our body can use. It begins when you put food in your mouth until when it gets into the stomach to the end of the intestine. |
| Dyspnea | Difficulty in breathing, often associated with lung or heart disease and resulting in shortness of breath. Also called <i>air hunger</i> . |
| Energy | Can mean the way a person feels, such as when he or she says, “I am full of energy” or “I have no energy.” The word energy is also used to describe the fuel for the body. All foods can provide energy (fuel) though some foods provide more energy than others. |
| Folate | (Vitamin B9, folic acid): One of the B vitamins that is a key factor in the making of nucleic acid (DNA and RNA). |
| Food-borne illness | Illnesses caused by eating contaminated food containing harmful pathogens or germs. |
| Good nutrition | A broad term often used by nutritionists to refer to diets that contain all essential nutrients in their correct proportions. |
| HAART | Highly active antiretroviral treatment is used in the treatment of infection by retroviruses, primarily HIV. When several antiretroviral drugs, typically three or four, are taken in combination, the approach is known as highly active antiretroviral therapy, or HAART. |
| Hepatotoxicity | Liver damage caused by chemicals. |
| HIV | Human immunodeficiency virus is one of a family of viruses known as retroviruses. HIV infects and destroys special white blood cells called CD4+ lymphocytes. These cells are an important part of the body’s immune system, which is the body’s defence against infection. HIV-infected means the person has been tested and the results show that the Human immunodeficiency virus is present in his or her body. |
| Ideal body weight | A term describing the weight that people are expected to weigh based on age, sex and height. A malnourished person would weigh less than his or her ideal body weight. |
| International units | Refers to an internationally accepted amount of a substance. This type of measure is |

³⁸ WHO. 2009. Nutritional care and support for people living with HIV/AIDS: A training course. Geneva, Switzerland, WHO. (http://www.who.int/nutrition/publications/hivaids/PLWHIVcourse_Facilitators_Guide.pdf); Caribbean Food and Nutrition Institute. 2004. Healthy eating for better living: A manual on nutrition and HIV/AIDS for healthcare workers in the Caribbean. Cajanus, 38(1). (<http://www.paho.org/English/CFNI/cfni-caj38No105.pdf>)

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Module 4: The Role of Nutrition in the AIDS Response

| | |
|---------------------------------|---|
| | used for the fat-soluble vitamins (such as vitamins A, D and E) and certain hormones, enzymes, and biologicals (such as vaccines). |
| Lipodystrophies | A heterogeneous group of disorders of the adipose tissue that are characterized by selective redistribution of body fat. |
| Malabsorption | Refers to failure of the gut to absorb one or more nutrients from the food eaten into the body. May occur if: <ul style="list-style-type: none"> • the gut wall is damaged • the food moves too quickly through the gut (as in diarrhoea) or • the body processes are not working adequately, for example if the digestion organs do not produce enough fluids to breakdown foods. |
| Malnutrition | Condition caused when the body gets too few or too many nutrients causing the body not to function properly. However of a person receiving too little food is more common referred to under nutrition. |
| Nutrients | Nourishing substances or components of food released during digestion and absorbed to be used to promote body functions. Nutrients may be divided into: <ul style="list-style-type: none"> • Macronutrients (protein, fats, carbohydrates) • Micronutrients (vitamins and minerals) |
| Nutrition supplements | Refers to any food or nutritional product that is provided to supplement or add to the daily diet. |
| Nutritional status | The extent to which the individual needs for nutrients are being met. Weight, height and other measures of growth are often used to indicate nutritional status. Clinical indicators, such as levels of nutrients in the blood, urine, bone as well as other areas, are more difficult to measure. |
| Paresthesia | A skin sensation, such as burning, prickling, itching, or tingling, with no apparent physical cause. |
| Pyridoxine | Pyridoxine (vitamin B6 group) functions as a coenzyme, a substance that enhances the action of an enzyme and thereby helps catalyze and speed a biochemical reaction. |
| Opportunistic infections | Refers to an infection that takes advantage of a weakened or absent immune response from immune-compromised individuals. Several microbes either do not cause disease or cause mild illnesses in healthy people, but can cause infections in people whose immune systems are weakened or absent due to disease or disorders. For example, HIV and AIDS patients (who are immune compromised) are prone to several opportunistic infections that are relatively harmless to healthy individuals. |
| Stomatitis | Inflammation of the mucous lining of any of the structures in the mouth, which may involve the cheeks, gums, tongue, lips, and roof or floor of the mouth. |
| Thrush | Also known as Candida, thrush is a fungal infection that can occur in the mouth or other moist areas of the body. White fuzzy patches may be seen on the tongue and insides of the cheeks. Thrush can result in a very sore mouth and make eating difficult. Certain treatments can reduce thrush infection. |
| Symptomatic | Refers to observable change in the body that indicates the presence of disease. Asymptomatic is the opposite: it means the symptoms of a condition are not present, even though the person has the disease. |
| Triglycerides | The major form of fat. A triglyceride consists of three molecules of fatty acid combined with a molecule of the alcohol glycerol. Triglycerides serve as the backbone of many types of lipids (fats). Triglycerides come from the food we eat as well as from being produced by the body. |

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

5

MODULE

AIDS and the Fisheries Sub-Sector



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Module 5: AIDS and the Fisheries Sub-Sector

AIMS

The aims of this module are the following:

1. To understand the implications of the fact that fisherfolk have some of the highest rates of HIV, yet have limited (if any) access to prevention and treatment services.
2. To understand that HIV in the fisheries sub-sector may challenge sustained production of a major source animal protein for many households and therefore household food security.
3. To identify how scarcity of fish can lead to risky behaviour and exposure to exploitative practices such as transactional sex and bribery, which can increase vulnerability to HIV.

OBJECTIVES

Upon completing the module, the learner should be able to:

1. Assess the need for fishery sector policy frameworks to respond to AIDS in the sub-sector, as well as to food security of people dependent on fish for animal protein.
2. Describe how transactional sex and extortion are linked to scarcity of fish and the lack of an institutional framework for managing fisheries.
3. Propose strategies to bring both general health and HIV-related services to fishing communities.
4. Develop programme strategies in the area of credit and alternative income-earning opportunities for fisherfolk.

QUESTIONS FOR REFLECTION

1. Think about the situation of fishing in the country where you work:
 - What is the approximate value of fish sales from catches in the inland and coastal waters in the country?
 - What changes can be observed in the size or timing of catches over the past five years?
 - How many people work as fishers, fish mongers or fish processors in the country?
 - What is the economic status of people working in fishing and how has it changed in the past five years?
2. What is the perception of HIV among senior staff in the fisheries sector of the country where you work?
 - If HIV is not perceived as an issue in the sector, why is this the case?
 - If the epidemic is perceived as an issue in the sector, what policy or programming measures have been taken to respond to it?
 - What governmental, international or NGO partners are working on HIV issues in the fisheries sub-sector of the country where you work? Can you cite any lessons learned from their experiences?
3. What is HIV prevalence among fisherfolk and fishing communities in the country where you work, in particular in comparison with the general population? Is there

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evidence of this impacting on the operations of fishing fleets or fish processing? What AIDS-related impacts can you describe on:

- Commercial fishing?
- Artisanal fishing?
- Ocean versus inland fishing?

4. Briefly describe the different gender roles in fishing, fish mongering and fish processing in the country where you work.

- What is the role of transactional sex in the catching, processing or marketing of fish?
- What measures do you think could eliminate or at least mitigate this practice?

INTRODUCTORY REMARKS

Some of the earliest recorded AIDS cases were in fishing communities on Lake Victoria in 1982. Nevertheless, the development community has been slow to recognize that fishing communities in low and middle-income countries worldwide constitute one of the most vulnerable populations to HIV. The following are a few examples of HIV prevalence and incidence in some fishing populations and communities around the world¹:

- 24 percent of fisherfolk on Lake Albert, Uganda were HIV-positive in 1992, compared to 4 percent in nearby agricultural villages; many of the fishermen were migrants.
- 13-20 percent of marine fishing boat crews in Thailand tested HIV-positive in the late 1990s, while the general prevalence was 1.5 percent.
- 8 percent of adults in 'Garifuna' coastal fishing communities² in Honduras are HIV positive, four times the national average.
- 12 percent of AIDS patients in the city of New Bedford, USA during 1990-1995 were fishers, while seroprevalence was less than 0.01 percent in the general population. Fishers made up less than 1 percent of the population.
- Fishers are five time more likely to die of AIDS-related illness than farmers in the Lake Victoria region, where seroprevalence in lakeshore towns and villages in Kenya, Tanzania and Uganda are thought to have reached levels as high as 30-70 percent during the late 1990s.

Few AIDS programmes have specifically targeted fishing communities. The issue has received scant policy attention and much needed research on the topic is still limited. Consequently, our understanding of vulnerability and resilience within the sector is still very limited. Because rural people face declining income from traditional sources, the increasing price of fish is attracting growing interest as a source of livelihood for migrant fishers and traders. However, HIV undermines the long-term perspective needed for successful co-management in fisheries, whilst deepening poverty may drive fisherfolk towards increasingly short-sighted and unsustainable practices, such as using dynamite to catch fish. Furthermore, the premature death of adult fisherfolk threatens the inter-generational transfer of indigenous

¹ FAO. 2007a. *The impact of HIV/AIDS on fishing communities – policies to support livelihoods, rural development and public health*. New directions in fisheries – A series of policy briefs on development issues. Rome. (<ftp://ftp.fao.org/docrep/fao/010/a1022e/a1022e01.pdf>)

² The Garifunas are an Afro-Caribbean ethnic group concentrated on the Caribbean coasts of Belize, Guatemala, Barbados and Honduras.

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knowledge about resource management. Some important factors should be noted in terms of the linkages between HIV and fisheries sub-sector:

- Migration is an important factor favoring HIV transmission and this is one of the causes of high HIV prevalence in fishing communities.
- The practice of “fish for sex” is used by many women to secure fish supplies in an increasingly competitive market.
- Poverty is a key driver of behaviour that leads to increased vulnerability to HIV. Improved incomes are thus important in addressing this.

HIV in fisheries has much wider impacts also beyond the sub-sector. Mobile and part-time fishing populations moving in and out of the sector, along with interactions through trade and markets, permit HIV and its impacts to be spread outside the sector. The multiplier effects of the loss of productive labour and declining productivity may affect rural incomes more broadly. Moreover, the epidemic threatens the ability of the fisheries sub-sector to supply fish and fish products to low-income groups, for whom it represents an important and affordable source of animal protein and micronutrients.

Some fisheries generate important foreign exchange and the loss of those revenues has wider economic effects. The diversion of household and government resources to tackle the epidemic reduces the funds available for other services and investment in productive activity. Responses to the epidemic in the fisheries sub-sector must deal with the following basic issues:

1. Sustainable management of fishing, as fish stocks are being rapidly depleted due to over-fishing and environmental and climate change.
2. Development of sustainable livelihood options in fishing communities to overcome deepening poverty, which increases migration in fishing communities and leads to commercial and transactional sex.
3. HIV prevention, voluntary counselling and testing (VCT) and access to antiretroviral therapy (ART) for those who are infected. Peer education and mobile services appear to be promising measures adapted to the culture and practices of fisherfolk.

READINGS: AN OVERVIEW OF HIV ISSUES IN THE FISHERIES SUB-SECTOR

1. Why is HIV an important issue in the fisheries sub-sector?

1.1 The central role of fishing and aquaculture in food security

The 2006 FAO report for the Committee on Fisheries states that:

“Millions of people around the world depend on fisheries and aquaculture, directly or indirectly, for their livelihoods. During the past three decades, the number of fishers and aquaculturists has grown faster than the world's population, and employment in the fisheries sector has grown faster than employment in traditional agriculture. In 2004, an estimated 41 million people worked (part time or full time) as fishers and fish farmers, accounting for 3.1 percent of the 1.36 billion people economically active in agriculture worldwide and representing a growth rate of 35 percent from the corresponding figure of 2.3 percent in 1990. The great majority of fishers and fish farmers are in developing countries, principally in Asia. Significant increases over recent decades, in particular in Asia, reflect the strong expansion of aquaculture activities. In 2004, the number of fish farmers accounted for one-quarter of the total number of fish workers. This figure is indicative, as some countries do not collect employment data separately for the two sectors and some other countries' national systems do not yet account for fish farming.”³

The importance of fisheries in food security and rural livelihoods is critical. Well over 120 million people are dependant on fishing and fish processing for their livelihood and over 40 million people work in the fisheries sub-sector as fishers and fish farmers (see Table 1). While data for women in this sub-sector is limited, it is known that women play an important role at every stage, particularly in post-harvesting activities such as including drying, smoking and marketing fish.

Table 1. World fishers and fish farmers by continent in 2004 (in thousands)

| Region | Total | Of which fish farmers |
|---------------------------|---------------|------------------------------|
| Africa | 2 852 | 117 |
| North and Central America | 864 | 64 |
| South America | 700 | 194 |
| Asia | 36 281 | 10 837 |
| Europe | 656 | 73 |
| Oceania | 54 | 4 |
| World total | 41 408 | 11 289 |

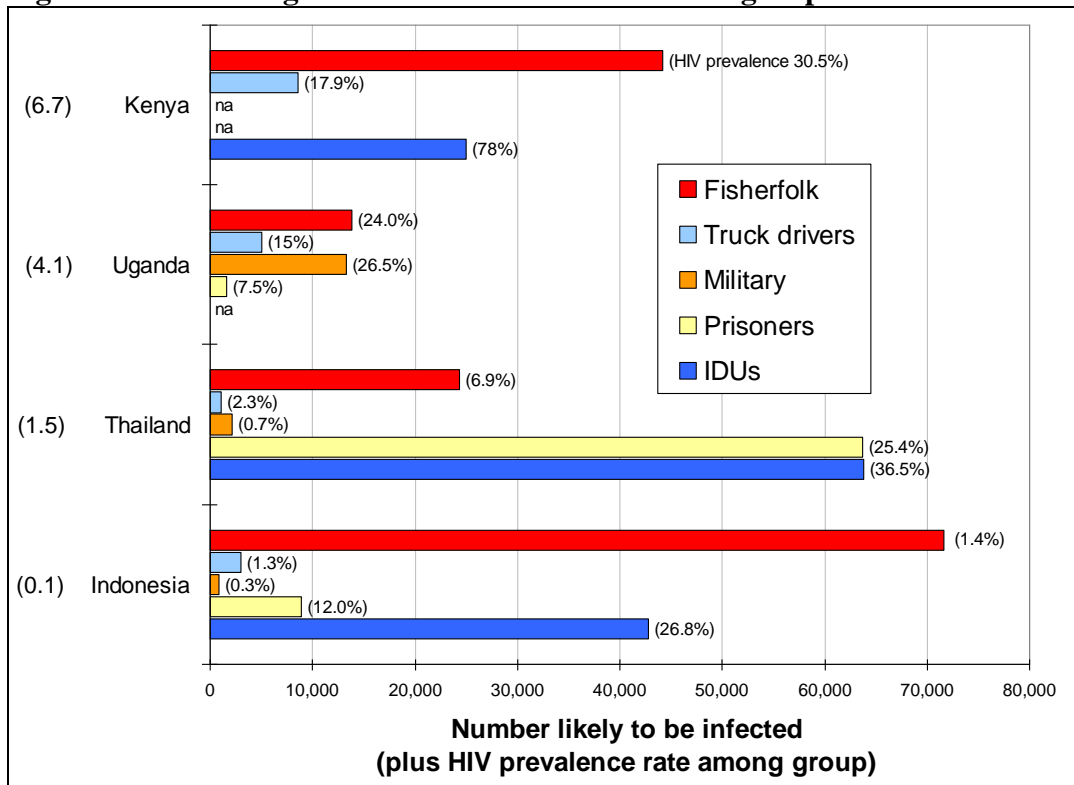
(Source: FAO, 2007)

³ FAO. 2007. The state of world fisheries and aquaculture 2006. Rome.
(<http://www.fao.org/docrep/009/A0699e/A0699e00.htm>).

1.2 Fisherfolk as a key population at high risk of HIV exposure

AIDS policies and strategies tend to focus on key populations at higher risk of HIV infection, for example sex workers, injecting drug users (IDU) and men who have sex with men (MSM). A lot of attention is also given to the vulnerabilities to HIV of truck drivers and the military. However, when one examines Figure 1, it is clear that fisherfolk are also a key population vulnerable to HIV exposure.

Figure 1. HIV among fisherfolk and other vulnerable groups



(Source: Kissling et al., 2005)

It is clear from the graph that HIV prevalence is often higher in the fisheries sub-sector than in other key populations at high risk of HIV exposure. This is due to a combination of factors. Some of the major factors include:

- The numbers of fisherfolk can be considerable and fish landing sites can be major hotspots of HIV dissemination.
- Fisherfolk are very mobile, nationally and internationally, and are therefore in contact with many other groups.
- “Fish for sex”⁴ is often institutionalized and generalized.

In the forestry sub-sector, the major impacts of HIV and AIDS are on resources (e.g. forests and forest resource), but in the case of fisheries the main impact is on the people (e.g. fisherfolk), who are also ‘drivers’ of the epidemic. However, an important common factor

⁴ “The practice in which female fish traders engage in sexual relationships with male fishers to secure their supply of fish.” (Béné and Merten, 2008).

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with forestry is the dependence on, and shrinking of, natural resources, on which the populations rely for food and livelihood security.

Fish is an extremely important source of animal protein and of micro nutrients in many developing countries. "FAO data indicate that while in most developed countries nearly 80 percent of the population obtain less than 20 percent of their animal protein supplies from fish, around 60 percent of those in many developing countries depend on fish for over 30 percent of their animal protein supplies."⁵ Thus, any factor (e.g. HIV) that may threaten this source should be of great concern.

2. HIV vulnerabilities in the sub-sector

2.1 *Vulnerability to HIV*

Two different (yet complementary) issues need to be highlighted:

- Factors in fisheries that lead to a risk of infection (listed in Table 2)
- Fishing communities as "hot spots" for the spread of HIV

The list of factors in Table 2 is not exhaustive, but the factors most specific to fisheries have been selected in order to highlight the issues. The factors are classified into three categories: (1) individual, (2) community and (3) fish resource.

Table 2. Factors of vulnerability to the risk of HIV infection in fisheries

| Background factors | Proximate determinants of HIV vulnerability |
|---|--|
| <p>a) <u>Individual factors</u></p> <ul style="list-style-type: none"> – Poverty – Marginalization of fishermen and women in fishing activities combined with male-female power relations – Insecurity – Internal and international mobility <p>b) <u>Community factors</u></p> <ul style="list-style-type: none"> – Unstable communities with rapid turnover – Weak institutions: lack of control over fishing practices – Except for some farm-fishing, generally little livelihood diversification outside of fishing <p>c) <u>Fish resource factors</u></p> <ul style="list-style-type: none"> – Decline in fishing stocks leads to intense competition along the fishing chain: marketing, processing, transport and trade | <p>d) <u>Individual factors</u></p> <ul style="list-style-type: none"> – Quick money, large sums of cash – Long periods away from home – Coping with danger/loneliness by using alcohol, sex, etc. – Invisibility of HIV&AIDS impact: the sick return to home village to die <p>e) <u>Community factors</u></p> <ul style="list-style-type: none"> – Complex camp and port networks of men and women: competing and overlapping in fish related activities, including protection – Large markets with large numbers of men and women mixing many professions – Institutionalized transactional sex – Lack of health and other services <p>f) <u>Fish resource factor</u></p> <ul style="list-style-type: none"> – Seasonality and unpredictability in catches and dwindling fish stocks can encourage transaction sex |

*Synthesis of findings from literature

⁵ FAO. 2002. Impact of international fish trade on food security. Committee on Fisheries, Sub- Committee on Fish Trade. Rome. (<http://www.fao.org/docrep/meeting/004/y3016E.htm>)

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Fishing communities may appear stable to the outside observer, but they are often different from farming communities whose inhabitants have been in the same location for generations. In the case of fishing communities, the physical location of the community can be ancient, but the inhabitants are often migrants, poor farmers or even urban dwellers who have lost their jobs or livelihood. These communities may be characterized by the following:

- Urban dweller or poor farmers that have migrated as a last option, even if they are unprepared and have little knowledge of boating or fishing.
- Migrants can come from far away and speak different languages, which can create local communication problems.
- They frequently do not have documents and may be exploited.
- They often move to other communities and have little commitment to preserve the resource.
- Women who arrive are often divorcées or widows looking for activities that require little knowledge and capital. Still, they generally find themselves in unequal gender relations.
- Men are involved in fishing, whereas women may be involved in all the related activities – e.g. buying, processing and trading. Women, however, are generally employees or petty traders. (a)⁶

In view of the population characteristics, the community institutions are weak and cannot be enforced. Furthermore, because fishing communities are generally neglected by governments, the communities receive no backing as such, which weakens them further. Fishing communities generally offer no activities generating income outside of fishing except for entertainment. They thus attract bars, brothels and sex workers. (b)

As has been noted previously, the fishing population is increasing, whereas fish stocks are declining. This leads to intense pressure on stocks, as well as tension between people to access resources. This also means that the value and quantity of fish catches can fluctuate highly as people scramble to get a share.

The risk factors for female wholesale fishmongers and fish processors stems from the difficulty they have in getting fish during “bad fishing season”, as well as their desire to earn as much as possible by paying for part of the fish “in kind”. To have preferential access to fish, female wholesale fishmongers tend to have at least one partner among the boat-owners. Some also manage to become “fisher-madams” by pre-financing fishing expeditions, which gives them special rights over the total catch, including the boat owner’s share. (c)

Fishing is one of the most dangerous and stressful professions, which can have consequences on human behaviour. Due to the dangerous nature of the work, fishers may engage in risky behaviour in their free time, involving alcohol abuse and unsafe sex. These are easily available and accessible on shore since fishers are paid on their return from fishing excursions and are often young and single. Fishers can earn relatively high wages and tend to spend them all at once because their daily risks on the water discourage future planning. Due to high turnover, neglect and difficulties, fisherfolk tend to lack HIV knowledge and may not be willing to practice safer sex. For an analysis of the various types of sex workers found in fishing communities see Annex 1. What emerges is that the complexity of networking and partnering enable adaptation to every situation of both men and women and serve multiple

⁶ The letters refer to the categories in the previous table.

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purposes, not just entertainment or income. For example, many fishermen do not stay on shore long enough to find and keep regular partners. They find sex workers without difficulty and consider them cheaper in the long run. In other cases when they stay on land for a longer time, a temporary wife who provides a kind of home may be better suited to the situation. (d)

Fisherfolk who fall sick often do not have savings or family to look after them. They have limited access to health facilities and tend to return to their place of origin to be cared for. The result is that communities with high HIV prevalence often experience few HIV-related illnesses, which minimizes awareness of the epidemic among people. It is also possible that the inflow of often healthy migrants and the outflow of people with advanced stages of HIV dilute the estimates of HIV prevalence reported in fishing communities. (d)

Because of weak institutions, men and women in fishing communities often form networks in order to facilitate access to jobs, fish and services. These networks are formed in response to the scarcity and irregularity of fish resources. Communities are thus composed of competing networks. In order to buy fish that is unloaded from a boat, women generally have to compete with one another. In order to guarantee access to the fish, some women may offer sex in exchange for priority over catches. Transactional sex serves the needs of the men and helps women maximize their gains⁷. “Fish for sex” (or transactional sex) has become institutionalized in the fisheries sub-sector and needs to be addressed in HIV policies and programmes.⁸ It should be noted that this practice can be found all along the chain of marketing right down to the deals between women traders and truckers or to ensure their protection by military or police when, for example, taking the train to sell in towns or along the railway line. It is important note that the number of people involved in these transactions, and thus exposed to HIV risk, can be considerable. (e)

2.2 HIV vulnerabilities beyond the sub-sector

Many fishing populations are highly mobile. Men move between landing sites and local markets on a daily and seasonal basis. Fish processors, traders and transporters – both men and women – move between landing sites, regional and national markets and fish processing factories. Other service providers – including sex workers – move with them. These movements and networks are likely to play a part in transmission of infection between high-prevalence areas and those at lower risk, and hence drive the spread of the epidemic beyond the sub-sector.

Lack of access to services and traditional social support networks in fishing villages means that people living with HIV who are too ill to work will return to their ‘home’ communities to be cared for. This has implications for the spread of HIV and increases the number of people experiencing the impact of AIDS.

2.3 Vulnerabilities in large-scale fisheries

Although there is little research on large scale fisheries specifically, there is enough to suggest that some additional risks may be presented by the tendency toward higher degrees of mobility, in addition to onboard crew practices.

⁷ On the subject of transactional sex, see: Merten, S. and Haller, T. 2006. Fish for sex exchange in the Kafue Flats: risky opportunities of rural women. Cairo, WorldFish Center.

⁸ See Annex 2 for further discussion on gender and transactional sex in fisheries.

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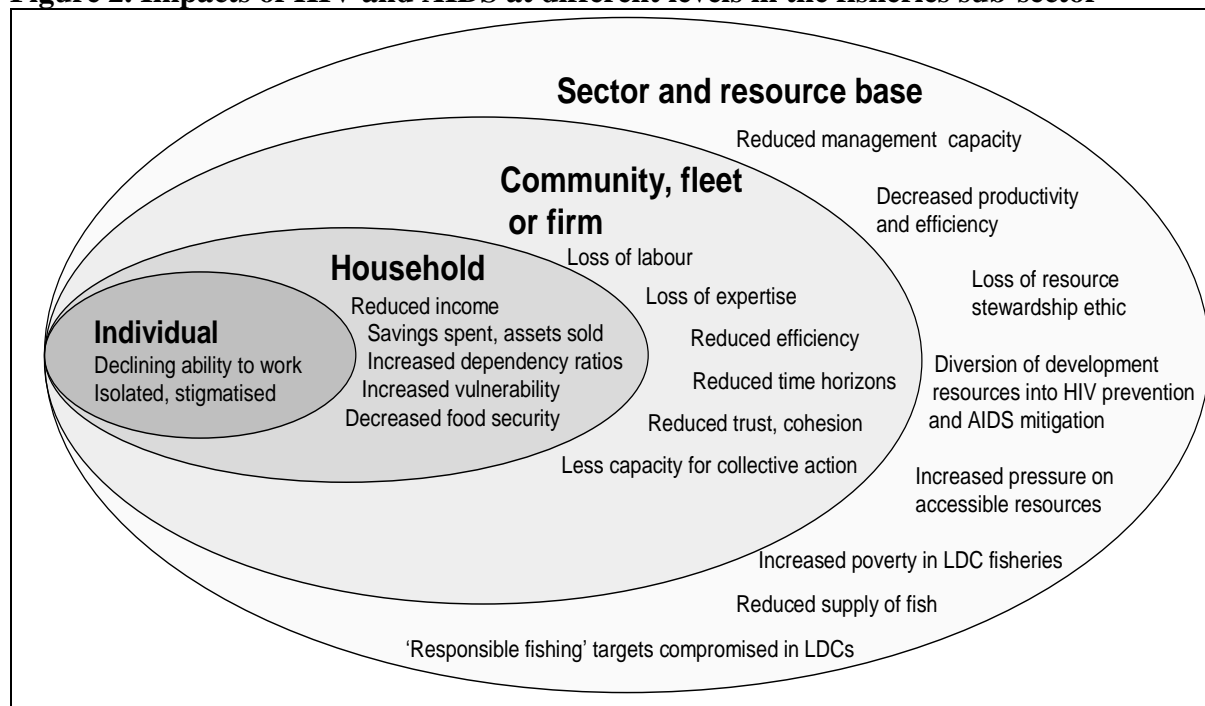
A study of trawler crew in the Gulf of Thailand and the Andaman Sea⁹ found that in addition to the known behaviours that increase exposure to HIV (e.g. alcohol and drug use, high numbers of visits to commercial sex workers, etc.) the higher degree of mobility among crew members was associated with a higher risk of infection. Of the 818 crew members included in the study, 15.5 percent were found to be positive for HIV-1 and 16 per cent had engaged in commercial sex outside of Thailand. HIV prevalence among crew members, which was specifically selected to exclude less mobile and smaller-scale fishermen, was surpassed only by prevalence among commercial sex workers and male injecting drug users.

The same study identified certain onboard practices such as tattooing and penile manipulation involving scarring and cutting as potential risk factors associated with transmission. Several other onboard behaviours that increase exposure to HIV have been identified in studies, including commercial sex with sex workers who arrive with supply ships, as well as same-sex intercourse (the dynamics of which have been compared to those in prison populations).

3. Impacts of HIV and AIDS on the fisheries sub-sector

Current knowledge on the impacts of HIV and AIDS on the fisheries sub-sector has been summed up by Allison and Seeley in the diagram in Figure 2. Many of the impacts are common to those described already in farming.

Figure 2. Impacts of HIV and AIDS at different levels in the fisheries sub-sector



(Source: Allison and Seeley, 2004)

⁹ Entz, A.T., Ruffolo, V.P., Chinveschakitvanich, V., Soskolne, V. and van Griensven, G.J.P. 2000. HIV-1 prevalence, HIV-1 subtypes and risk factors among fishermen in the Gulf of Thailand and the Andaman Sea. *AIDS*, 14(8): 1027-1034.

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The epidemic affects the different actors in the fisheries sector in various ways:¹⁰

Individual level:

- People working in the sub-sector (e.g. fishers, processors, fish workers, etc.) face reduced labour ability, in particular physically demanding labour, due to HIV-related illnesses and in caring for those who are ill. This may lead to job loss and/or reduced income.
- Workers with HIV in the sub-sector may face stigmatization and isolation.
- Men who are ill and lack energy and strength to go out fishing may displace women in collecting sea shells or processing fish. Displaced women might then have to turn to sex work due to a lack of other available options.

Household and community level:

- Households may experience reduced income as a result of HIV-related illness and mortality, while at the same time facing increased medical expenses.
- In order to cope with food and livelihood insecurity, households may sell their productive assets (such as fishing equipment and boats) and may withdraw their children from school because of the direct and indirect costs of education. This is a coping mechanism of households to meet immediate expenses, but has knock-on-effects in terms of diminished future livelihood and food security.
- Many fishing households (particularly in inland fishing) are also involved in farming. One then finds a gender division of labour, with men generally involved in fishing activities and women in farming. The two activities are complementary for farm-fish households, as income from the fishing season can supplement the farming off-season. A drop in fishing income due to HIV therefore has repercussions on household income.
- Lack of HIV services in fishing communities means that when people become ill, they may return to rural homes to be cared for. This places an additional burden on rural households.
- HIV can have disruptive impacts on communities, leading to reduced trust and social cohesion and therefore affecting the capacity for collective action.

Institutional level:

- Fishing fleets and enterprises experience loss of labour and expertise stemming from HIV-related illness and death. This can lead to declines in efficiency and productivity in fishing and related activities.
- In addition to reduced productivity, fisheries departments and businesses may face costs related to provision of health services and treatment, particularly when staff are ill for long periods.
- High occurrence of HIV-related illness and death in a community can have the effect of reducing individuals' future perspective and planning. This can resultantly undermine commitment to collective, long-term goals, such as community fishery management and development projects in fishing communities.

¹⁰ See: Gordon, A. 2005. HIV/AIDS in the fisheries sector in Africa. Cairo, WorldFish Center. (<http://www.aidsportal.org/repos/WorldFish%20Policy%20Brief%20-%20HIV%20AIDS%20in%20the%20Fisheries%20Sector%20in%20Africa.pdf>); FAO. 2007. The state of world fisheries and aquaculture 2006. Rome. (<http://www.fao.org/docrep/009/A0699e/A0699e00.htm>).

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- Fish caught by small fishers represent a major source of animal protein for households and communities. Reduced catches stemming from HIV impacts can therefore jeopardize this food source and food security.

Sectoral level:

- High prevalence of HIV among fishers, fishery managers, as well as community leaders, may reduce management capacity in the sub-sector.
- Decreased productivity and efficiency as a result of HIV-related illness and death can lead to increased pressure on inshore resources that are more accessible. This can lead to the unsustainable use of resources and thus responsible fishing targets may be negatively affected.
- Fishery development resources may need to be diverted towards HIV prevention and mitigation efforts. This may in turn lead to increased vulnerability in small-scale fisheries and may undermine the sustainable use of resources.
- Mobility of fisherfolk also has repercussions in terms of HIV spread both within and beyond the sub-sector.
- As households face the costs of illness and death, income that would have otherwise been spent on
- Rural economies and the fisheries sector may face reduced revenue and investment as a result of decreased spending in fishing communities. This is a result of reduced household income from fisheries-related activities and increased expenses stemming from illness and death.

4. An agenda for AIDS in the fisheries sub-sector

There needs to be a committed response from the different actors in the fisheries sub-sector to the challenges posed by the AIDS epidemic. Relevant stakeholders each have a unique role to play in responding to the epidemic. Areas of action from different actors in the sector are outlined in the following section.¹¹

Ministry of Fisheries:¹²

- Develop an HIV policy or strategy for the sector¹³, taking into consideration both the root causes of the epidemic and priority intervention areas for addressing them.
- Sensitize staff about HIV issues in the sub-sector and in the workplace (e.g. through workshops, dissemination of policy documents, etc.).
- Assign an AIDS focal point within the Ministry or department, with the role of initiating policy and strategy development and facilitating awareness raising among staff.
- Collaborate with the health sector and other stakeholders to develop sub-sector responses in the areas of prevention, care and mitigation.

¹¹ The following section has been adapted from: FAO. 2005. *The impact of HIV/AIDS on fishing communities – policies to support livelihoods, rural development and public health*. New directions in fisheries – A series of policy briefs on development issues. Rome. ([ftp://ftp.fao.org/docrep/fao/010/aI022e/aI022e01.pdf](http://ftp.fao.org/docrep/fao/010/aI022e/aI022e01.pdf))

¹² Or the Ministry in charge of Fisheries in the country.

¹³ For example, the Ministry of Agriculture, Animal Industry and Fisheries in Uganda has developed a strategy for reducing the impact of HIV and AIDS on fishing communities: http://www.mrag.co.uk/Documents/ug0672/ug0672_9.pdf

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- Train and support local-level fisheries staff HIV issues in their communities, and liaise with them to ensure national-level planning takes into account local knowledge and context.
- Ensure that management of fisheries and other interventions in the sector do not create or increase vulnerabilities of fisherfolk or people living in fishing communities.

Health Ministry:

- Improve access to health services, and in particular HIV-related services, in fishing communities – including enhanced access to voluntary counselling and testing services, as well as better provision of health care (e.g. ART, treatment of STIs and opportunistic infections, etc.). Mobile or floating clinics could be considered in some situations.
- Enhance nutrition-based interventions for people living with HIV in fishing communities.

Local government:

- Determine the extent to which HIV is an issue in fishing communities in their jurisdiction and the dynamics of the epidemic.
- Liaise and lobby with Ministries and donors to ensure adequate budget allocations to address HIV prevention and impact mitigation for the fisheries sector in the district.
- Make provisions for safety nets for HIV-affected people in fishing communities, through poverty reduction strategy funds and other sources.

Non-governmental, Civil society and Community-based organizations:

- Liaise and lobby with government and donors to ensure adequate funding to address HIV issues in the fisheries sub-sector.
- Support community-based interventions focused on HIV prevention and mitigation. This should be done in close collaboration with the communities themselves.
- Support livelihood strategies of fishing communities, including alternative income generating activities.
- Enhance awareness among communities about HIV, including prevention, treatment and care. This can be achieved by creating dialogue about HIV issues in the sub-sector, information dissemination, awareness raising campaigns, etc.
- Ensure psychological and social support to people living with HIV (e.g. nutrition and food support, promotion of 'positive living' groups, etc.).

5. HIV interventions in fishing communities

Fishing communities face a range of vulnerabilities to HIV and its impacts. These stem from neglect of these communities in HIV prevention and mitigation strategies, in addition to socio-economic vulnerabilities and the fact that communities are often marginalized. Considering the high HIV prevalence in these areas, it is clear that responses of the sub-sector must address the specific contexts and vulnerabilities in fisheries (e.g. lack of safety nets and alternative income-generating opportunities, etc.).

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The AIDS response in the fisheries sub-sector tends to lack a comprehensive strategy and approach. A range of interventions, however, exist target various HIV issues in fisheries. Some examples of specific activities are listed in the following sections¹⁴.

HIV prevention and behaviour change:

- HIV education and awareness raising campaigns in fishing communities.
- Voluntary counseling and testing (VCT) in fishing communities, including mobile services.
- Promotion of community “champions” to disseminate prevention messages and change perceptions.
- Mobilization of peer educators from within local communities.
- Radio programmes to raise awareness about HIV issues – reaching marginalized people in fishing communities.
- Creation of community discussion forums to discuss HIV issues (e.g. vulnerabilities, impact mitigation) in the community and identify possible responses.

Care and treatment:

- Treatment support for HIV-affected households, including home-based care.
- Establishment and promotion of positive living support groups for people living with HIV.
- Increased availability and access to health service (with particular attention to mobile and marginalized groups), and in particular antiretroviral treatment, for fisherfolk and people living with HIV in fishing communities.
- Promotion of prevention of mother-to-child transmission (PMTCT).
- Nutrition support for HIV-affected households and other households in fishing communities that are food or nutrition insecure.
- Community initiatives to support orphans and other vulnerable people (e.g. financial and subsistence support).

Livelihoods support:

- Promotion of alternative income-generating activities and occupations to diversify livelihoods, including training and other support.
- Savings and credit schemes for vulnerable people (in particular vulnerable women and girls) in fishing communities.
- Awareness and promotion of labour saving tools and technologies for low-input, low-labour and low-risk fisheries and fish farming practice.
- Promotion of small-scale aquaculture for people living with HIV.
- Training and skill enhancement for orphans and vulnerable children in fishing communities (e.g. Junior Farmer Field and Life Schools – JFFLS).

¹⁴ These examples have been taken from: (a) Gordon, A. 2005. HIV/AIDS in the fisheries sector in Africa. Cairo, WorldFish Center. (<http://www.aidsportal.org/repos/WorldFish%20Policy%20Brief%20-%20HIV%20AIDS%20in%20the%20Fisheries%20Sector%20in%20Africa.pdf>); (b) FAO. 2005. *The impact of HIV/AIDS on fishing communities – policies to support livelihoods, rural development and public health*. New directions in fisheries – A series of policy briefs on development issues. Rome. (<ftp://ftp.fao.org/docrep/fao/010/a1022e/a1022e01.pdf>); (c) FAO. Responding to HIV/AIDS in the fisheries sector. Rome. (<ftp://ftp.fao.org/docrep/fao/007/ae502e/ae502e06.pdf>)

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- Provision of advice on combining fishing with other farming activities, such as vegetable gardening, livestock raising, etc.

Workplace programmes:

- Programmes for employees in commercial fishing enterprises aimed at increasing HIV awareness, prevention and provision of VCT and ART.
- Development of workplace strategies and policies on HIV.

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Incorporating HIV issues into projects in the fisheries sub-sector

Examine some recent activities or projects in the fisheries sector (either commercial or artisanal) of the country where you work:

1. How has HIV affected fishers, fish mongers and fish processors?
2. How has it affected the quantity and value of the fish that is sold?
3. Do fisheries development projects have an HIV component? If so, please describe.
4. If not, how could they have been designed differently to be HIV-sensitive?
5. Would these activities or projects be more sustainable or effective if they took into consideration HIV issues? Explain.

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

Activity 2: Assessing gender roles and transactional sex in the fisheries sub-sector

Read the text "Gender roles and transactional sex in fishing" in Annex 2. It describes how transactional sex is used by women to obtain fish from male boat owners or fishermen. The text notes that some women may end up financing fishing expeditions when boat owners lack resources. Transactional sex also plays a role in gaining access to markets away from the port or fish landing areas.

1. Describe how fishing is organized in the country where you work. Make reference to the following factors:
 - a) Who owns the fishing boats? Do the owners also work on the boats? Are there any women who own boats?
 - b) Who finances the fishing expeditions? Are they supported by loans?
 - c) How are the fish sold or distributed when the catch is landed? Describe the roles of men and women in this process? Is transactional sex involved?
 - d) What forms of processing are used to preserve the fish (e.g. smoking, salting, drying, pickling)? Who handles this work?
 - e) How is the fish marketed? Is transactional sex involved?
2. What differences are there between ocean and inland fisheries in terms of gender and transactional sex?

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

An alternative exercise is to prepare a role play to illustrate gender roles and risky behaviours in the fisheries sub-sector that increase exposure to HIV.

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Activity 3: Organizing HIV prevention and treatment services for fishing communities

Planning the project:

1. Identify partners to be involved from the health sector and the fisheries sector. What NGOs could collaborate?
2. How would HIV prevalence in the fishing communities be assessed? How would you use data from a Demographic and Health Survey¹⁵ or from other sources?
3. Prevention activities on shore:
 - In training peer educators, whom would you choose to become peer educators for fishers or others involved in fisheries and ports, including the uniformed services?
 - Mention the most important concepts and messages you would like the peer educators to communicate in order to reduce or eliminate behaviour among men that increases exposure to HIV. Discuss:
 - a) Preventing and treating STIs,
 - b) VCT and access to ART,
 - c) Systematic use of condoms, especially with sex workers,
 - d) HIV testing and treatment issues,
 - e) Gender roles and sensitivity.
 - Mention the most important concepts and messages you would like the peer educators to communicate in order to reduce or eliminate risky behaviour among women.
 - a) Be sure to discuss VCT, PMTCT, negotiating sex, treating STIs.
 - b) Discuss how sex workers can organize so as to refuse sex without condoms.
 - c) Discuss HIV testing and ART treatment issues,
 - d) Analysis of gender roles in fisheries; exploration of alternatives.
 - Develop a condom availability and promotion strategy. Mention the main highlights of this strategy.
4. Treatment activities on shore and at sea.
 - Discuss options for providing ART on fishing boats, assuming CD4 and viral loads can be assessed on shore.
 - Discuss how shore-based healthcare facilities can provide a certain level of service at night or at times when fisherfolk, including shore-based women need them.

Managing the project:

1. How could the project be funded? Discuss different funding options (e.g. PEPFAR, Global Fund, donors, etc.).

¹⁵ You may wish to refer to the Measure DHS (Demographic and Health Surveys) site to access over 240 surveys conducted in over 85 countries: <http://www.measuredhs.com/>.

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2. Identify an appropriate NGO or other partners that could manage financial resources and logistics.
3. Briefly describe how project beneficiaries will be monitored and results assessed.

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

If time is available, prepare a role play illustrating a peer education session for men and another for women. You could experiment in having men and women switch roles in the role play. Afterwards, discuss how the participants felt during the exercise.

Activity 4: Mapping HIV “hot spots” in fisheries

Read the description of fisheries in Benin in Annex 3:

1. Identify the patterns of fishing activities in the country where you work:
 - Sketch the “corridors” of migration movements, including those over water. Identify any international boundaries that are crossed.
 - Locate the major fishing areas (inland and coastal) and identify when their productive and slow seasons occur. Which populations engage in fishing in which season? Are they local or migratory?
 - Locate towns or rural markets where fish are bought and sold. What is the HIV prevalence in these areas?
2. What are the risk factors associated with HIV infection, such as the presence of a transportation hub, migrant labour, presence of sex workers in the market towns or in areas where fisherfolk gather?
3. What risky behaviours occur among fisherfolk in the HIV “hot spots” that could contribute to the spread of the virus more widely?

Write down your answers on paper. If in a group, prepare a flip-chart page to highlight your scenarios and present it to the group for discussion.

Activity 5: Developing alternative sources of income and food for fishing households affected by HIV

Think of an HIV-affected community you know well where fishing households have lost fishing equipment and boats as a result of HIV-related expenses and loss of household labour.

1. Make a list of small stock that could be raised that would require less labour or specialised skills than fishing.
2. What aquaculture possibilities are there in the area? What kinds of fish could be raised?

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3. What symbiosis is possible between the animals, crops and the fish ponds (e.g. manure or crop residue for the fish and cultivation on the pond site after draining it)?
4. What other activities could households in the community engage in (e.g. repairing fishing gear and nets for active fishermen)?
5. What options are there for tourism services (e.g. a restaurant or a beverage stand)?

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

SUMMARY REMARKS AND LESSONS LEARNED

The fisheries sub-sector faces a number of HIV vulnerability factors:

- Fish are an important component of the diets of many people in developing countries. However, fish stocks are dwindling due to over-fishing, climate change and environmental factors. This situation leads to increased demand for fish and often unsustainable fishing methods.
- People working in fisheries (e.g. fishers, fish processors, marketers) are highly mobile and often migrate on a seasonal basis.
- The dangers of fishing, coupled with high disposable income among fishers, contributes to behaviours that lead to higher risk of HIV exposure (e.g. alcohol abuse, commercial sex, unprotected sex) and the dismissal of the dangers of such behaviours. Fisherfolk have HIV prevalence equal to or higher than other key populations at higher risk of HIV exposure (e.g. truck drivers, IDUs and MSM).
- Fishers living with HIV may be forced to sell their equipment and boats to pay for medical treatment. This impoverishes households and undermines future livelihood security.
- Female fish mongers and processors may resort to transactional sex with boat owners to obtain supplies of fish, particularly when resources are scarce. This leads to increased vulnerability to HIV.
- Poverty and the difficulties of fishing drive many youths from fishing communities to find wage work or petty trading far from home either as a replacement for or complement to fishing. Some of these youth face increased vulnerability to HIV.

Issues in HIV and fisheries include:

- High rates of HIV among fisherfolk and a lack of access to prevention and treatment services means that the epidemic is a threat to food and livelihood security in countries where fish is an important economic activity and part of the basic diet. As a result, there is diminished food security at the household and community levels.
- Fishing communities are “hot spots” of high HIV prevalence. Due to the vulnerability and mobility of fisherfolk, there is increased risk of HIV spread also beyond fishing communities and the sub-sector.
- Although fisherfolk can earn high incomes during good fishing seasons, they often lose money for lack of planning and a focus on the present. Many fishing households live in poverty because of the irregularity of catches.
- Reaching fisherfolk with prevention and care services is difficult because of their mobility and a frame of mind that dismisses the dangers of behaviours that increase risk of HIV exposure (e.g. transactional sex and sex without a condom). Condom use is generally low and fisherfolk often do not use VCT services.

Lessons learned

1. Lack of awareness of HIV is a problem in the fisheries sub-sector and needs to be addressed through appropriate policy development and measures addressing HIV prevention (including behaviour change), as well as access to testing and treatment.

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2. HIV services for fisherfolk and fishing communities must be adapted to their context (e.g. high mobility). In some cases, floating or mobile clinics may be needed to provide VCT and ART. Peer education appears to be a promising measure in raising awareness.
3. Poverty-reduction and income-earning strategies are needed to give young women an alternative to transactional sex in the fishing sector. Alternative income sources are also needed for fishers living with HIV and who can no longer fish.
4. A lack of organizational structure for financing fishing expeditions and marketing catch is a major factor driving “fish for sex” practices. This puts fisherfolk at risk of contracting and spreading HIV.
5. Donors need to work with the health sector, the fisheries sector and NGOs to develop sustainable responses to the challenges of HIV in the fisheries sub-sector. Research has already yielded some useful findings and guidelines for policy and programme development.

ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral therapy |
| ARV | Antiretroviral [medicines] |
| CSO | Civil society organization |
| DRC | Democratic Republic of Congo |
| FAO | Food and Agriculture Organization of the United Nations |
| HIV | Human immunodeficiency virus |
| IDU | Injecting drug user |
| JFFLS | Junior farmer field and life schools |
| LDC | Least developed country |
| MSM | Men who have sex with men |
| NGO | Non-governmental organization |
| PEPFAR | The President's Emergency Plan For AIDS Relief |
| PLHIV | People living with HIV |
| PMTCT | Prevention of mother-to-child transmission |
| STI | Sexually transmitted infection |
| VCT | Voluntary counselling and testing |

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ANNEX 1 – Complexity in the typologies of sex workers and their clients in fishing communities and how this can drive the spread of HIV

Typology of sex workers in Base Agip, Congo:

| Type | Characteristics |
|--|---|
| Professional sex worker | <ul style="list-style-type: none"> • Over 40 years old • Live in Base Agip and receive customers at home • Business increases during good fishing season • Tend to use condoms |
| “Free” young women nicknamed “brothels” | <ul style="list-style-type: none"> • Less than 30 years old • Offer services for survival, generally to several regular partners • Do not pick up customers at bars or night clubs • Do not use condoms and do not perceive themselves as sex workers |
| Young women of Base Agip “living like white people” | <ul style="list-style-type: none"> • Most expensive sex workers • Pick up customers visiting from outside Base Agip in night clubs and bars • Tend to use condoms |
| Mobile sex workers from outside Base Agip, but working there | <ul style="list-style-type: none"> • Very heterogeneous group • Some use condoms, others do not |

(Source: Adapted from Mboussou, 2004)

Walvis Bay, Namibia – HIV hotspot for foreign and local fishermen and truck drivers:

| Type of customer | | Characteristics |
|--------------------------|--|---|
| European fishermen | In town for short periods of shore leave, stay 3-6 months to fish in Namibian waters | <ul style="list-style-type: none"> • Go to bars and nightclubs – high-end sex workers • Some rent lodging for live-in girlfriends • Tend not to use condoms |
| Asian fishermen | Same as above | <ul style="list-style-type: none"> • Prefer one-time encounters with low-end sex workers • Tend not to use condoms |
| Local Namibian fishermen | Permanent residents of the Bay and spend lengthy periods on shore | <ul style="list-style-type: none"> • Go to local bars (shabeens) not frequented by foreign fishermen • Frequent low-end sex workers and engage in transaction sex • Do not use condoms • Have a positive view of sex workers – seen as helping out because fishermen's conditions make it difficult to have regular girlfriends |
| Truck drivers | Stop in Walvis Bay for 1-2 days | <ul style="list-style-type: none"> • Pick up sex workers in clubs and shabeens • Have a positive view of sex workers – often described as ‘wife assistant’ • Some use condoms |

NB. Sex workers can serve different types of client.

(Source: Adapted from IOM and PHAMSA, 2006)

ANNEX 2 – Gender roles and transactional sex in fishing

Transactional sex is an intimate part of many fisheries. In the Pointe Noire area of the Congo, for example, focus group discussions and individual interviews with fishermen, boat owners and female fish mongers and processors revealed that transactional sex is used extensively to obtain preferential access to fish.

Box 1. Transactional sex in Pointe Noire, Congo¹⁶

“Boat-owners’ are the proprietors of their fishing boats, materials and gears. They have direct access to the fish they sell to their customers who are mainly women (fish mongers and processors).”

“During the ‘bad fishing’ seasons, fish becomes very scarce and demand becomes higher than supply. During such periods, the boat-owners favour some special customers over others in the supply of fish. These are either their wives or their mistresses. Boat-owners’ vulnerability results from their privileged access to the resource. This makes them the prey of women who want to have preferential access to fish, or even those who want fish without having to pay for it.”

“... I am in charge of collecting money for my master. Sometimes, when I get to a woman who has bought fish, she may say that she has already paid my master. What that means is that, you know... If you try to get too many details about the transaction, your master may threaten to sack you ...” (O., 36 year old fisherman).”

“There is a tendency for boat-owners to *“end up between the thighs of women who come to buy fish”*. *“...I want to collect fish from you ... Come and know my house just in case! When I get to her house, she allows me to do what I want, and afterwards, she tells me the fish sale was bad and that she doesn't have any money to pay for it ...”* (L., 52 year old boat-owner-fisherman).”

In a good fishing season, the share of fishing income favours the boat-owner by far. *“...At times we earn as much as one million francs after a fishing expedition. We then deduct what the master might have spent to organize the outing: about 150,000 francs. The remaining amount is divided into two parts, one for the boat-owner fisherman and the other for the rest of the crew ...”* (A., 32 year old fisherman).”

“In this way, boat-owners seem to have little choice but to maintain relationships with women who want preferential access to fish almost on a regular basis. Their insistence on “getting value for fish” that practically obliges them to maintain regular sexual relationship with multiple partners blinds them to the risks of being infected by HIV.”

“The result is that some boat-owners are so tied up financially with managing these multiple sexual relationships, (the objective of which, for their women partners, is to maximize their business profit), that they can no longer meet the cost of sending out their boats to sea on fishing expeditions (especially where fuel costs are concerned). This then leaves room for one of their many partners to step in to “take stock” as they put it in local parlance. This involves the pre-financing of a fishing expedition by a female wholesale fishmonger, who thus becomes the owner of the catch.”

“In contrast to the boat-owners, fishermen come under greater risk during “good fishing seasons”: *“... When we share out our money after a fishing expedition, I sometimes make 30,000 francs in one day. I give my family 10,000 francs and I pocket the rest of the money for enjoying myself. After drinking, I check out one or two “brothels” before going back home...”* (L., 28 year old fisherman).”

“Fishermen estimate their monthly income at nothing less than 150,000 FCFA; this can go as high as 400,000 FCFA per month during “good fishing periods”. However, most fishermen live one day at a time and have no vision whatsoever for the future.”

¹⁶ Extracted from: Mboussou, F.F. 2004. *Congo: Prostitution in the fishing community of Base-Agip*. SFLP Liaison Bulletin, September/December 2004, N.17 & 18. Cotonou.
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"They claim to be under too much pressure at the beach. *"...When the fish come out, the women hang around the beach. They just walk around for no good reason. They are the ones who chase after us ...'Mister, I love you, can you buy me some juice? ...that's how it starts and before you know what ..."* (A., 32 year old fisherman)."

"The women who come to buy fish approach the fishermen in another way. *"...Mister, I want to buy fish but I have no money ... if you like, we can meet later ...are you married? Often after the meeting, in addition to the getting free fish worth 10,000 or 20,000 francs, they also ask for money to take taxi home"* (R., 38 year old fisherman)."

"If a woman has no money, we negotiate; I give her fish and we meet later ..." (A., 32 year old fisherman)."

"The fishermen are very much aware of the fact that these women meet several of them, but very few protect themselves. *"...We have noticed that these women do it with many fishermen. Sometimes, after meeting at the hotel, when you go to the other side of the district, you see the woman with another fisherman ..."* (L., 26 year old)."

ANNEX 3 – Mobility and migration: factors in the spread of HIV in Beninese fishing communities¹⁷

Local mobility and risk:

“Coastal fishers are very mobile: when the catch is particularly good, they often go to the Cotonou port where fish sell at higher prices. Their stay in Cotonou may last a whole week, and even sometimes extend to two or three weeks. During this time, alliances and friendships are established here and there between fishermen and fish sellers. These liaisons of mutual interest make it possible for the women mongers to enjoy the loyalty of fishermen so that they can have a monopoly of the fish they have for sale. The geographic mobility that is part and parcel of the life of coastal fishermen in Benin is definitely an important factor in the propagation of STD/HIV/AIDS.”

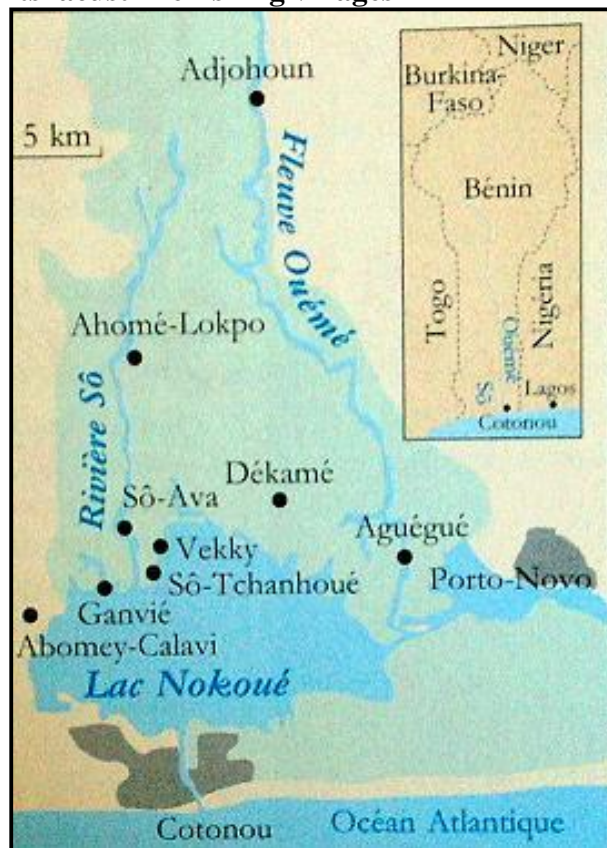
Migration – high risk factor:

“Located at the deep end of the Gulf of Guinea, Beninese coastal regions have less fish than the coastal regions of Ghana, Gabon, Cameroon or Congo. As a result, Beninese fishermen searching for better catches and improved income, emigrate towards these countries. This is typical of coastal fishing communities like Ayiguinou and Hio, part of whose youth population is abroad. The impact is that when the fish catch is meagre, the economy of coastal fishing communities slows down and some foreign fishermen seize this opportunity to return to their countries. But during good fishing seasons, the whole local community is so mobilized that boat owners sometimes have to call on foreign labourers, mainly Ghanaians, who come with their families.”

“Where inland fishing is concerned, especially as it relates to villages like So-Zounko and Kétonou, which are located in the Lake Nokoué basin, there are other STD/HIV/AIDS high risk factors linked to migration.”

“Kétonou, and in particular, So-Zounko are lacustrine villages that send many migrants to Nigeria and Gabon, searching for work. The main reason for this, according to some of the migrants, is that fishing no longer makes it possible for the people, and most especially the youths, to live well. The young people are moving massively to Nigeria and/or Gabon in search of work. According to them, they go abroad to work and/or trade and traffic in some merchandise.”

Figure 3. Map of Lake Nokoué, Benin and its lacustrine fishing villages



¹⁷ Extracted from: Atahouet, G.N. 2004. *Benin: STD/HIV/AIDS in fishing communities*. SFLP Liaison Bulletin, September/December 2004, No. 17 & 18. Cotonou.
(<http://www.aidsportal.org/repos/HIVFisheriesWestAfrica.pdf>)

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“...Almost all the cases of HIV/AIDS that have been made public in both Kétonou and in So-Zounko were migrants who came back home to die in their village.” The proximity of the villages to the Lagos-Abidjan migration corridor is an additional risk factor.”

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

6

MODULE

AIDS and the Livestock Sub-Sector



Building Capacity for Agriculture Sector's Response to AIDS

Module 6: AIDS and the Livestock Sub-Sector

AIMS

The aims of this module are the following:

1. To develop a general understanding of AIDS as an issue in the livestock sub-sector in that the epidemic is a threat to production of animal products.
2. To identify the challenges posed by HIV to sedentary farming and herding practices.

OBJECTIVES

Upon completing the module, the learner should be able to:

1. Assess the adequacy of livestock sector policy frameworks in responding to AIDS.
2. Describe how pastoralism has been affected by the epidemic in terms of changes in herd size, movements and health.
3. Propose strategies to bring both veterinary and HIV services to pastoralists.
4. Develop programme strategies of peri-urban livestock and micro-farming appropriate for HIV-affected households.
5. Identify how HIV affects veterinary and livestock extension staff and services.

QUESTIONS FOR REFLECTION

1. What is the perception of HIV among senior and extension staff in the livestock sector in the country where you work?
 - If HIV is not perceived as a problem, why is this the case?
 - If the epidemic *is* perceived as an issue in the sector, what policy or programming measures have been taken to respond to challenges?
2. How has the epidemic impacted the livestock sector in your country in terms of:
 - Functioning of veterinary and extension services;
 - Size and productivity of nomadic herds;
 - Growing poverty among pastoralists and/or a tendency to abandon herding;
 - Impacts on sedentary farmers involved in livestock raising and cultivation among.
3. What is known about bovine tuberculosis and other zoonoses capable of infecting humans in the country where you work?
 - What factors favour the transmission of zoonotic diseases to people?
 - What measures are being taken to prevent such transmission?
4. What coping strategies have emerged in the sub-sector to mitigate the impacts of HIV and AIDS on households of pastoralists and sedentary herders? For example:
 - Adoption of different and easier-to-care-for animals?
 - Adoption of micro-agriculture in rural or peri-urban areas?
 - Other coping strategies?

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Building Capacity for Agriculture Sector's Response to AIDS

Module 6: AIDS and the Livestock Sub-Sector

INTRODUCTORY REMARKS

This module provides an overview of the dynamics of the AIDS epidemic in the livestock sub-sector and highlights how the sector can contribute to efforts to respond to the epidemic. The module covers HIV issues among pastoralist and nomadic populations, as well as in cropping-livestock communities. The epidemic poses challenges to rural livelihoods, including herders and livestock-raising households largely due to loss of labour and specialized skills.

In addition to the loss of labour resulting from HIV-related illness and death, household members set aside time to care for the sick and, in the end, this may lead to neglect of farming, herding and off-farm activities. This can subsequently lead to a loss of income. The situation is aggravated in farming and herding systems with labour peaks during certain times of the year. Gender division of labour also means that with the death of a household member, the work previously undertaken by that household member may be neglected and the inter-generational transfer of knowledge and skills may be affected. According to FAO, “women and men of different ages often have different and quite specific knowledge about, and responsibilities for, various aspects of animal husbandry and livestock production. For example, a woman might be responsible for preventing or treating illness in the household's livestock, the man for milking or marketing, boys for grazing or watering, and girls for providing fodder in zero grazing. Should one or more household members die, critical knowledge and skills may be lost along with them.”¹

The epidemic can also lead to increased poverty among affected households. This largely stems from increased medical and funeral costs and decreased income. Households may subsequently deplete savings or sell assets in order to meet HIV-related expenses. Livestock are particularly vulnerable as they are easily sold and thus can generate income for households to cover medical and funeral costs. Land and crops may be less likely to be sold for these expenditures.

AIDS responses in the livestock sub-sector require partnerships among extension and veterinary services, Ministries of Agriculture (or livestock, depending on the country), the health sector and NGOs working in farming and herding communities. The latter are in a position to organize home-based care and support income-generating activities for households affected by AIDS.

¹ FAO. 2006. Planning livestock interventions with a gender and HIV/AIDS lens. Rome. (<http://www.fao.org/ag/againfo/resources/documents/livestockaids0606.pdf>)

READINGS: AN OVERVIEW OF HIV ISSUES IN THE LIVESTOCK SUB-SECTOR

1. AIDS and the livestock sub-sector

1.1 The importance of the sub-sector

The livestock sub-sector is an important component of the agriculture sector in many developing countries, contributing significantly to agricultural gross domestic product and playing an important role in the economy of many countries (see Box 1). The predominant production systems in sub-Saharan Africa are small-scale, mixed crop-livestock production and livestock-based pastoral systems.

In addition to being an important source of food and protein (e.g. meat, milk and milk products, eggs), livestock also serve other valuable functions, including draught power, manure for improving soil fertility, building material and fuel, as well as by-products, such as hides, skins, wool, feathers and hair.

In terms of draught power for agricultural production, in developing countries “more than half of arable area [is] cultivated with the help of draught animal power”. Also, over 50 percent of fertilizer used for crop cultivation in developing countries comes from animal manure.² In addition, various kinds of animals have a high socio-cultural value and may be a “sign of status, [and may be used] for ceremonial slaughter at weddings and funerals, and traditional healers [may] use chicken and goats in various rituals³.”

Livestock is important for the livelihoods of people in rural areas and one of the few assets owned by poorer households that may increase in value. Livestock is therefore a source of livelihood security for households and can be a very important resource and source of income for households. A study carried out in Namibia describes the importance of livestock in supporting livelihoods “cattle are sold in informal markets and are generally very important for cash generation”⁴. Small livestock (e.g. sheep, goats and poultry), are particularly important for women in terms of providing income generating opportunities and as an asset. In terms of household food security, meat, dairy, eggs and other livestock products play an important role and ensure good nutrition in HIV-affected households.

Box 1. The role of livestock in Uganda

“Livestock products account for 17 percent of the agricultural gross domestic product (GDP) in Uganda. West and southwest Uganda are currently the richest areas in livestock, with about two head of cattle per household, compared with one per household in the rest of the country. Cattle are the most important type of livestock, in numbers and in value. The national cattle herd, which once numbered between 5 million and 5.5 million, was decimated during the 15 years of civil war and disruption from 1972 to 1987. Mixed-farming smallholders and pastoralists own over 90 percent of the national cattle herd (World Bank, 1993b).

² Fresco, L.O. and Steinfeld, H. 1998. A food security perspective to livestock and the environment. In A. J. Nell, ed. *Livestock and the environment: proceedings of the International Conference on Livestock and the Environment*. Wageningen International Agricultural Centre.
(<http://www.fao.org/WAIRDOCS/LEAD/X6131E/X6131E00.HTM>)

³ Engh, I., Stloukal, L., du Guerny, J. 2000. HIV/AIDS in Namibia: The impact on the livestock sector. Rome, FAO. (<http://www.fao.org/sd/wpdirect/wpan0046.htm>)

⁴ Ibid.

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Indigenous zebu cattle total some 70 percent of the cattle population, followed by indigenous Sanga (Ankole) with 15 percent and the intermediates - crosses between these two breeds - with 13 percent. Indigenous sheep and goat breeds predominate, as well as indigenous poultry in the traditional sector.”

“In Rakai district specifically, approximately 20 percent of the farmers, mostly the richer ones, own some cattle, either Ankole or zebu. Cattle keepers follow the transhumant system: the animals graze and stay in the flat lowlands during the dry season and are driven back to the foothills and common grazing uplands in the wet season, when the lowlands are too wet and often flooded. Cow dung is transported to the fields, particularly to the banana plantations. Villagers also keep goats and occasionally sheep and for some years now small-scale pig rearing has entered the community. Poultry is kept for home consumption to enrich the diet with protein, but it is also sold. Although livestock keeping is not a predominant occupation, the sale of animals and animal products contributes considerably to the generation of extra income for regular and extraordinary expenses, including education and medical care.”

(Source: Haslwimmer, 1994)

1.2 The role of AIDS in the sub-sector

Though the extent of the impact of AIDS on the livestock sub-sector is not fully understood, it is clear that the epidemic is affecting the sector. Based on the literature, an FAO workshop on HIV and livestock linkages in sub-Saharan Africa reported impacts at household level. For example, “once family savings are exhausted, animals are the main household resource sold to cover medical expenses or funeral costs”⁵. Little, however, is known about changes in livestock production systems and pastoral systems resulting from the impacts of HIV and AIDS. The proceedings report from the workshop outlines some of the AIDS impacts on the sub-sector:

- Herd sizes may shrink as increasing numbers of animals are slaughtered for funerals or are sold to cover medical expenses. This leads to diminished availability of livestock products for consumption or sale.
- Cropping activities may be negatively affected when draught animals are sold and manure supplies diminish.
- Poor management and limited feed supplies for livestock (e.g. due to reduced crop yields), stemming from labour shortages, can negatively affect livestock production.
- Poorly functioning animal husbandry and veterinary services resulting from HIV-related absenteeism means that animal production and health may be undermined.
- Skills and knowledge about livestock management and production may be lost when adults become ill and die before passing on the information on to their children.
- Certain property inheritance systems can mean that household members (in particular women and children) lose livestock if family members grab assets following the death of the spouse or parent. This resultantly threatens household food and livelihood security.

Figure one gives a schematic overview of the impacts of the epidemic on the livestock sub-sector. In addition to the impacts highlighted, another issue is the fact that HIV can impact herd populations and thus diminish available breeding stock. This poses concerns for animal genetic resources (AnGR) in the long term. For example, an FAO study on livestock

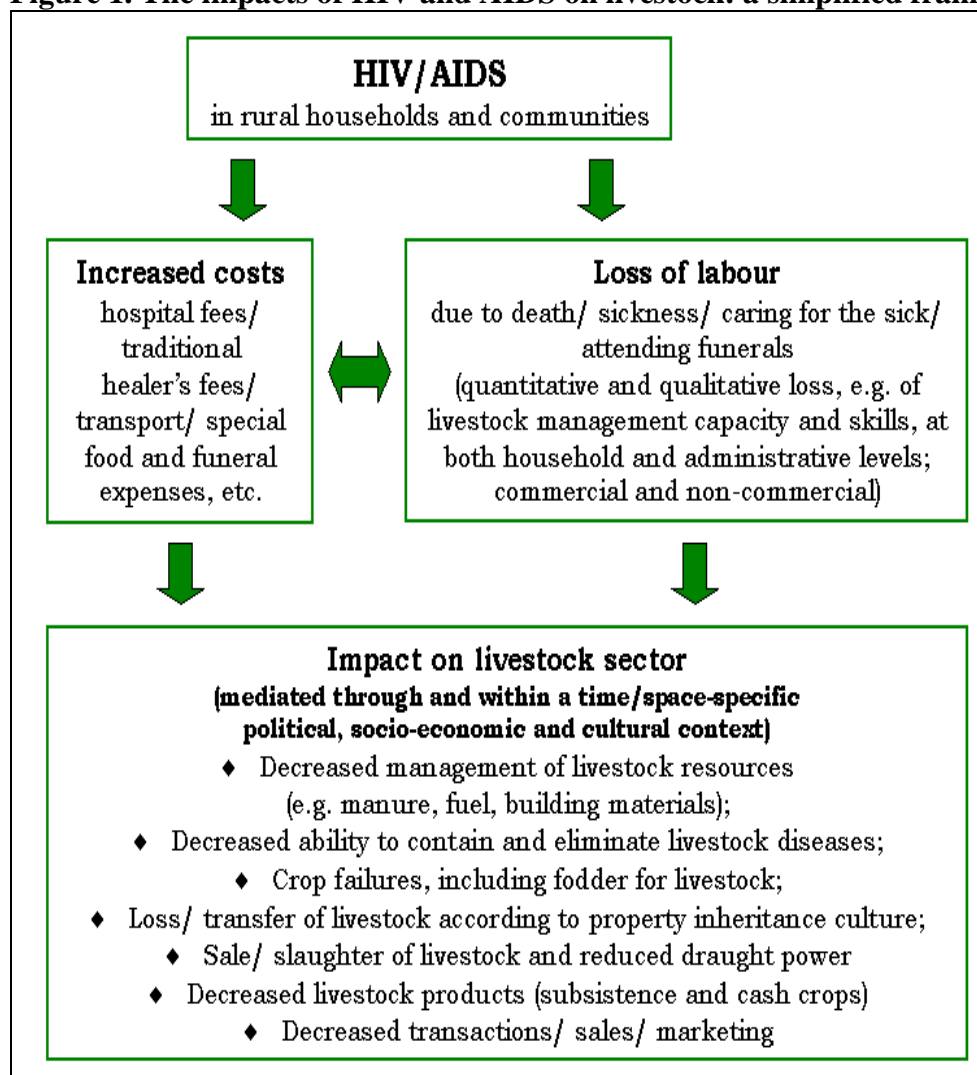
⁵ FAO. 2005. Linkages between HIV/AIDS and the livestock sector in east and southern Africa, compiled by M.R. Goe and S. Mack. Technical workshop proceedings, Addis Ababa, 8 – 10 March. Rome. (<http://www.fao.org/docs/eims/upload/207140/hivlivestocksector.pdf>)

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production and HIV in sub-Saharan Africa points to the fact that “animals from affected households are likely to be sold to traders and not to other livestock owners who might be more likely to adhere to sound breeding practices. Such sales to traders are likely to result in animals being slaughtered or bred indiscriminately, thereby contributing to the threat of a breed/strain”⁶.

Another important impact of AIDS is the loss of specialized knowledge of indigenous practices and medicinal herbs for treating diseases. Also, since the number of veterinary extension workers is limited, AIDS-related mortality among workers can have negative implications for livestock and subsequently the livelihoods of households and communities.

Figure 1. The impacts of HIV and AIDS on livestock: a simplified framework



(Source: Engh, Stloukal and du Guerny, 2000)

⁶ Goe, M. 2005a. Livestock production and HIV/AIDS in East and Southern Africa. Rome, FAO. (<http://www.fao.org/docs/eims/upload/207138/livestockprodhiv.pdf>)

2. Vulnerabilities to HIV and its impacts in the sub-sector

2.3 Vulnerabilities of pastoralists

Despite the wide geographic distribution of pastoralist societies in Africa and in Asia, there are few estimates of their numbers and limited information on HIV prevalence among pastoralists. Pastoralists, similar to crop-livestock farmers, are generally categorized with farmers and therefore there is a lack of data specific to them. There are few published papers on the issue of AIDS and livestock, let alone specific to pastoralists, and much of the information is theoretical and conjectural rather than empirical.

Pastoralists tend to be marginalized populations in generally harsh environments and their low status and remoteness often means that they are not included in government programmes and may not benefit from or be able to access services, including health services. Health services are often not found in very remote areas as it is very costly for governments to establish health care in remote and sparsely populated areas. Nomadic populations are difficult to service due to their mobility as well as due to communication and cultural barriers⁷.

As livestock are the basis upon which pastoral societies survive, the necessary slaughter or sale of animals by HIV-affected households can further erode household assets and endanger future livelihoods. HIV-related illness or death can also affect the management of herds and can have negative repercussions for animal production. This can create further food and livelihood insecurity and could lead to behaviours that increase vulnerability to HIV exposure.

Cultural traditions can also play a role in pastoralists vulnerability to HIV, similar to vulnerabilities faced by farmers. For example, pastoralists in the Rakai District of Uganda, engage in cultural traditions such as several brothers sharing one wife⁸. This can increase exposure to HIV.

Pastoralists are extremely vulnerable to drought and thus a large part of their time is spent searching for grazing land and watering holes for their herds. Mobility may also stem from pastoralists going to markets to sell livestock products or may be related to labour migration. Mobility of people and herds is fundamental to pastoralists, however, this mobility may lead to situations of increased vulnerability to exposure to HIV.

Because of the strict gender division of labour in pastoralism, when a husband dies, the widow and orphans may face difficulties in taking over traditionally male tasks, particularly where indigenous knowledge and experience play a role. In cases where animals are “grabbed” by relatives, women and children lose an important livelihood source and may be forced to look for alternative livelihood options. In extreme cases when widows or orphans

⁷ For HIV these factors complicate access to voluntary counselling and testing, as well as ART for pastoral communities.

⁸ Haslwimmer, M. 1994. Is HIV/AIDS a threat to livestock production? The example of Rakai, Uganda. *World Animal Review*, 80/81(3-4): 92-97.
(<http://www.fao.org/docrep/t4650t/t4650T17.htm#is%20hiv%20a%20threat%20to%20livestock%20producti%20the%20example%20of%20rakai,%20uganda>)

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are destitute they may resort to transactional sex or sex work to support their livelihoods and resultantly face increased vulnerability to HIV⁹.

2.2 Vulnerabilities of mixed crop-livestock systems

Sedentary farming and livestock raising face somewhat different HIV-related challenges from those affecting nomadic pastoralism. Sedentary farmers are less mobile than pastoralists but animals play an important role in crop production and their loss can lead to food insecurity and poverty:

- The slaughter of animals to cover medical costs or their sale to cover funeral costs can deplete herds and jeopardize food security because animals contribute significantly to household food security.
- Cropping activities can be severely affected due to the sale and slaughter of animals used for draught power or manure.
- Reduced crop yields in turn results in declines in herds due to lack of feed for animals.
- Lack of management skills and knowledge of livestock raising by surviving household members can undermine household livelihood and food security.

Because livestock is a convertible asset, animals are often the first resources to be sold by HIV-affected households facing livelihood and food insecurity and struggling to meet expenses. This is often exacerbated when crop yields are negatively affected by labour shortages or other factors, such as climate change (e.g. during periods of drought, flooding) or when new crops prove to be problematic. Households may respond to these challenges and hardships by members re-locating in search of income sources and alternative livelihood options. Individuals (mostly young men) may, for example, move to fish landing sites for employment, where they may face the risk of exposure to STIs and HIV¹⁰.

3. Impacts of HIV and AIDS on the livestock sub-sector

3.1 Impact on livestock management and production

An immediate impact of death and illness is the loss of labour. For the livestock sub-sector this means a reduction in available labour for livestock production, management and related activities, such as production of crops and fodder. Time spent mourning and attending funerals also undermines available labour for livestock activities and work may be reduced or postponed. For example, a study in Namibia found that in Oshana and Caprivi districts, “mourning time for relatives was reported to range from four to eight days, and for immediate neighbours it is estimated that they sympathize and console the bereaved family for about half the mourning period. The rest of the community has to stop work on the funeral day”¹¹.

In addition to declines in available household labour (when adults fall ill or die), the remaining household members may lack the skills or capacity to sustain livestock

⁹ Men who have lost their livestock may also be destitute and face the same livelihood insecurities that increase vulnerability to HIV exposure.

¹⁰ Kashaija, I. 2007. Understanding biosecurity risks and threats along the Uganda-Tanzania border region. Presentation prepared for the Understanding and Responding to Biosecurity Threats and Risks Workshop, 6-8 June 2007. Rome. (http://km.fao.org/biosecwiki/images/e/e7/Microsoft_PowerPoint_-_IMELDA.pdf)

¹¹ Engh, I., Stloukal, L., du Guerny, J. 2000. HIV/AIDS in Namibia: The impact on the livestock sector. Rome, FAO. (<http://www.fao.org/sd/wpdirect/wpan0046.htm>)

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management and production as pastoral communities are dependant to a high degree on specialized knowledge, skills and experience as well as collective activities, rather than just networks. Child-headed households or those headed by older people may be most impacted. According to a study in Uganda “the remaining family members often do not have the management skills or knowledge to care for the livestock. This was observed especially where the head of the family, usually the man, had died. The wife and children did not have the time nor the knowledge and financial resources to care adequately for the cattle. The wife often did not have the same access to extension services and other ways of acquiring knowledge as her late husband did”¹².

In addition to reduced labour availability due to HIV, impacts include diminished capacity to make future plans and investments with regard to agricultural and livestock production.

3.2 Impact on herd sizes

HIV can negatively impact herd sizes in pastoral farming as households sell livestock as a coping mechanism. Due to increased medical expenses stemming from HIV-related illness, as well as funeral costs, pastoralists may be forced to sell their animals in order to obtain cash. This has the immediate impact of diminishing herd sizes, and can also have the long-term impact of undermining a future livelihood and food security in pastoralist households.

Box 2. Impacts of HIV and AIDS on livestock herds in Rakai District, Uganda

According to a land utilization survey carried out in Rakai and Masaka in 1991, “over the last four years cattle have decreased by 32 percent, goats by 13 and poultry by 11 percent. The reasons for this [were] a decline in grazing land because of the resurgence of large ranches and the consequent reduction in size of landholdings. Moreover, animals [were] devastated by tick, pest and worm infestations because farmers can no longer afford acaricides and drugs to combat them.”

“The decline [however has] been worsened by AIDS, especially for the rich cattle owners, who were among the first AIDS victims. People who fall sick usually sell off their cows to meet the costs of medical care and drugs. One farmer reported that [...] five of his children contracted AIDS and eventually died. Cattle had to be sold to take care of them and then to pay for their funerals. Now there is not a single cow in the family. ...In another farming household that had owned 15 head of cattle [...] when the parents fell sick, five animals were sold. After the deaths of both parents the children were forced to sell the remaining cattle, one by one, in order to survive.”

“Even if cattle are not sold during the sickness or after the death of a household member, the remaining family members often do not have the management skills or knowledge to care for the livestock. [...] As a result, numerous cases were found [...] where cattle had died soon after the death of the head of family.”

(Source: Haslwimmer, 1994)

3.3 Impact on crop-livestock farming households

Livestock may be kept by both mixed-farm smallholders and pastoralists. In Rakai district, Uganda, for example, farmers grow a range of crops for household consumption, as well as for commercial purposes. Several farmers also own some cattle, as well as goats and some sheep. Poultry is kept by some households for consumption and sale, and some households

¹² Haslwimmer, 1994.

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are involved in pig rearing as an income generating activity.¹³ Though livestock keeping is not the predominant activity for mixed crop-livestock households, the sale of animals and animal products contributes to household income and can support households in meeting expenses, including education and medical care.

Reduced labour due to HIV can, however, negatively impact livestock activities in crop-livestock households. In response, some households may shift to less labour intensive animals, however, studies have shown that even the keeping of small livestock faces challenges due to HIV. For example, the study in Rakai, Uganda found that many plantations and fields were becoming bush as labour declines meant that they were not properly taken care of. As a result, the number of wild cats (a predator of chickens) in the area increased, posing a threat to households that keep this animal.¹⁴ This has had the resultant impact of undermining this source of household food and income.

The following text illustrates how HIV and AIDS can upset the balance between herding and farming, with a negative effect on household food security and income.

Box 3. AIDS in a crop-livestock community: The story of Joseph and his family

“Joseph, aged 35, and his wife Vincentia, 33, had four girls and one boy. The current ages of these children are 4 to 12. Joseph had married a second wife who left him when he became sick in 1989. Prior to his illness and death, farm work was mainly done by his first wife.

Joseph was a farmer and a successful petty consumer goods trader in a fishing village, about ten miles away from his home village. He had approximately one acre of land, where he had his new house and banana plantation. The family used to borrow land and plant cassava, sweet potatoes and groundnuts. They owned five cows and it was Joseph's responsibility to transfer the cow dung from the cattle kraal to the banana plantation to maintain soil fertility. Joseph's plans were to buy and cultivate more land.

However, these plans were abandoned when Joseph started having multiple illnesses in 1989 and was bedridden for several months in 1991. During this time, his wife had to abandon the field she had ploughed for groundnuts so as to be able to look after her sick husband. Joseph was no longer able to transport the cow dung. Therefore the yield of the banana plantation started slowly to decline because of lost fertility. Joseph finally died of AIDS in 1991.

In June 1992, Vincentia fell seriously ill and was bedridden for three months. During her sickness the banana plantation and cassava/sweet potato fields gradually turned from weeds to bush. By the time of her death in October 1992, all fields and the plantation were covered and the children had to eat the leftover cassava and sweet potatoes. Nobody cared for the cows and when they became sick, there was no money to buy drugs. All the cattle died.

Currently, Joseph's 27-year-old brother is trying to reclaim the former banana plantation from the bush and weeds. He has also started to keep pigs and chickens on his late brother's land. He also would like to keep cattle, but lacks the capital to start. Joseph's two eldest children are staying with him, while the three younger ones are cared for by their maternal grandmother, who is herself of advanced age and suffers ill health.”

(Source: Haslwimmer, 1994)

¹³ Poultry keeping and pig rearing have increased, particularly among HIV-affected households, as a coping mechanism against the impacts of HIV. Both animals are not very labour demanding (see Haslwimmer, 1994).

¹⁴ Haslwimmer, 1994.

3.4 Impact on livestock and veterinary services

Pastoralists and farmer-herders are not the only groups affected by HIV in the livestock sub-sector. The staff of livestock and veterinary services are also vulnerable to infection¹⁵, mainly because of their mobility and access to personal resources that could be used for sexual networking¹⁶. Livestock extensionists and veterinarians may spend considerable time away from their homes and may engage in transactional sex during their journeys among pastoralist and crop-livestock communities. HIV-related illness and mortality can undermine the capacity of extension and veterinary services, thus negatively affecting livestock production in affected areas.

The effectiveness of extension and veterinary services is further compromised by high HIV-related mortality in livestock-raising communities. For example, a study in Namibia found that extension staff spend an estimated 10 percent of their time attending funerals¹⁷. If a meeting between extensionists and farmers or herders should coincide with a funeral, the meeting has to be re-scheduled. If there are several deaths a month, particularly in highly-affected communities, such meetings can be difficult to organize.

3.5 An emerging risk: zoonoses and people living with HIV (PLHIV)

Tuberculosis (TB) is one of the most common secondary infections associated with HIV and is widespread in developing countries. There are different strains of TB and *Mycobacterium bovis* (bovine TB) is one of them. Research on the linkages between zoonoses and HIV remains largely unexplored, and little research exists on the threat of bovine TB to people in general and PLHIV in particular. Nevertheless, since bovine TB can be transmitted through the air from person to person (causing lung infection), as well as from infected livestock to people, it poses a potential problem for people with weakened immune systems, such as PLHIV involved in livestock raising.

Bovine TB can be transmitted to humans by drinking unpasteurized cow or goat milk. Another possible route of infection is by eating infected organs of slaughtered animals. Since bovine TB can also spread through the air, cattle herders may face high risks of infection through airborne transmission from cow to human.¹⁸ Due to the important role of cattle in many countries (particularly in sub-Saharan Africa), both for food and in cultural practices, there are many situations in which people could be vulnerable to bovine TB transmission. For example, "some traditional ceremonial events involve the slaughter of a goat or cow. It is this close cultural and physical link with cattle that puts rural communities at risk of infection."¹⁹

Poverty, poor nutrition and unhygienic living conditions are some of the factors favoring the spread of TB. Therefore, improving the living conditions of pastoralists and mixed crop-livestock herders is an important goal for the development sector in general, and the agriculture sector in particular, in order to curb the spread of TB in rural areas. These efforts

¹⁵ Unfortunately, data are not available about HIV prevalence or mortality among livestock extension workers.

¹⁶ Haslwimmer, 1994.

¹⁷ Engh, Stloukal and du Guerny, 2000.

¹⁸ Bolognesi, N. 2007. TB or not TB: The Threat of Bovine Tuberculosis. SciDevNet – Science and Development Network (accessed 10 August 2009). (<http://www.scidev.net/en/features/tb-or-not-tb-the-threat-of-bovine-tuberculosis.html>)

¹⁹ Ibid.

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must link with those to detect and eliminate bovine TB among animals²⁰, which is an important role of veterinary services. It is also important to increase awareness about the importance of having animals tested in order to reduce risk of spread from cattle to people.

4. Coping mechanisms in livestock keeping communities

4.1 Community cooperation

Several strategies have been developed by communities and households as they adapt and cope with the impacts of HIV and AIDS. Coping strategies that have shown to be effective have the potential to further mitigate impacts beyond individual households and communities. Such strategies should be documented and shared so that they can be adopted by other households and communities as appropriate. This process can be facilitated by awareness raising initiatives in communities, as well as through extension services in affected areas.

An important element of coping strategies of households and communities is the formation of groups and cooperation among households. In Rakai district, Uganda, for example, "some self-help groups have been formed spontaneously and some under the aegis of a non-governmental organization. The members pool their knowledge and give each other confidence and support in undertaking on-farm as well as off-farm income-generating activities."²¹ In the same district it was found that in particular, widows and youths were very willing to engage in group activities.

Some potential coping strategies include:

- Pooling labour for driving herds
- Transferring of labour and livestock to assist households in difficulty
- Collective management of water points and rangeland, including networks to collect and exchange information on rainfall and pasture conditions
- Group marketing by households/communities

4.2 Changing of stock and management style

In response to HIV-related labour declines, households may adapt their livestock activities by changing to smaller and less labour intensive animals. In Rakai, for example, several farmers have switched to poultry keeping. A study in the district found that "poultry keeping has increased in AIDS-afflicted households, especially those with orphans [with] chickens and eggs [...] usually not kept for home consumption, but [...] sold to raise some income."²²

Some households also switch to pig rearing as an income-generating activity. Similar to poultry, pigs demand less labour input and therefore are more suitable for HIV-affected households facing reduced available household labour. Beekeeping is another possible income-generating activity requiring low labour input.

²⁰ In some areas cattle are tested for infection and infected cattle are then slaughtered, with farmers usually receiving compensation.

²¹ Haslwimmer, 1994.

²² Ibid.

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Incorporating AIDS responses in projects in the livestock sub-sector

1. Examine some recent activities or projects in the livestock sector of the country where you work:
 - a) How has HIV affected the herders or the mixed crop farmer-livestock raisers in the area?
 - b) Do the livestock activities and projects have an HIV component? If so, please describe.
 - c) If not, how could they have been designed differently to be more HIV-sensitive?
 - d) How could these activities or projects be more sustainable or effective with a concern for HIV?

2. Think of a district or community you know well. How have livestock and health policies and practices had an impact on the following forms of capital, in context of HIV?
 - a) Human capital (reducing HIV vulnerabilities of individuals, households and communities and mitigating impacts, education and training, etc.);
 - b) Social capital (networks and community groups, HIV support groups, etc.);
 - c) Physical capital (homestead, land, productive resources; protection of widows and orphans from asset “grabbling”; etc.);
 - d) Other types of capital.

3. If there have been no organized activities or policies to reduce vulnerabilities or mitigate impacts of HIV among households and communities, what measures would you recommend?

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

Activity 2: Designing a livestock and gardening project for HIV-affected households in urban or peri-urban areas

You are asked to design a project to help ensure household food security among HIV-affected households in urban or peri-urban areas. Remember that some households will be headed by women, the elderly or children. Many such households will have more than one sick adult requiring care, meaning that there will be time and labour constraints for productive activities.

Read the text about urban livestock and micro-farming in Annex 1. Identify a city or a large town that you know well. If possible, draw a map of it, showing the following:

- Areas where large animals like cattle could be raised and areas where small stock such as goats, pigs and chickens could be raised. Estimate the square metres required.
- Areas where vegetables, flowers or tree crops could be cultivated. Estimate the approximate square metres required.

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Planning the project:

1. Identify what animals will be raised and what crops planted, as appropriate to the area you have chosen and the available labour.
2. Which authorities, including municipalities or private landlords, need to donate or give access to plots of land for a minimum number of years or growing seasons?
3. What requirements will there be for water, animal pens, tools, tool and feed sheds, fencing and security? How will dung be used as a fertiliser? How will hygiene be maintained if dwellings are close by?

Managed the project:

1. Will the project operate as a cooperative?
2. Identify an appropriate NGO, school or other partner that can manage financial resources and logistics.
3. Briefly describe how project beneficiaries will be sensitised and trained to care for the livestock and crops.
4. Describe the type of veterinary and extension services that will be provided and by whom.
5. Discuss how the project will provide food and/or income for HIV-affected households.
6. State how medical and home-based care could be provided for PLHIV (the role of the health sector or specialised NGOs).

Funding and sustainability:

1. Detail an approximate budget for the project. 1. How could the project be funded? Discuss different funding options.
2. Could the project become self-sustaining? How?
3. What risk factors (including HIV, pesticides or zoonoses) should be considered?

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

Activity 3: Assessing the need for veterinary and HIV-related services for pastoralists

Think of a district or community that you know where there is a significant pastoralist population. As far as you know, what is the HIV prevalence in this area?

Mapping exercise:

1. Using a sheet of paper or a flip chart page, identify patterns of mobility and grazing:

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- a) Sketch the “corridors” of herd movements. Identify any international boundaries that are crossed.
 - b) Locate areas where herds eat stubble in fields after harvests or congregate at salt licks.
 - c) Locate towns or rural markets where animals are bought and sold. Mention seasons when the livestock markets are active.
2. What are the vulnerabilities to HIV infection – e.g. the presence of a transportation hub, migrant labour and sex workers in the market towns or areas where pastoralists congregate?
 3. What cultural practices among the herders increase vulnerability to HIV – e.g. “widow cleansing” or sharing wives?

Identifying human and livestock health services:

1. Mark the veterinary and livestock extension services on your map. Is there testing for bovine TB? (You may need to find this information from other documentation).
2. Mark clinics and health centres on your map. Circle the towns that have both livestock and human health services. (You may need to find this information from other documentation).
3. List the NGOs working on livestock and human health in the area and indicate on the map where they are based and/or the communities in which they work.

Proposing HIV and zoonosis-control services to pastoralists:

1. Make a list of veterinary and HIV-related services (including VCT and ART) that would be appropriate in the locations where livestock and human health services exist. If you find that there is a veterinary centre in the livestock corridor but not a human health-care centre, note this on a list of needs.
2. Note the seasons when human and animal services may be needed more, as a mobile or temporary health service might be required for a specific season when pastoralists and their herds congregate around salt licks, seasonal pastures or market towns.

If participating in a workshop, prepare flip chart pages or a PowerPoint presentation and present it to the group for discussion.

Activity 4: Developing alternative sources of income and food for rural farming-livestock households affected by HIV

Think of an HIV-affected district or community you know well, where farming households have lost much or all of their large livestock:

1. Make a list of alternative animals that could be raised that require less labour or specialized skills.

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2. Make a list of possible income-generating activities for farming-livestock households, in particular households affected by HIV.
3. How can the animals support crop production or vice versa (e.g. manure for the crops; crop debris or cultivated fodder for the animals)?
4. Which organizations could provide baby animals or funds to buy adult animals?
5. How could veterinary and extension services support the strategy?

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

SUMMARY REMARKS AND LESSONS LEARNED

Players in the livestock sub-sector:

- Producers: nomadic pastoralists, sedentary herders, ranchers, zero grazers and small-scale producers.
- Herders: veterinary officers, livestock rangers, disease and pest surveillance teams and auxiliary service providers.

The livestock sector faces a number of factors that can increase HIV vulnerability:

- Pastoralists are mobile and have become even more so due to climate change and drought and flooding.
- Herders often migrate to urban areas for seasonal work, in order to earn additional income.
- Zoonoses are a small but potentially important risk factor for contracting secondary infections among PLHIV.
- Poverty and unhygienic conditions weaken resistance to HIV and opportunistic infections, such as TB.
- There is a high prevalence of STIs among pastoral communities and a general lack of knowledge about HIV and other health concerns.

HIV issues in the livestock sub-sector:

- Because AIDS reduces the available labour in the household, there is lower productivity of animals and crops.
- Livestock are fungible assets and are often sold to pay for medical services and medicine or slaughtered for funerals. The depletion of household livestock upsets the balance between herding and agriculture by reducing the supply of manure and draught animals. Resultant deepening poverty can lead to household members seeking cash employment elsewhere.
- As a result of lower productivity and the sale or slaughter of animals, there is diminished food security at the household and community levels.
- There is an inter-generational loss of livestock management skills due to HIV-related mortality. The gender division of labour in this sector adds another dimension to this issue. For example, if a man dies, his widow may lack the skills to take over his role in animal husbandry.
- Due to their mobility and income, staff of extension and veterinary services may engage in risky behaviour that increases their vulnerability to HIV exposure.
- Animal husbandry and veterinary services may not function properly as staff members may be absent due to HIV-related reasons.
- The large number of funerals and extended periods of mourning in herding communities makes it difficult for veterinary and extension services to meet with the herders.

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Lessons learned²³

1. Lack of awareness of HIV issues in the livestock sector needs to be addressed. This can be achieved through training programmes and awareness raising programmes – for example, general training for politicians and departmental heads on HIV issues in the sub-sector.
2. Extension services should be used to address HIV concerns in communities. Education programmes could also be used to sensitize communities about HIV vulnerabilities and impacts of the epidemic on the livestock sector.
3. Organizations working in the livestock sector need to consider certain measures to mitigate HIV impacts. For example, labour-saving strategies should be developed and promoted (with the active participation of rural communities) through extension services, research institutions and NGOs.
4. Further research needs to be conducted on HIV in the livestock sub-sector in order to have a better understanding of issues and to guide responses.
5. Alternative livestock keeping options, as well as income-generating opportunities should be promoted among HIV-affected households and communities so that they can better cope with the impacts of the epidemic. This is particularly relevant for widow and child-headed households.

²³ This section is largely extracted from Haslwimmer, 1994.

ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| AIDS | Acquired immunodeficiency syndrome |
| AnGR | Animal genetic resources |
| ART | Antiretroviral therapy |
| ARV | Antiretroviral [medicines] |
| FAO | Food and Agriculture Organization of the United Nations |
| GTZ | Gesellschaft für Technische Zusammenarbeit |
| HIV | Human immunodeficiency virus |
| NGO | Non-governmental organization |
| PLHIV | People living with HIV |
| STI | Sexually transmitted infection |
| TB | Tuberculosis |
| VCT | Voluntary counselling and testing |

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ANNEX 1 – Urban livestock and micro-agriculture

A. “Enhancing technical, organizational and institutional innovation in urban agriculture”²⁴

Key challenges for technical innovation in urban livestock systems:

- *“Diversification and adaptation to space constraints:* In the urban setting more attention is needed for technology development regarding small and micro livestock (including guinea pigs, grass cutters, earthworms, snails, fish in small ponds and containers, and rearing young stock) as well as zero grazing dairy units and the inter-relations between urban crop and livestock production.”
- *“Enhanced access to feed:* In the urban context access to forage and other feed sources, and their efficient use in livestock nutrition, are important issues for technical innovation. Since forage is often scarce in urban and periurban areas, three responses are common: (a) forage is brought (e.g. Napier grass, fodder legumes, Para grass) from periurban areas into the city for use by livestock keepers in the sub- and intra-urban areas (e.g. in Hyderabad). In this case, frequent problems occur in relation to transport issues and the lack of space for forage markets; (b) more intensive use is made of concentrates to feed the animals (at high cost); (c) large amounts of food residues are collected from restaurants, markets, agro-industries and urban households for the preparation of animal feed. The third option in particular should be given more attention.”
- *“Reduction of zoonosis risks:* The increased risk of transferring diseases from animals to humans in urban areas needs to be reduced by working with producers on the adequate management of animal diseases and wastes, preventing scavenging, and maintaining adequate slaughtering procedures, among other issues.”

B. “Urban agriculture surveys by NCST in Kenya National Council for Science and Technology”²⁵

“In Kenya, farming in cities and towns is increasingly gaining significance. A large amount of food is produced in and around urban areas but this is not properly planned or regulated due to lack of policy on urban and peri-urban agriculture (UPA) (Onyatta and Omoto, 2004). A study carried by Lee-Smith indicated that almost two thirds of urban households grow part of their food, while 29% grew these crops within the urban area in which they live (Lee-Smith et.al., 1987). Due to rapid urbanization and increasing poverty, aggravated by the HIV-AIDS epidemic, urban households are turning to urban and peri-urban agriculture as important means of providing food and income. Farming is conducted in all kinds of open public places, namely; along riverbanks, roads railway lines, under power lines and on reclaimed wetlands. Kales, tomatoes, cabbages and spinach were widely grown crops by farmers in Nairobi through irrigation. Urban livestock farmers in Nairobi preferred poultry followed by goats and then cattle (Ishani et al., 2002).”

²⁴ Extracted from: Prain, G. and de Zeeuw, H. 2007. Enhancing technical, organisational and institutional innovation in urban agriculture. (http://www.future-agricultures.org/farmerfirst/files/Add_Prain_de_Zeeuw.pdf)

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“Livestock farming in Mombasa included poultry, ostrich, quails, dairy cattle and crocodile. Poultry farming is widespread because it has a ready market in hotels and restaurants. In case of dairy farmers, cases of pesticide residues in milk were reported in 1997 indicating a possibility of pesticide use in the urban farming systems. There were cases of intensive use of available backyards where livestock (especially dairy cattle or goat) was kept and on one side of the backyard, vegetables were grown. The animals were a source of manure for the crops. The raw milk market witnessed in the urban areas provides a number of poor consumers with affordable nutrition, which would decline if it were not available.”

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

7

MODULE

AIDS and the Forestry Sub-Sector



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AIMS

The aims of this module are the following:

1. To highlight the importance of the forestry sub-sector in responding to AIDS.
2. To understand how and the epidemic aggravates other threats to sustainable livelihoods in forestry.
3. To identify possible strategies to develop community and household resilience to the impacts of HIV and AIDS on the forestry sub-sector.

OBJECTIVES

Upon completing the module, the learner should be able to:

1. Describe how AIDS influences the ways in which affected households and communities use forest resources, particularly through:
 - Increased demand for non-wood forest products (NWFP);
 - Increased clearing of trees for timber or for agricultural land.
2. Describe appropriate measures to strengthen the resilience of HIV-affected households and communities to the impact of the epidemic, including:
 - Agro-forestry;
 - Sustainable development of NWFPs.
3. Propose measures to strengthen forest management in an AIDS environment.
4. Identify appropriate partnerships with other sectors in order to bring HIV-related services to forest communities.

QUESTIONS FOR REFLECTION

1. What information do you have about the impacts of HIV and AIDS on:
 - The forestry service in the country where you work?
 - Communities living in or near forests?
2. Have there been notable changes in how communities living in or near forests in the country where you work use forest resources? If there are changes, how might this be related to the AIDS epidemic?
3. Think about the major NWFPs in the country where you work:
 - What medicinal products are derived from local forests?
 - What food products are derived from the forests?
 - What other products come from the forests?
 - What is the commercial value and potential of these products for forest communities?
4. Think about any specific interventions that have contributed to household or community resilience to HIV in the forestry sub-sector?

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5. Which organizations provide voluntary counselling and testing (VCT), antiretroviral treatment (ART), prevention of mother-to-child-transmission (PMTCT) and other HIV-related services in forest communities?
 - What do you know about the coverage and effectiveness of these services?
 - How do you think these services could be improved?
6. What agro-forestry initiatives are you aware of in your country (or in other countries) that could improve family and community food security and income in forest communities?
7. What development policies have had an unintended impact (positively or negatively) on HIV in the forestry sub-sector?

INTRODUCTORY REMARKS

This module provides a conceptual framework for studying the impact of the epidemic on the forestry sub-sector. While most of the discussion is centred on forest communities, who whose livelihoods are largely forest-based, there is also an analysis of how the epidemic affects commercial logging.

Why are AIDS impacts a concern for the forestry sector?

The unsustainable use of forest resources can lead in the short term to erosion and soil degradation and in the longer term to climate change. Unregulated logging and slash-and-burn agriculture are among the major drivers of depletion of forest resources. Against this background, other factors, such as those related to HIV, that aggravate the process need to be dealt with in order to ensure the sustainability of forests as complex ecosystems as well as of populations dependent on them for their livelihoods. For example, in countries where access to medicines is limited, even the urban population may be dependent on medicinal plants growing in forests¹. From this perspective, the unsustainable use of forest resources is not only an issue for forest communities, but also for people living elsewhere. It is estimated, for instance, that over 75 million people live within the miombo biome² in southern Africa – the woodlands support the livelihoods of over 40 million people in the area and 15 million urban dwellers depend on these woodlands for certain foods, fibres, fuel wood and charcoal.³ Although large populations live in tropical forests in Asia and Latin America, the few studies that exist have mostly concentrated on Africa.

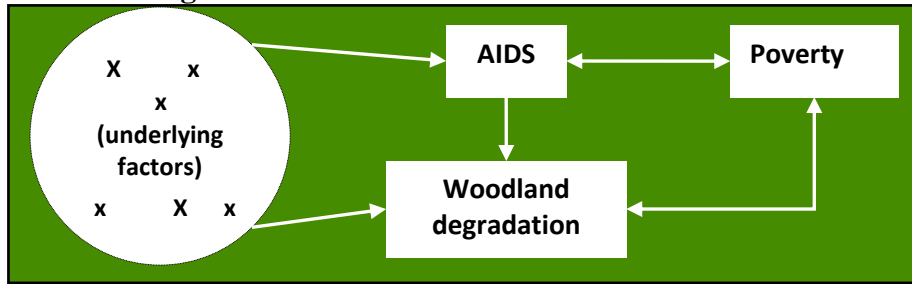
It has been observed that areas with higher HIV prevalence are experiencing a more rapid decline in woodland quality than areas with lower HIV prevalence. While there is no direct causal relationship, it seems to be linked to various underlying stressors, as shown by Figure 1. The Xs refer to the possible common underlying factors – for example, drought leading to transactional sex to secure food or firewood and over-exploitation of woodlands to compensate for reduced agriculture yields.

¹ According to Lengkeek (2004) most so called 'herbal' medicines come from trees (e.g. leaves, bark, roots).

² 'Miombo' is a Swahili word adopted by ecologists to describe the dry deciduous woodland ecosystem. The miombo woodlands extend across about 2.7 million km² of the African sub-humid tropical zone (FAO, 2005).

³ FAO. 2005. *Miombo woodlands and HIV/AIDS interactions: Malawi country report*, by D. Kayambazinthu, M. Barany, R. Mumba & C. Holding Anyonge. Forestry Policy and Institutions Working Paper 6. Rome. (<http://www.fao.org/docrep/008/j6038e/J6038E00.htm#TopOfPage>)

Figure 1. The relationship between poverty, AIDS, other stressors and accelerated woodland degradation



(Source: Barany et al., 2005)

The impact of AIDS is mediated by people and particularly their coping strategies in response to labour declines and reduced income. The epidemic also has a negative impact on other actors in the forestry sector, particularly the staff of forestry services.

The module will address the issues of mobility and competition for forest resources as major drivers in the spread of HIV among forestry service staff and staff of logging operations⁴, as well as among users of forest products (e.g. firewood).

⁴ Forestry service staff and staff of logging operations are mobile and come into contact with sex workers who frequent logging camps.

READINGS: AN OVERVIEW OF HIV ISSUES IN THE FORESTRY SUB-SECTOR

1. How HIV impacts the forestry sub-sector

HIV affects the forestry sub-sector primarily through its impact on three groups of actors:

1. Households in forest communities
2. Communities that derive their livelihoods from forests
3. Commercial timber enterprises, tree plantations and staff of forestry services and bee keeping

The epidemic also affects forest management by infecting and killing the technical staff of mobile forestry service staff.

Three major impacts of HIV on forests through the actions of forest communities:

i) Increase in the demand for medicinal plants:

This increase comes from HIV-related illnesses and opportunistic infections. This demand comes not only from the rural population, but also from people living with HIV in urban area, who cannot afford the cost of modern medical treatments. It is to be noted that even herbal medicine has to be paid for.

Because of the increase in demand, traditional herbalists who harvest the plants they use, have reported having to go much further into the forest to find plants and that some are becoming rare or are close to extinction in their area. This increased demand leads to untrained people overexploiting the resource with no regard for the consequences.

Woodlands not only play a very important role in providing medicinal plants for those who cannot access modern medicine, but they could, if harvested in a sustainable way, support the health sector by providing medicine to large sections of the populations of developing countries. Medicinal plants could be used for a wide range of conditions, including HIV-related infections.

ii) Forest resources as a food buffer:

Households unable to cultivate sufficient crops for food consumption may supplement their diets with forest foods that they collect. Again, this may be done in an unsustainable manner. Furthermore, because of loss of labour due to HIV-related illness and mortality (including out-migration of family members), households may resort to slash and burn agriculture. This process clears patches of forest using fire, which results in the destruction of resources in order to gain short-term harvests. It has also been observed that wildlife is at greater risk of poaching in these conditions.

iii) Exploitation of resources for income:

Here it is mainly a question of fuelwood or charcoal production for sale to compensate for the loss of agricultural income. Again, the issue is not fuelwood *per se*, but the increase in collection of it due to the need for income stemming from HIV-related medical costs and

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labour declines. HIV-affected households may collect wood for construction poles or food, such as mushrooms, which are then sold.

An important related impact often overlooked is the 'free services' provided by forests, such as clean drinking water. These are degraded through poor management and destruction resulting from increased household use.

It should be noted here that loss of personnel in already vulnerable forestry management organizations makes it difficult for them to protect the forests or replant where necessary. In Malawi, for example, an FAO study found that the loss of time for forestry activities was a result of time taken to look after the sick and attend funerals, reduced labour hours of production and low attendance at committee meetings. These, in turn, effectively resulted in loss of revenue, reduced or non-delivery of extension services, reduced monitoring of forestry practices and enforcement of forestry rules, which gave way to overexploitation of the forest resources⁵.

1.1 HIV impacts on households and forest communities

In HIV-affected communities in southern Africa, medicinal plant species used to treat opportunistic infections are becoming increasingly scarce. Commercial woodland activities help buffer against the immediate impacts of health-related expenses and productivity losses when pursued by medium to wealthy households as an income diversification strategy. However, those households that rely heavily on subsistence woodland activities or on commercial woodland activities as their primary source of income are likely to be the most vulnerable to the impacts of HIV because these households tend to be asset poor. The value of commercial and subsistence woodland activities as a safety net during periods of adult illness and mortality depends on prior livelihood strategies, the sex of the afflicted person and the type of woodland activity.

Except for collection of medicinal plants, subsistence woodland activities in general are not considered important for coping with the immediate impact of illness. Certain subsistence woodland activities are, for the most part, carried out by female household members who are coincidentally the primary caregivers. These activities typically need to be reallocated to allow women time for care giving. When male heads of household fall ill, labour-intensive commercial woodland activities (primarily wood-based) tend to decrease, while less laborious commercial activities (primarily non-wood, e.g. woven mats, brewing) remain a viable source of income. See Annex 2 for a list of traditional woodland activities and forest household responses to crises.

Prolonged illness and eventual death of a household head can lead to the erosion of household assets and increased vulnerability. This can increase dependence on both subsistence and commercial woodland activities for livelihood and coping strategies. The contribution these activities make in terms of household subsistence and income will partially be a function of the sex and age of the remaining household members. Female-headed households are the most vulnerable because of reduced income-generating activities. Widows often find quality of life diminish following the death of the husband. Having less money, they may not be able to pay for kerosene and may turn to using firewood for lighting. Many widows experience food

⁵ FAO. 2005. *Miombo woodlands and HIV/AIDS interactions: Malawi country report*. Forestry Policy and Institutions Working Paper 6. Rome. (<http://www.fao.org/docrep/008/j6038e/J6038E00.htm#TopOfPage>)

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insecurity and many look for paid work to increase their income. Insecure livelihoods may also lead widows to engage in transactional sex when they lack basic resources.

According to Barany et al.⁶, there are two phases at the household level in which HIV impacts on forests: morbidity and mortality. Findings of household surveys in selected African countries reveal the following impacts:

Morbidity – In woodland areas, household strategies when an adult falls sick can vary:

- Morbidity reduces ability to meet basic needs and regular harvesting of woodland products no longer serves to compensate for reduced agriculture outputs.
- The collection, sale and use of medicinal plants as a primary crisis response occurs in 60 percent of affected households.
- Seventeen percent of affected households increased forest product collection to cover health expenses and basic needs.
- Overall, subsistence activities decrease with adult illness.
- Commercial woodland strategies are relied upon to cope with adult morbidity.
- Fifty-four percent of affected households reduced collection of forest products during illness due to labour shortages.
- Thirty-six percent of households decreased collection of firewood due to labor shortages.

Mortality – Woodland strategies of households that experience the death of an adult household member show increased dependence on a variety of forest products:

- Such households were two times more likely than other households to make a major forest-product collection trip in the previous month.
- These households focus on obtaining firewood, thatch grass, fruits, mushrooms and materials for weaving mats and baskets. Alternatively, they may engage in activities that require firewood as an input, such as brewing and food vending.
- Twenty-three percent of households stated that the importance of forest product collection increased following the death in the household. Typically such trips focus on obtaining firewood, thatch grass, fruits, mushrooms, mats, baskets) and activities requiring firewood as an input (i.e., brewing, food vending).
- These households are five times more likely to increase collection of firewood than unaffected households.
- These households are less likely to reduce collection of forest products, even when labor requirements for collection increase.

These impacts are largely linked to loss of labour and increased poverty in households, as well as to increasing demand for medicinal plants, wood and so forth. Forests normally serve as a 'buffer' for low-income households and in times of crisis, as a source of medicine, food and income.

It has been observed⁷ that the impacts of HIV and AIDS on households vary, depending on which members are most affected. The epidemic impacts households in terms of increasing

⁶ Barany, M., Holdings-Anyonge, C., Kayambazinthu, D. & Siteo, A. 2005. Firewood, food and medicine: Interactions between forests, vulnerability and rural responses to HIV/AIDS. Proceedings from the IFPRI Conference: HIV/AIDS and Food and Nutrition Security, April 14-16. Durban, South Africa. (<http://www.fao.org/forestry/9718-1-0.pdf>)

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poverty and different degrees of labour constraints (moderate, severe or very severe), depending on the number of healthy adults and their financial circumstances. For example, households in which two or more adults are caring for either orphans or a sick relative, are only moderately affected by the epidemic. Households consisting of one adult caring for a sick relative or orphans, or households where the main bread-winner is suffering from HIV-related illness are severely affected by the epidemic. Very severely affected households are those in which an HIV-positive wife is caring for orphans and/or a sick relative (often her husband). Extreme situations are where children are caring for sick parents or relatives, or where orphans are left to fend for themselves. In the absence of a national welfare system or other social support networks, the situation of households that are moderately impacted by HIV can quickly deteriorate into one that is severe or very severe.

1.2 HIV impacts on commercial forestry

A combination of mobility, isolation, economic power and gender roles in forest exploitation favours the spread of HIV in commercial forestry. The losses in terms of labour depletion and productivity declines have not been studied so far. What is presented here is an analysis of vulnerability and risk factors that must be dealt with in order to develop resilience to HIV infection in commercial forestry activities. In essence, fluctuation in the availability and location of forestry products determines the migration patterns of forest resource users from one area to another. Table 1 summarizes some of major factors that increase vulnerability to HIV by type of mobility.

Table 1. Vulnerability of mobile forest resource users to HIV

| Type of migration | | Type of migrant | Factors contributing to vulnerability |
|----------------------|------------|---|---|
| <i>National</i> | Short term | Women traders of food and firewood; female sex workers settling in camps or villages; crew members and pit-sawyers; charcoal producers and sellers. | <ul style="list-style-type: none"> • Mobility without spouses increases risky behaviour. • Transactional sex because resources are scarce and competition for them is high. • Availability of large amounts of cash, coupled with low literacy may lead to risky behaviour by men. • Mobility of workers and residence in rural areas makes targeting HIV services difficult. |
| | Long term | Owners of saw mills; women bar and restaurant operators. | <ul style="list-style-type: none"> • Migration without spouses; limited access to health facilities; • Availability of cash which may be used to entice women desperate to buy goods. |
| <i>International</i> | Short term | Timber cross-border traders; female sex workers who settle in camps or villages; timber transporters. | <ul style="list-style-type: none"> • Highly mobile - no residence, high income; difficult to target for interventions; lack of information about such migrants. |

(Source: Ministry of Mines and Energy & Department of Forestry, 2007)

⁷ Page, S. 2003. Impact of HIV/AIDS on natural resource management in Malawi. Blantyre, Malawi, COMPASS. (http://www.sarpn.org/mitigation_of_HIV_AIDS/m0010/index.php)

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Forestry workers such as pit sawyers, traders and saw millers are mainly men. They migrate from depleted areas to where timber resources are more plentiful. Logging activity in these areas then increases, which attracts sex workers from around the country and across borders. Both migrants and their partners back home are exposed to HIV vulnerability associated with risky behaviour. Women spend most of their time in plantations to collect sufficient products in order to travel and market them for profit. Livelihood insecurity may force them to engage in sex in return for favours. The migration of forestry workers, including processors, traders and transporters and the networks within trading areas lead to the spread of HIV from pockets of high prevalence to areas of low prevalence.

A further analysis of HIV risk in relation to gender roles in commercial forestry is presented in Table 2. Although it is unknown exactly how many women work in the forestry sector compared with men, more men patrol forest reserves and plantations on behalf of the government in Africa and most traders and small-scale collectors are women. Men may take advantage of their power in this situation to oblige women to provide sex as a condition for gaining access to forest resources. Girls are at particular risk since they make up the majority of firewood collectors.

Table 2. Gender roles and vulnerability to HIV infection in commercial forestry

| Actors | Perceived power position | Gender-related vulnerability |
|---|---|---|
| Professional forestry officers (mainly men) | Hold the legal power over resources. Have decision-making powers. Are educated and exposed. | Travel frequently without spouses. Issue licenses and may become involved in transactional sex. Condom use is unknown. |
| Forestry patrol officers (mainly men) | Control and police resource use. Educated and trained to operate in a military style. | Prone to bribes during the sawing season when issuing licenses. Condom use is unknown. |
| Sawmill owners (mainly men) | Powerful, rich and respected. Employers. | Finance informal micro loans. Can easily bribe officers and access rights to resources. Can buy sex. Condom use is unknown. |
| Crew members and pit sawyers (mainly men) | Young and energetic. High disposable income | Often hyperactive sexually. Serial marriages at each site or buy sex using cash or in exchange for access rights to resources. |
| Traders (mainly women) | Relatively powerless. Low education. Mostly single | Mobile with high incomes. Finance informal micro loans. Can sexually exploit producers to access scarce resources or operating capital. |
| Processors (mainly women) | Heterogeneous group in terms of access to capital. | Long-term migration. Often are at the mercy of producers and others who have access to the desired resources. |
| Food and firewood sellers (mainly women) | The weakest category. Easily accept sex. | Often static, small businesses with limited profit. Poor and vulnerable to sexual exploitation in order to access scarce resources or operating capital. Often have to please many men. |
| Transporters (mainly men) | Influential, canny and well organized. Have the "three Cs": cash, cell phone and car. | Affluent, with access to urban goods. Act as middlemen. Can pay women traders for sex. |

(Source: Malawi Government Ministry of Mines and Energy, 2007)

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The relative isolation of forests from urban areas means that health services are difficult to reach. HIV testing may therefore be scarce, and for workers who have HIV, they may face great difficulty in accessing ART and other medical services.

2. Strategic themes for AIDS and forestry programming

To mitigate the impacts of HIV and AIDS on forest communities, the fundamental goal of forest sector interventions should be to support the sustainability of forest resources, in particular those used by households and communities affected by HIV. This concerns the specific use of forests, for example, as a safety net and for medicinal plants to treat HIV-related illness, etc.). Forest sector interventions should also seek to alleviate factors that aggravate the impacts of HIV and AIDS on households (e.g. household labor reductions and scarcity of subsistence forest resources, in particular firewood).

At this stage, the priority of the forest sector is to identify and introduce strategies and programmes areas from which site-specific technical interventions can be designed and implemented. Originating from stakeholder participation in fieldwork conducted in Malawi and Mozambique, and in consultation with representatives of regional and national forest administrations, the following recommendations outline key strategies that may be carried out in the forest sector (in coordination with other sectors), as part of a multisectoral response to AIDS.

2.1 *The value of non-wood forest products*

Households and communities affected by HIV incur medical expenses and may lack adequate labour for traditional income-earning activities. Non-wood forest products (NWFPs) are a valuable means of providing needed income and/or medical support to such households. NWFPs include leaves, bark, roots or other forest products used in treating illnesses, including HIV-related secondary infections, in addition to products of commercial value. Examples of NWFPs include products used as food and food additives (e.g. edible nuts, mushrooms, fruits, herbs, spices and condiments, aromatic plants, game), fibres (used in construction, furniture, clothing or utensils), resins, gums, and plant and animal products used for medicinal, cosmetic or cultural purposes. Some NWFPs are also important export commodities. At present, at least 150 NWFP are significant in terms of international trade, including honey, gum arabic, rattan, bamboo, cork, nuts, mushrooms, resins, essential oils and plant and animal parts for pharmaceutical products.

Non-wood forest products are important to forest communities for a number of reasons. Several million households worldwide depend heavily on NWFPs for subsistence and/or income, while women from poor households are generally those who rely more on these products for household use and income. Some 80 percent of the population in developing countries use NWFP for health and nutritional needs, with medicinal plants playing an important role in rural health⁸.

NWFPs are integral to the livelihoods of forest communities as they fulfill basic requirements, provide gainful employment during lean periods and supplement incomes from agriculture and wage labour. For example, in parts of West Bengal, communities derive as much as 17

⁸ Prasad, R. and Bhatnagar, P. 1991. Wild edible products in the forestst fo Madhya Pradesh. *Journal of Tropical Forestry*, 7(3): 210-218.

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percent of their annual household income from NWFP collection and sale⁹. Small-scale forest-based enterprises, many of which rely on NWFPs, provide up to 50 percent of the income for about 25 percent of India's rural labour force¹⁰.

NWFPs also have a decided advantage over timber in terms of the time needed to achieve significant volumes of commercially valuable production. Timber production is a long-term endeavour, and in many areas timber harvesting may not be ecologically desirable. Moreover, many NWFPs become available even in the earliest stages of rehabilitation of degraded forest areas. Finally, at the national level over 50 percent of forest revenue and about 70 percent of forest export revenue comes from non-wood forest products, mostly from unprocessed and raw forms.¹¹

As there is a tendency to intensify the exploitation of forest resources in times of family or community crisis (such as HIV-related illness and death), community involvement in managing forests is important for both economic and environmental reasons. The experience of India presents some important lessons in this area, because one of the major challenges in the marketing of NWFPs is how to ensure that the collectors of these forest products can derive adequate benefits from their sale.

2.2 Issues in community involvement in forest management

Under joint forest management (JFM), Indian village communities are entrusted with the protection and management of nearby forests. The areas concerned are usually degraded or even deforested areas. However, in Andhra Pradesh and Madhya Pradesh States, all village fringe forests can come under JFM. The communities are required to organize forest protection committees, village forest committees, village forest conservation and development societies, etc. Each of these bodies has an executive committee that manages its day-to-day affairs, including prevention of forest fires, monitoring of tree cutting and, in some areas, shifting slash-and-burn agriculture. Community involvement in forest management is important in ensuring sustainable use of forest resources, particularly in light of added pressure on these resources within the context of HIV.

While JFM is a participatory approach, its design and functioning have proved to be problematic in different parts of India. This is because in many states, there are separate village committees for forest management and collection of forest produce. In addition, the marketing of many NWFPs is often a monopoly assigned to public or private companies who pay very low wages for collection work or low fixed prices for quantities of products provided.

An analysis of the situation in India reveals certain challenges that must be resolved for the various stakeholders involved in the conservation of forests and collection and marketing of NWFPs to share equitably in the benefits. In areas with high HIV prevalence, particular

⁹ Malhotra, K.C., Deb, D., Dutta, M., Vasulu, T.S., Yadav, G. and Adhikari, M. 1991. Role of Non-Timber Forest Produce in Village economy. Calcutta, Indian Institute of bio-Social Research & Development.

¹⁰ Tewari, D.D and Campbell, J.Y. 1995. Developing and sustaining non-timber forest products: Some policy issues and concerns with special reference to India. *Journal of Sustainable Forestry*, 3(1): 53-77.

¹¹ Tewari, D.D. and J.Y. Campbell. 1997. Economics of non-timber forest products. In J.M. Kerr, D.K. Marothia, K. Singh, C. Ramaswamy and W.B. Bentley, eds. *Natural resource economics - theory and application*. New Delhi, Oxford and IBH.

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consideration needs to be taken for the needs and situation of HIV-affected households and communities.

Thus, effective and equitable NWFP management has clear ecological, social and economic benefits. Managing forests for multiple products (including NWFPs) and adding value to them at the local level is an important challenge. In trying to optimize the production of multiple products to meet the objectives of the various stakeholders, effort should also be made for the sustainable production of NWFPs in forest management efforts in order to also support people's needs.

3. The role of forestry services in strengthening household and community resilience to HIV

The role of forest extension workers is vital to strengthening household and community resilience to the impacts of HIV and AIDS¹². They can contribute to resilience by:

- Supporting and enhancing the capacity of traditional village institutions;
- Acting as an interface between local agriculture and forest institutions and NGOs to ensure that they respond effectively to community needs arising from the epidemic;
- Providing specialist advice regarding the contribution of trees and woodlands to rural livelihoods.

3.1 The training needs of forest extension workers in an AIDS environment

In order for forestry services to play a role in enhancing household and community resilience to the impacts of HIV and AIDS, the staff of these services must receive technical training and sensitization. This should involve the design of training courses and curricula for technical and tertiary education institutions that include models of HIV and forest sector linkages (see Annex 1 for more information about key themes for training forestry service workers.). Without this capacity, the implementation of programs at the community level will remain limited. These training modules can be integrated into the social forestry curriculum of institutions and can also be introduced to extension service providers through in-service training programmes. The forestry sector should also coordinate with agricultural extension services and the health sector in responding to the AIDS epidemic.

3.2 Agro-forestry in responses to AIDS

Once prepared to promote appropriate forestry management practices, forestry staff can help households find ways to strengthen their food security through solutions tailored to their constraints and opportunities. They should work in collaboration with local organizations, such as NGOs and CBOs involved in income generation, health, nutrition and food security.

In meetings with community members and visits to nearby forests, forestry staff can highlight the importance of conserving and enhancing forest resources to build resilience to the impacts of HIV. Staff can point out issues and suggest ways of strengthening community involvement in implementing them. In some cases, there may be a need to show why exempting trees and

¹² FAO. Contribution of trees and forests to the livelihoods of HIV/AIDS affected households. *HIV/AIDS extension fact sheets*. Rome, (<ftp://ftp.fao.org/docrep/FAO/007/ae502e/ae502e05.pdf>)

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plants from certain uses like firewood, roofing and drying is needed in order to protect their food value.

Low-income and HIV-affected households often rely on tree and forest products (e.g. wild food plants, bush meat, nuts, leaves and roots) to complement their diets more than other households in rural areas. Forest foods are often good sources of micronutrients (e.g. vitamins and minerals that are essential for good nutrition and health), which become essential for HIV-affected households.

Besides timber, forests and trees also provide fibre, fodder and mushrooms which can reduce expenditure and generate revenue for low-income and HIV-affected households. Certain types of trees and non-wood products may be used as a source of livelihoods through the production of handicrafts, furniture-making or beekeeping.

In the context of longer-term rural livelihood development, forestry and agro-forestry can contribute to addressing the problem of insufficient labour and capital resources in the agricultural sector in the following ways:

- Strengthening land tenure: Trees are traditionally regarded as an indicator of tenure and can assist in securing land. Access to and ownership of land are determining factors for the viability of HIV-affected households. Widows and orphans may lose their access to land through land grabbing after the death of their husbands or fathers.
- Supporting traditional agro-forestry systems: Traditional systems of integrating tree and crop production enable the productive capacity of the soil to be stabilized. These measures help to maintain production even if households face labour shortages in meeting multiple household needs for items like food, fodder and fuelwood.
- Promoting the production of natural medicines: Wild plants are a principal source of traditional medicines. Often derived from leaves and roots, they may help to treat many of the symptoms of opportunistic infections associated with HIV. Indigenous medicinal plants (including cultivated tree nuts and wild fruits) may also boost the immune system of PLHIV.

In collaboration with agriculture extension workers, forest extension workers can improve household livelihood systems. Some relevant measures include the following:

- Encourage better management of trees so that farmers can:
 - Maintain land productivity and enhance soil fertility
 - Reduce wind and water erosion
 - Support other farm enterprises – e.g. fodder for livestock, shade for tea, coffee or other plants
 - Diversify production
 - Provide an emergency source of food
 - Reduce the burden of household work on women
- Improving fallows by planting trees and shrubs within local farming systems so that farmers can:
 - Improve soil fertility and food production

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- Reinforce soil conservation
- Provide a source of fodder and fuelwood in proximity of the homestead
- Assist in securing land tenure of abandoned farmlands
- Harvest products after two to eight years, depending on the species planted

- Introduce agro-forestry so that farmers can:
 - Reduce the amount of required labour by maximizing the productivity of biological systems
 - Improve the efficiency of labour through positive interaction of trees and farm enterprises
 - Increase the efficiency of wood energy through the introduction of fuel-efficient cooking stoves

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Studying household and community responses to AIDS in forest communities

It appears that woodlands are an essential safety net for HIV-affected households. It has been observed that these households seem to rely more and more on forest resources as their capacity to farm the land or do other productive tasks declines. Households not able to crop also rely more on gathering from woodlands for their daily subsistence needs and for income. In addition, in many villages, households have no access to pharmaceutical drugs and thus rely entirely on the plants and trees growing on their farms and in woodlands to treat opportunistic infections.

Read and answer the following questions. If you are in a workshop you may work together with one or more people who are familiar with a given country. It is suggested that you (or your group) develop a case study on household and community responses to AIDS and then present it to the rest of the group using flip chart pages or a PowerPoint presentation.

The use of plants in treating illness:

1. Are medicinal plants used in your country to treat HIV-related opportunistic infections?
2. How effective are these plants in treating infections?
3. Who normally gathers these plants?
4. To what degree do the gatherers benefit from the commercial value of these medicinal plants?
5. Is it possible to cultivate any of these medicinal plants? If so, what type of environment and care do they require?
6. Are there any problems or issues to be raised concerning the use of wild medicinal plants (e.g. toxic side effects, mistaking one plant for another, unsustainable collection, etc.)?

Gathering wild foods and game:

Make a list of fruits, mushrooms, honey or other edible items, including animals and insects that can be gathered or hunted in forests.

1. To what degree do people living in or near forests rely on wild plants and animals for their own nutrition and to what degree do they sell this produce for income?
2. Is there evidence that these fruits and edible items are becoming scarcer? If so, what measures can you propose to protect them?
3. Is this perceived scarcity related to over-harvesting to meet the needs of households affected by chronic illnesses such as HIV?

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Activity 2: Promoting community forest management in an AIDS environment

Community forest management has increased in recent years with political decentralization and the recognition of historic land tenure rights in several countries. Such efforts, however, must address issues of bureaucratic complications, competition from big business and lack of concern on the part of government. In Brazil, for example, local forest communities are often displaced by loggers, farmers and miners, and many lack the infrastructure to bring products to the market.

Read and answer the following questions. If you are in a workshop you may work together with one or more people who are familiar with a given country. It is suggested that you (or your group) develop a case study or the outline of a position paper on community forestry and AIDS in your country of choice and present it to the rest of the group using flip chart pages or a PowerPoint presentation.

The organization of community forestry in your country of service:

What are the main features of community forestry practice in your country of service (or another country that you know well)?

1. Draw an organizational chart showing the relationship of the forestry services and local CBOs or management committees.
2. What are the main advantages and disadvantages of this arrangement?
3. How does your country of service reconcile the interests of commercial plantations and concessions with the needs of forest communities?
4. What policy, management or other reforms would you recommend to improve community management of forests in your country of service?

Involving forestry services and communities in responding to AIDS:

1. Have the forest services provided support to communities in protecting, collecting or marketing medicinal plants?
2. How have the staff of the forestry services been affected by the epidemic (illness, absenteeism, reduced activities, death, etc.)? Has there been a visible change in the activities of the forestry services as a result of AIDS?
3. What measures (if any) have been taken to improve household and community food security and poverty in communities affected by HIV? Which organizations have been involved?

Activity 3: Preparing forest extension workers to support responses to AIDS in forest communities

Read and answer the following questions. If you are in a workshop you may work together with one or more people who are familiar with a given country. It is suggested that you (or your group) develop a case study or the outline of a position paper on preparing forest extension workers to support responses to AIDS in your country of choice and present it to the rest of the group using flip chart pages or a PowerPoint presentation.

1. What knowledge and skills do forestry extension workers need to support forest households and communities affected by AIDS? Some aspects to consider include:
 - Basic knowledge about the virus and the epidemic (refer to Module 2 – “HIV and AIDS: Some basic facts” if necessary);
 - Knowledge about the role of the health and other sectors in responding to the epidemic;
 - Knowledge of how households and communities cope with impacts of the epidemic (knowledge from direct observation and discussions; knowledge from studies and documents);
 - Knowledge about vulnerabilities of people to HIV;
 - Knowledge about how the forestry sector can intervene to reduce vulnerabilities to HIV and its impacts.

2. What partnerships would be necessary to respond to the needs of HIV-affected households and communities in forest communities of your country of service? Mention the roles of the following actors:
 - The health sector;
 - NGOs and CBOs;
 - Village forest management committees;
 - Credit and marketing organizations;
 - Other organizations;

3. Has the forestry sub-sector in your country of service developed a policy or strategy for integrating HIV issues into the objectives and programmes of the sector? If so, what are some key elements of this policy or strategy? If not, what key elements should be included if a policy or strategy were developed in your country?¹³

¹³ You may wish to refer to the Malawi Forestry Sector HIV and AIDS Strategy 2007-2011 for an example: <http://www.cabi.org/GARA/FullTextPDF/2010/20103040805.pdf>

SUMMARY REMARKS AND LESSONS LEARNED

It has been noted that in times of crisis in a forest community, such as when an epidemic strikes, the community will respond by more intensive (and often unsustainable) use of forest resources. Vulnerability of forest households to food and livelihood insecurity typically increases when adult male members of the household become sick and die and females must take time away from other activities to care for the sick. For this reason, labour-saving practices and technologies (such as fuel-efficient stoves) are important measures to bolster the resilience of forest households in an AIDS environment.

Responses should be considered at national (strategic policy and planning), institutional (forestry department staff and workers, tertiary education, research and extension services) and local (villages and households) levels.

The forestry sub-sector can have a role in mitigating the impacts of AIDS in the following ways:

- By enhancing short and longer-term forest and agro-forest productivity;
- By enhancing education and human resource development strategies in extension and forest services (forestry training and education);
- By carrying out outlook studies on the impacts of HIV and AIDS on the forestry sector and developing appropriate policy and decision support tools.

The potential of forestry to contribute to reducing vulnerabilities to HIV and mitigating its impacts in rural communities is high. The information provided in the previous sections shows that local communities may get income from selling forest products and increase their food diet by incorporating wild foods (e.g. honey, mushrooms and fruits) rich in protein and vitamins. The use of medicinal plants to treat HIV-related illnesses provides opportunities for local communities in terms of their own use and for sale in towns, thereby improving health outcomes in addition to earning income.

Income-generating forestry activities, such as charcoal-making, carpentry, bamboo cutting and woodcarving, are important to supporting livelihoods. These activities tend to be labour intensive and are often practised by men in the community. People who are ill, or young people and the elderly, may face difficulties in using these activities as a coping strategy. Other potential activities, such as basket weaving and beekeeping, require lower labour input and can be carried out easily by women and children (including widows and orphans) or people who may be weaker due to illness. Within this context, the type of work promoted by the extension service is of great importance in terms of promoting labour-saving technologies and practices that can improve production efficiency and reduce vulnerability of affected households.

The unsustainable use of forest resources in areas with a high HIV prevalence may deter the promotion of forest products as a coping strategy in the long term, particularly because access to forest products is decreasing and there will be fewer opportunities for local communities to find alternatives for mitigation. In the medium term, the high accessibility to forests in areas with high HIV prevalence may, however, represent market opportunities for forest products such as charcoal and bamboo. These observations suggest the need for a management plan,

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particularly for in areas experiencing unsustainable use of forest resources. This can reduce the risk of resource depletion and at the same time secure forest product markets.

Considering the aspects presented in this module, the following recommendations should be considered:

1. Community natural resource management organizations must be strengthened with a view to improving the local management of woodland resources as well as the capacity of community members to help households affected by illness or death.
2. Inter-institutional and inter-sectoral coordination should be improved to link up different initiatives, including agriculture and agro-forestry programmes, as well as with the private sector.
3. Activities, products and markets suitable for HIV-affected households need to be identified.
4. The identification, cultivation and management of medicinal plants and energy-rich wild foods should be promoted to help with the treatment and food supplement of people living with HIV.

Implementing these recommendations requires that several key factors are addressed:

- How households and communities use forest resources differently depending on gender roles and depending on which family members are infected or affected by HIV.
- The need to look at the development and uses of non-wood forest products (NWFPs) depending on whether they have an immediate medicinal or nutritional use or whether they have income-generating potential.
- Control of resources in concessions and community forests can increase vulnerability to infection as women or girls may be obliged to provide sexual favors in return for access to firewood or other forest products.
- Mobility and isolation makes forest service workers more vulnerable to risk of exposure to HIV.
- Logging concessions attract young male workers who may frequent sex workers.
- Special training for forest extension workers is needed in order to enable them to play a catalytic role in working with community organizations to strengthen resilience to HIV and its impacts.

ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral treatment (or therapy) |
| ARV | Antiretroviral (medicines) |
| CBO | Community-based organization |
| FAO | Food and Agriculture Organization of the United Nations |
| FPC | Forest protection committee |
| HIV | Human immunodeficiency virus |
| JFM | Joint forest management |
| MA&D | Market analysis and development (FAO) |
| MoA | Ministry of Agriculture |
| NGO | Non-governmental organization |
| NWFP | Non-wood forest product |
| PFPC | Primary forest produce collector |
| PLWHA | People living with HIV |
| PMTCT | Prevention of mother-to-child transmission |
| STI | Sexually transmitted infection |
| VCT | Voluntary counselling and testing |
| VFC | Village forest committee |

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ANNEX 1 – Priority themes for training forestry workers to support households and community resilience in an AIDS environment¹⁴

1. Management of medicinal plants used to treat HIV-related illnesses

Training is needed on medicinal plants, particularly those used in the treatment of HIV-related illnesses. Efforts also need to be made to sustain supplies of medicinal plants used for these purposes. The benefits of this include ensuring the availability, affordability and quality of herbal therapy for PLHIV. These interventions can be grouped into those based on the management of natural woodlands and those based on the domestication of species for cultivation.

Training must provide guidelines and techniques to support the management of medicinal plants in natural woodlands (e.g. management plans, sustainable harvesting methods, organization of user rights/associations), which is an important precursor to domestication. Due to the wide range of species used in treating HIV-related illnesses, the first step in the development of these interventions is to identify priority species. This will involve coordinating with healers associations, particularly where they are involved in collaborative arrangements with the biomedical sector, to identify species popularly used in the treatment of opportunistic infections and management of HIV-related symptoms. These include medicinal plants used in treating: tuberculosis, mouth and throat sores/rashes, skin rashes, diarrhea, fevers, and other sexually transmitted infections (STIs). Emphasis should be given to those species that are being evaluated in trials. Following the identification of priority species, indicators of species scarcity will need to be evaluated and monitored.

2. Identification and advocacy of nutritional non-wood forest products

Forest extension workers need to know basic information about the nutritional value of non-wood forest products (NWFPs), as collection of wild foods can provide a food diversification strategy for achieving adequate nutrition prior for people, in particular those living with HIV. Training must present country-specific information. For example, research in three sites in Malawi showed that 79 percent of households collected fruits from local forest resources for consumption and 34 percent of households collected fruits on a weekly basis. Across each of the three study sites, communities identified an average of 16 different tree species producing fruits or other foods. Certain non-wood forest products and other wild foods are high in some of the key nutrients required by PLHIV, in particular protein, fat, vitamins A and C, iron and zinc¹⁵. For example, 100g of *Annona senegalensis* fruits (collected and consumed in all study site communities) contain 103 percent of the daily recommended nutrient intake of vitamin A, compared to 34 percent and 24 percent for mango and papaya respectively.

Related training is needed in the techniques of participatory appraisals. Such appraisals are needed to determine the role that NWFPs play in local livelihood strategies and can be valuable inputs for those in the health sector conducting nutrition assessments and developing

¹⁴ Barany, M., Holdings-Anyonge, C., Kayambazinthu, D. & Siteo, A. 2005. *Firewood, food and medicine: Interactions between forests, vulnerability and rural responses to HIV/AIDS*. Proceedings from the IFPRI Conference: HIV/AIDS and Food and Nutrition Security, April 14-16. Durban, South Africa. (<http://www.fao.org/forestry/9718-1-0.pdf>)

¹⁵ Barany, M., Hammett, L., Stadler, K. and Kengni, E. 2004. Non-timber forest products in the food security and nutrition of smallholders afflicted by HIV/AIDS in sub-Saharan Africa. *Forests, Trees and Livelihoods*, 14: 3-18.

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community-based nutrition interventions. Departments of Forestry can coordinate with communities and natural resource committees to carry out such appraisals to identify commonly consumed species in a given area.

In addition, extension training needs to cover storage and processing skills, which can help increase the seasonal availability of forest foods. Availability of these foods can also be increased through the inclusion of these species in agroforestry systems.

3. Reduced labor requirements for subsistence woodland firewood collection

Interventions that reduce the labor requirements for firewood collection can help mitigate the impacts of HIV and AIDS on household labor. Reducing labor requirements associated with the subsistence use of firewood can provide households with the following benefits:

- Increased labor availability for other household activities;
- Reduced labor burden on children;
- Avoids adverse strategies such as reducing firewood consumption (with potential nutritional consequences);
- Reduced vulnerability of women to exposure to HIV.

There are a variety of interventions that can be carried out within the forestry sector to improve the accessibility and availability of firewood. Training is needed on methods of:

- Improving access through the creation of tenure niches within forests.
- Creating limited benefit streams to those currently excluded from co-management arrangements.
- Supporting the roles of women and children in decision making and planning of resource management, which in the case of firewood collection is typically handled by women and children.

Related training must cover strategies to increase production of firewood resources, including improved management of customary woodlands, reforestation of degraded areas on customary lands with fast growing woody species and nursery stock distribution of species with high firewood quality to households and communities.

Finally, extension workers must become familiar with labor-saving technologies such as fuel efficient stoves that can help reduce household consumption of firewood and lower the volume of wood a household needs to collect.

4. Development of woodland-based income generating activities

Forest extension workers need to have basic information about the income-generating potential of artisan utilization of forest resources. Training needs to cover the current and potential products that can be made from forest materials. It must be noted, however, that partnerships with organizations specialized in marketing such products are required.

Where communities have access to markets, woodland-based income generating activities can increase a household's economic access to healthcare and improve food security. While certain woodland activities, such as the collection and sale of firewood do not require

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advanced skills, others activities do. These include (but are not limited to) products for which value can be added through home-based work such as reed mats, baskets and processing of food. These activities can be carried out when time and labor permit, while attending to other duties in the household such as care-giving. Support for the development of these activities can be channeled through village marketing associations and may require transfer of skills related to market information (e.g. prices, products, quality preferences, seasonal price fluctuations). FAO's Market Analysis and Development (MA&D) training methodology for community-based tree and forest enterprises¹⁶ would be particularly useful in this regard. In addition to marketing assistance, additional efforts could include support for value-added processing and post-harvest loss reduction.

5. Forest revenue sharing for community members affected by HIV

Specialized training is needed for extension workers on the principles of community-based management of forest revenues. In order to avoid the imbalances in revenues derived from NWFPs through a monopoly model like the one in India, it is important to devise equitable plans to share the proceeds from the sale of NWFPs.

Woodland resources and forestry interventions have various uses:

- Forestry revenues can indirectly support groups affected by HIV through revenue sharing and employment. Social safety nets and the reliance on neighbours and community members for in-kind and financial assistance is a common coping strategy in some communities.
- Revenue generated from the licensing and sale of forest products from private forest concessions, co-management arrangements, and community management of customary lands can be a source of funds to finance systems in communities that support households affected by HIV. A portion of these funds could go into a community savings to be used to support affected households. These funds could also be used to provide loans to people who care for abandoned or terminally ill members of their community. This will require institutional support for communities to regulate and enforce licensing and mechanisms for revenue sharing.
- Community members affected by HIV, such as orphans, could be employed in the implementation of forestry interventions such as nursery management and tree planting. This could be accompanied by training of orphans in seed collection, tree propagation, and nursery management.

Training for forest extension workers should cover the principles and methods of the various resource management options. Actual program development and supervision would need support from appropriate cooperative networks and financing agencies.

6. Management of natural woodlands

More intensive forest management to increase productivity and accessibility of natural capital is in itself a mitigation strategy. Within communities, there is a need to improve management of natural woodlands for multiple purposes. Efforts need to be made to organize these user groups and to identify the opportunities and threats in regards to specific uses of woodlands.

¹⁶ Market analysis and development training materials can be accessed through the following link: <http://www.fao.org/forestry/enterprises/25499/en/>.

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Extension workers could benefit from training on techniques that have been used successfully in different countries where forest management committees have been created.

Management plans and training in proper harvesting skills can help sustain the productivity of specific resource within natural woodlands. Organizing user groups, creating tenure niches, developing management plans, and regulating resource use will require capacity building of community-based organizations and institutions. This includes building technical skills for planning and management, but also facilitating processes of woodland governance that take into account the needs of vulnerable and affected households. The continued promotion of gender equality within decision making and planning is essential.

Support for local institutions to manage natural woodlands is particularly important given the impacts of HIV and AIDS on natural resource management institutions at the national and local levels.

ANNEX 2 – Non-wood forest products and coping strategies in times of crisis

The following sections from research in Mozambique¹⁷ highlight typical non-wood forest products (NWFPs) that can provide cash or nutritional support to households facing challenges, such as from the impacts of HIV and AIDS. The following sections also refer to activities that local resident can take up (part-time or full-time) to support their families, especially in times of crisis.

Agricultural products

Agriculture is the most important activity in many rural areas for subsistence as well as for income. The sale of agricultural products and the use of wage labour in agricultural activities are among the most important sources of income in times of crisis. In good years, the surplus is sold for cash to solve household problems. Families with large production capacity (generally polygamous families) use the surplus to hire extra labour in difficult periods in order to complete land preparation, sowing and harvesting tasks. Asking other households to help with land preparation or harvesting and paying them with goods is one way to cope with crises, but, on the other hand, households that help are often also in crisis (and may be more vulnerable) and benefit from the communal labour as well.

Charcoal making

Because it takes a long time (3-5 months) to complete the charcoal production cycle (from tree cutting to charcoal burning), it is not used as a quick response in times of crisis stemming from illness or death. It is however a response for general crises such as droughts and floods, which affect the whole community. This activity is labour-intensive and the elderly, women and children generally do not participate.

Fisheries

Many forests contain rivers and lakes where forest communities catch fish. Fishing provides food and cash, particularly for families with high potential for fishing. While most families collect fish for their own consumption, there are others that use fishing nets and canoes more intensively and can catch large quantities of fish to sell within and outside the community. Sawmills and forest lumber camps provide a market for fish. Families with fishing capacity are particularly stable and may encounter less difficulty when a crisis occurs.

Poles and bamboo

Poles are an important building material used within forest community and are sometimes one of the most important sources of income from forest products¹⁸. Bamboo is cut and sold on the edge of roads that cut through forests. Men are usually involved in this activity and it is among the easiest ways to get cash in crisis conditions. Cutting and carrying bamboo stems, however, is labour-intensive and households headed by women and the elderly may not be able to use this option.

Honey

Honey collection is man's activity. Some people may collect honey in the wild, while others use traditional or modern beehives to produce honey. Honey is used for consumption or to sell within the community, however, due to its seasonality, it may not be available as a safety

¹⁷ FAO. 2005. Miombo woodlands and HIV/AIDS interactions – Mozambique country report. Forestry Policy and Institutions Working Paper 2. Rome, FAO. (<http://www.fao.org/docrep/008/j5251e/j5251e00.htm>)

¹⁸ After charcoal.

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strategy when needed. Households with modern beehives may yield up to 40-60 litres of honey per year, which is sold locally or sent to urban markets.

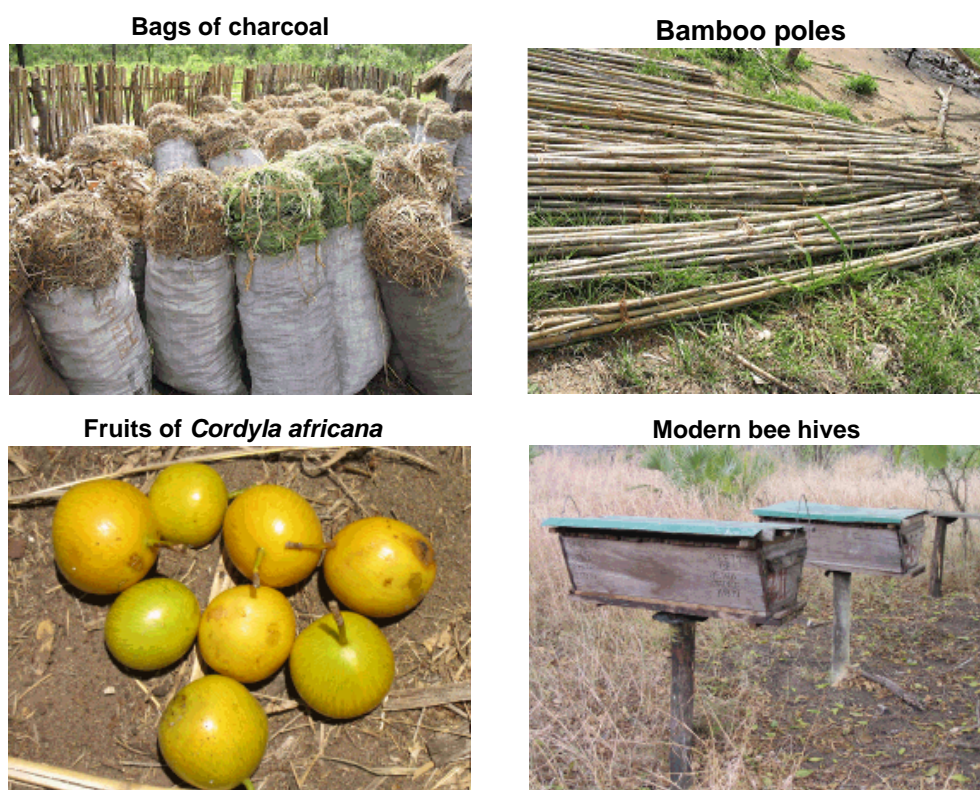
Medicinal plants

Medicinal plants are generally collected by traditional healers to prescribe to their patients. However, there are some common medicinal plants, such as the root of *Cassia occidentalis* (used for stomach aches), which are known by most community members. Minor illnesses may be treated with medicinal plants, while more severe illnesses may require medical attention.

Wild food plants

Roots of wild plants such as *Boscia salicifolia* and fruits of the palm *Borassus aethiopum* are used as food supplements during normal years, but amounts collected increase during years of food insecurity, particularly those caused by drought. Food insecurity associated with floods usually brings good opportunities for fishing, which becomes the most important survival strategy in some communities. In general, the most vulnerable households will be the first to turn to wild foods when food reserves become limited.

Figure 2. Examples of non-wood forest products



(Source: FAO, 2005)

Wild animal food

The collection of rodents and worms is common for all households when they are in season. This is one of the most important sources of animal protein, together with domestic animals. Among domesticated animals is the guinea fowl, which is caught in local forests. Larger animals, such as duikers and other antelopes, are now scarce and not only demand more time and energy to hunt but are protected by forest regulations.

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During the dry season, rats may be collected – one species from agricultural fields (by women) and another in the grasslands (by men). Households with reduced ability to collect these animals may buy them from other families, thus providing income that can be used in the event of crisis.

Chickens and goats

Almost all households have chickens, but only some have goats. Selling chickens and goats is one of the quickest ways to get cash in times of crisis. This strategy ranked high among those adopted by households in cases of illness. Animals may be sold locally or on the roadside. This strategy is quick and effective, but may need to be complemented by other measures in the event of prolonged illness.

Wage labour

This is the main income-generating activity in times of crisis, particularly when the crisis is at the household level (e.g. due to illness and death). When a family member is ill for a long time and the available cash is exhausted (e.g. due to medical expenses), the other family members will often engage in wage labour. Payment is generally in kind (food) or cash. Households within the community with food stocks provide work opportunities. There are mutual benefits for both the service providers (by having additional labour to carry out activities) and for the labourer (by getting cash or food to cope with the crisis). The latter is undertaken particularly by the most vulnerable families (those that are unable to produce agricultural surplus, charcoal, bamboo, fish or other products to sell). Households headed by women and the elderly are the most vulnerable and are likely to engage in wage labour activities.

Carpentry

Carpenters are particularly well positioned within the community because they can get continuous income throughout the year and may have disposable cash when a crisis occurs. Carpenters often collect the sawmill waste without cost to use in their carpentry to produce small-sized furniture. Logging within concessions is conditioned by permission of the concessionaire but in other areas logging and sawing are done by the carpenters themselves. In Mozambique, carpenters may not use chain saws in community forests in order to reduce the depletion of valuable tree species.

Work at forestry concessions

Work within forestry concessions is usually the only formal work available for forest community members. Most young men strive to get a position in these concessions to sustain their families. Those who work at the concession often maintain their traditional activities, such as rat hunting, basket weaving or honey collection, for subsistence and income. The stability of households with a member working at a concession is high because they get a salary, in addition to supplementary income or food from other activities.

Mushroom collection

Mushrooms are an important food supplement. They are collected during the rainy season, before harvesting of agricultural products and after the rat season. Mushrooms are collected by men in the forest and can be sold to families without the capacity to collect them.

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Common reed

Common reed (*Phragmites australis*) is used for buildings and for weaving mats. Some households cut reeds to sell them within the community to get cash. In some communities men cut reeds from local rivers.

Palm wine

Palm wine is tapped by men from *Hyphaene natalensis* and *Phoenix reclinata* in the grasslands. It is also an important source of income during the beginning of the growing season.

Woven baskets

Baskets are woven using *Hyphaene natalensis* and *Phoenix reclinata*. Baskets can be sold locally within the community or in neighbouring towns.

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

8

MODULE

**AIDS and the Commercial Agriculture
Sub-Sector**



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Module 8: AIDS and the Commercial Agriculture Sub-Sector

AIMS

The aims of this module are the following:

1. To examine factors that make the commercial agriculture sub-sector vulnerable to HIV and its impacts.
2. To provide an understanding of how the commercial agriculture sub-sector is affected by the epidemic.
3. To assess how the sub-sector has responded to the impacts of the epidemic and to identify areas for further intervention.

OBJECTIVES

Upon completion of the module, the learner should be able to:

1. Identify factors in the commercial agriculture sub-sector that lead to vulnerability to HIV.
2. Assess how the epidemic affects commercial agriculture.
3. Critically review policy and programmatic responses to AIDS that have been implemented in the sub-sector and identify gaps in these interventions.

QUESTIONS FOR REFLECTION

1. What role has the commercial agriculture sub-sector in your country played in the response to AIDS? Has the sub-sector played an active role in the agriculture sector's response?
2. What do you know about the commercial agriculture sub-sector's response to AIDS in your country?
3. Can you identify areas in which the commercial agriculture sub-sector in your country could respond to the epidemic in terms of vulnerability and impact mitigation?
4. How would the sub-sector benefit from implementing policies and programmes in response to AIDS?

INTRODUCTORY REMARKS

The commercial agriculture sub-sector contributes significantly to agricultural-based economies and plays an important role in the economies of many countries in Africa. The sub-sector contributes considerably to the GDP of these countries. Major national exports come from commercial agriculture and the domestic purchase of inputs such as fertilizers, seeds and machinery supports national economies. The sub-sector moreover is an important source of employment in agriculture-based societies.

The effects of AIDS on this sub-sector are a matter of concern because they lead to diminished productivity and have negative implications for the national economy. The sub-sector and people working in it also face particular vulnerabilities to HIV and its impacts due to the nature of employment in the sector, which tends to be characterized by poor working conditions and instability.

READINGS: AN OVERVIEW OF HIV ISSUES IN THE COMMERCIAL AGRICULTURE SUB-SECTOR

1. HIV dynamics at different levels of the sub-sector

Commercial agriculture refers to “profitable agricultural production and marketing system, [in which] agricultural products are competitive locally, regionally and internationally”.¹ Different from smallholder agriculture, which mainly involves subsistence farming for household food consumption, commercial agriculture involves larger-scale crop production and livestock grazing for widespread distribution and sale. The main objective of the former is household food security, whereas for the latter it is maximizing profit.

Due to the different objectives, and therefore context, of subsistence versus commercial agriculture, it is clear that the vulnerabilities and impacts of HIV also diverge. HIV issues in smallholder agriculture largely relate to the farmer and his/her household, and the role of human labour availability to earn income and produce food. While human labour is also integral in HIV issues in commercial agriculture due to the labour intensity of farm work, the vulnerabilities and impacts are more vast and multi-layered. HIV issues in commercial agriculture affect different players in the sub-sector from the individual level (farm workers), household level (family and household of workers), commercial farm level, and sector and national level. Some of the dynamics at these different levels include:

- Individual level: poor living and working conditions on commercial farms, exposure to situations that can increase HIV risk (e.g. alcohol abuse, unsafe sexual practices, periods away from family), transactional sex (e.g. better work conditions in exchange for sexual favours), cases of rape by farm managers, limited access to health services (including HIV prevention and treatment), livelihood insecurity (e.g. seasonality of farm work, casual labour), reduced income to cover health care and other expenses, etc.
- Household level: poor living and working conditions on commercial farms for families living on agro-estates, limited access to health services (e.g. farms may not extend services to family members), impacts of livelihood insecurity at household level, support may not be available for widows/orphans of farm workers, etc.
- Commercial farm level: labour declines and productivity declines (e.g. from absenteeism, death), increased expenditure (e.g. health care, funeral expenses), loss of institutional memory resulting from AIDS-related mortality, financial and time implications for replacing labour (e.g. training, recruitment), sexual exploitation of vulnerable employees (e.g. authority/power of supervisors, managers), possible absence of HIV workplace policy, etc.
- Sector and national level: morbidity and mortality among sector staff, impact of productivity declines on national agricultural outputs, implications for national food security as well as national exports, etc.

¹ Department for International Development – Zambia. 2003. *The socio-economic impact of commercial agriculture on ruralpoor and other vulnerable groups*, by C. Pinder and D. Wood. (http://www.odi.org.uk/projects/03-food-security-forum/docs/dfidagriczambiarepfinal_2.pdf)

2. HIV vulnerabilities in the commercial agriculture sub-sector

The commercial agriculture sub-sector is vulnerable to HIV due to its high dependence on human labour. The sub-sector's vulnerability to the epidemic thus stems largely from vulnerabilities faced by workers employed in commercial agriculture. Research has shown that vulnerability of workers in commercial agriculture is rooted in the nature of work, which tends to be casual employment and largely based on migrant labour. In addition, poor living and working conditions on farms, coupled with limited access to health services and information about HIV increase vulnerability.

2.1 High dependence on casual and migrant labour

Due to the seasonality of farm work, commercial agriculture relies heavily on temporary and seasonal workers in order to fill labour gaps during peak periods. These labour deficits are often filled by migrant workers. There is a large amount of internal and cross-border migration of workers in commercial agriculture and the sub-sector tends to employ many undocumented migrant farm workers. In the South African Development Community (SADC) region, for example, the sub-sector relies heavily on migrant labour due to the seasonal nature of agriculture and because it is cheaper². In South Africa, a large number of commercial farms were found to depend heavily on cross-border migrants to meet seasonal and temporary labour needs³. Due to unstable employment in this sub-sector, casual labourers are forced to continually migrate in search of work.

Loneliness and anonymity from being away from families and social networks, coupled with social exclusion, which is typical among migrant communities, can increase the likelihood of workers engaging in risky sexual practices. These factors contribute to increased vulnerability to HIV. In a study of several commercial farms on the South Africa-Mozambique border, migrant workers were found to have multiple and concurrent sexual partners and low condom use – 63 percent of workers reported never using condoms when engaging in casual sex⁴.

2.2 Poor living and working conditions on commercial farms

Poor living and working conditions on commercial farms may increase vulnerability to HIV. Living quarters for low cadre employees are characterized by poor sanitation and overcrowding. Compounds in which labourers are housed lack recreational activities except for “beer halls”. Accordingly, hazardous recreational practices such as alcohol abuse and unsafe sexual practices prevail and heighten vulnerability to HIV.

Research has shown that transactional sex is common on and near commercial farms⁵. Partly due to unequal income-earning opportunities for men and women, the latter may resort to transactional sex out of necessity – for their subsistence and to support their children. Farm

² IOM. 2007. Regional guidelines on HIV and AIDS for the commercial agriculture sector in the SADC region.

³ Crush, J., ed. 2000. *Borderline farming: foreign migrants in South African commercial agriculture*. Southern African migration project, migration policy series no. 16.

(<http://www.queensu.ca/samp/sampresources/samppublications/policyseries/policy16.htm>); IOM. 2003. Mobile populations and HIV/AIDS in the Southern African Region – recommendations for action: desk review and bibliography on HIV/AIDS and mobile populations. Pretoria, South Africa.

(<http://www.queensu.ca/samp/sampresources/migrationdocuments/documents/2003/un aids.pdf>)

⁴ Ibid.

⁵ IOM, 2003.

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owners may also take advantage of this vulnerable position of women by offering better wages and more favourable working hours and duties in exchange for sex. The high prevalence of commercial sex increases vulnerability to HIV, in particular for women.

At the same time, farm owners may be more inclined to employ casual and migrant workers as they are less expensive than permanent or local workers. Many temporary and casual workers are not entitled to sick leave or benefits. In order to avoid losing income or risk losing their job these workers may not seek medical care, including HIV testing and treatment. This is compounded by low wages, which may not permit workers to access such services.

Unavailability and inaccessibility to healthcare and other services is a key aspect of the poor working conditions prevalent on many commercial farms. This affects AIDS morbidity and mortality, as well as the overall health status of workers. First of all, many farms do not have health services, let alone HIV programmes or services. In a study carried out in Swaziland, it was found that less than 26 percent of farms provide healthcare to their employees⁶. While larger farms would be more likely to provide such services, they generally only afford these services to permanent workers, who are often the minority. Most temporary workers do not benefit from these programmes. On the other hand, accessing health services off the farm is challenging due to workers' mobility (thus interrupting continued access), irregular work hours, long distances required to reach services and lack of resources to pay for services. Stigma is another important factor as workers may not get tested for HIV or seek care for fear of losing their job or being stigmatized. Foreign migrant workers may also be cautious about accessing services due to their precarious legal status.

2.3 Socio-economic and gender dimensions of vulnerability on commercial farms

One of the key dimensions of gender inequality among agro-estate employees is the disparity between incomes of men and women. Women generally earn less than male employees and in particular higher-ranking positions with more authority are often held by men. Women may also face greater job insecurity on commercial farms. These factors can lead to increased vulnerability as women may engage in risky sexual behaviour (e.g. transaction or commercial sex) in order to earn extra income to make ends meet. Women may also be sexually exploited or coerced into giving sexual favours in order to secure employment or to get better wages and employment conditions.

There tends to be a high prevalence of commercial centres near commercial farms, which are an important element of social life for people working in the sub-sector. These centres, however, are characterised by high levels of commercial sex. This increases women's vulnerability to HIV as they may engage in commercial sex for livelihood survival. Commercial sex may, however, also be common among young men. For example, a study in Kenya found that in the floriculture belt in the Rift Valley Province, young men were in high demand to meet the sexual needs of single women employed in the flower farms⁷.

⁶ Muwanga, F.T. 2002. Impact of HIV/AIDS on agriculture and the private sector in Swaziland: The demographic, social and economic impact on subsistence agriculture, commercial agriculture, Ministry of Agriculture and co-operatives and business. Swaziland, TAT Health Services.

(<http://www.sarpn.org.za/documents/d0000127/muwanga2.pdf>)

⁷ Rugalema, G., Weigang, S. and Mbwika, J. 1999. HIV/AIDS and the commercial agricultural sector of Kenya: impact, vulnerability, susceptibility and coping strategies. Rome, FAO. (<ftp://ftp.fao.org/sd/sdr/sdre/hivken.pdf>)

2.4 Lack of knowledge and misperceptions about HIV

Despite relatively high awareness about HIV in southern Africa, knowledge among farm workers remains rather low. Studies indicate that women on some farms have less knowledge than men⁸. This is largely due to lack of access to HIV information and misconceptions about the epidemic. High illiteracy among farm workers and frequent mobility mean that workers may not benefit from HIV education materials or information campaigns. Lack of knowledge about HIV contributes to high-risk sexual behaviour among workers, which leads to increased vulnerability to HIV.

Compounding limited information about HIV is misperceptions about the epidemic and lack of acceptance by both labourers and farm owners that AIDS is a true threat to the sub-sector. Lack of acceptance can lead to non-action, and thus not taking appropriate measures to prevent further spread or mitigate its impacts, which makes the sub-sector more vulnerable. The International Organization for Migration (IOM)⁹ found that few workers recognized AIDS as a potential cause of death on the farms and therefore they may be less inclined to engage in risk-averse sexual behaviour. In another study, it was found that while many employees are aware that AIDS exists, they discount associated risks¹⁰.

3. Impacts of the epidemic on the sub-sector

The commercial agriculture sub-sector is highly dependent on human labour, yet this is undermined by morbidity and mortality associated with HIV. Morbidity and mortality effects of HIV, however, are not systematically documented on many commercial farms and existing data may only capture the situation of permanent workers who have been tested. Temporary workers may be more vulnerable to HIV due to their high mobility, yet may not be included in the numbers, thus making it difficult to fully measure the scope of the problem. Anecdotal evidence and case studies, however, indicate that HIV morbidity and mortality are affecting the commercial agriculture sub-sector. Research in Kenya found that AIDS cases on some agro-estates surveyed represented 10-25 percent of the total workforce¹¹, whereas an agro-estate interviewed in Swaziland experienced an increase in employee deaths in the five years preceding the study, over half of which were attributable to AIDS¹². Figure one gives a schematic overview of the main impacts of HIV and AIDS on commercial agriculture.

⁸ IOM, 2003.

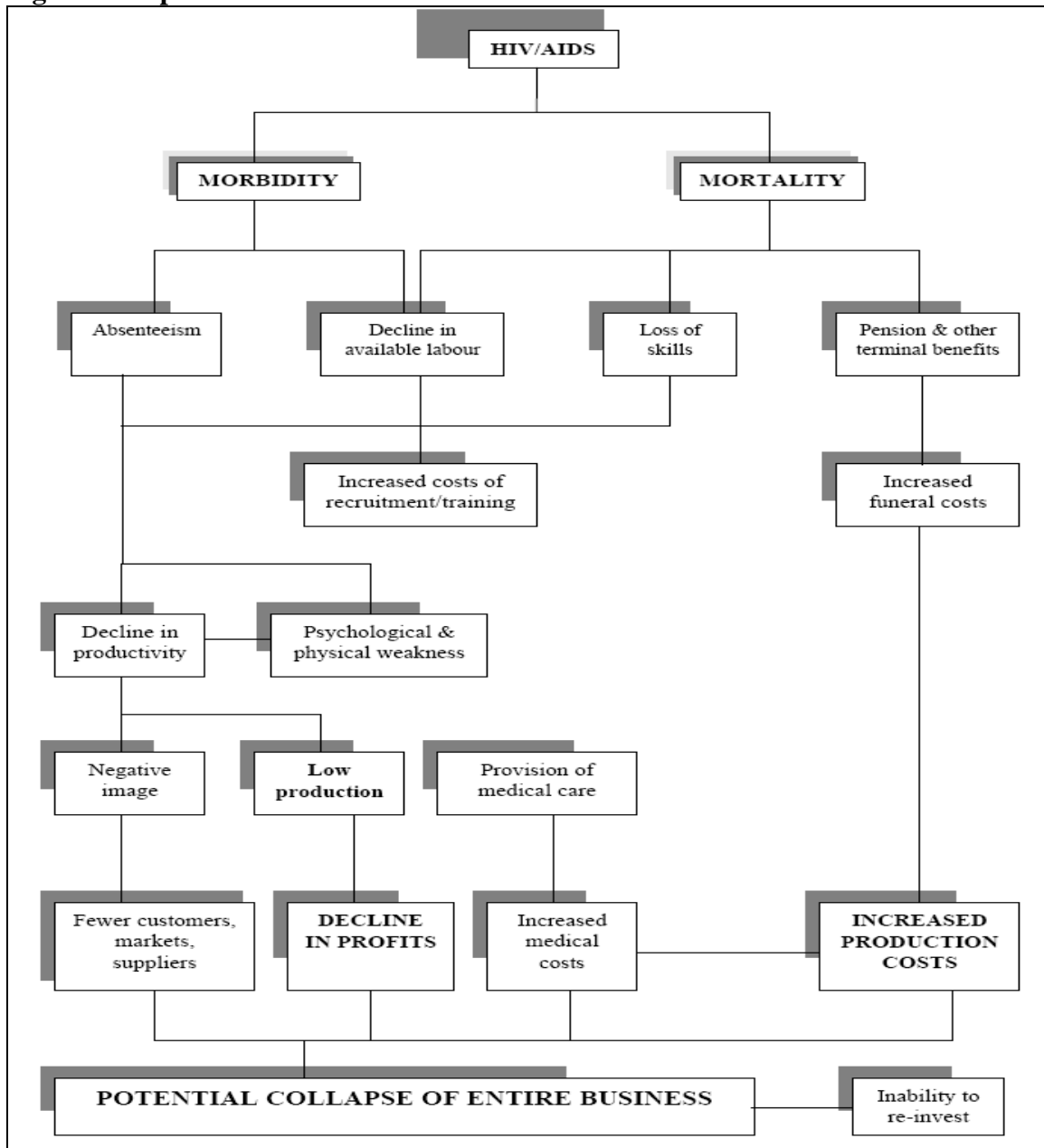
⁹ Ibid.

¹⁰ Rugalema, G., Weigang, S. & Mbwika, J. 1999. HIV/AIDS and the commercial agricultural sector of Kenya: impact, vulnerability, susceptibility and coping strategies. Rome, FAO. (<ftp://ftp.fao.org/sd/sdr/sdre/hivken.pdf>)

¹¹ Ibid.

¹² Muwanga, 2002.

Figure 1. Impacts of HIV and AIDS on commercial farms



(Source: Rugalema et al., 1999)

3.1 Impact on workers in commercial agriculture

Farm workers are largely impacted by HIV in terms of increased expenditure and reduced income. Since many commercial farm workers are casual labourers and therefore do not receive benefits and healthcare from the farms, they bear the burden of these costs themselves. Workers face the cost of medical care, transport to clinics and antiretroviral treatment both for themselves and for family members. Some workers also participate in welfare association funds, which are designed to support a bereaved family. As the number of deaths increases in the face of AIDS, the amount of money to be paid into these funds also increases and thus becomes a bigger expense for workers.

Farmers may also experience reduced income when they cannot work due to health reasons – either because they are sick or to visit clinics, which are generally, only open during working

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hours. Time may also be taken off to attend funerals. When a farm worker falls ill they also risk losing their job and thus a longer-term loss of income. AIDS-related mortality can also mean a permanent loss of income for affected households.

3.2 Impact on the bottom line

Reduced productivity

AIDS-related morbidity and mortality affect productivity in the commercial agriculture sub-sector as a result of lost labour and reduced performance. During a study in Kenya, one of the farms interviewed attributed its failure to meet production targets to AIDS morbidity¹³. Among 25 farms surveyed in Swaziland, more than half reported AIDS to be the leading factor affecting production¹⁴. Productivity is essential for commercial farming as it determines farm output and profitability. Productivity is however undermined by lost labour time as well as reduced level of productivity. In sub-Saharan Africa, crop yields have declined significantly, partly due to AIDS¹⁵.

Production-threatening labour losses (temporary or permanent) arise when a person can no longer work, either due to illness or death. Absenteeism may also result from workers taking time off to seek healthcare and to attend funerals, and as a result of medical retirement. One of the farms interviewed during the study in Kenya found that 75 percent of lost labour time due to illness could be attributed to AIDS¹⁶. Another dynamic of labour losses relates to the competition for labour between commercial and subsistence farming. AIDS-related labour shortages on household farms, or the need to care for family members that have fallen ill, may take away labour from the commercial farming sub-sector.

Illness compromises productivity by reducing on-the-job performance, as a result of physical, physiological and psychological factors associated with HIV. A study carried out on a large commercial farm in Zambia found that average reduction in on the job performance, associated with HIV, was 27 percent in workers in their last year of service¹⁷. HIV also impacts the quality of the labour force and hence that of commercial agricultural outputs. HIV morbidity and mortality leads to the loss of valuable agricultural skills and experience in the commercial agriculture sub-sector, in particular when workers have obtained specialized skills. This loss of institutional memory can have implications on productivity.

Some of the effects of HIV on commercial farm operations are outlined in a brief commissioned by the University of Natal¹⁸:

- Difficulty in planning work;
- Difficulty in meeting agrarian deadlines;

¹³ Rugalema et al, 1999.

¹⁴ Muwanga, 2002.

¹⁵ OCHA, 2004, cited in IOM, 2007.

¹⁶ Rugalema et al., 1999.

¹⁷ Centre for International Health and Development. 2006. HIV/AIDS in the commercial agriculture sector in Zambia: Impact and responses. Boston, USA, Boston University. (<http://www.bu.edu/av/iaen/research-library-1/Rosen%20HIV%20and%20Zambia%20commercial%20agriculture.pdf>)

¹⁸ Pary, S. AIDS BRIEF for sectoral planners and managers – Commercial agriculture sector. Durban, South Africa, University of Natal. (www.heard.org.za/.../aids-brief-for-sectoral-planners-and-managers-commercial-agriculture-sector.pdf)

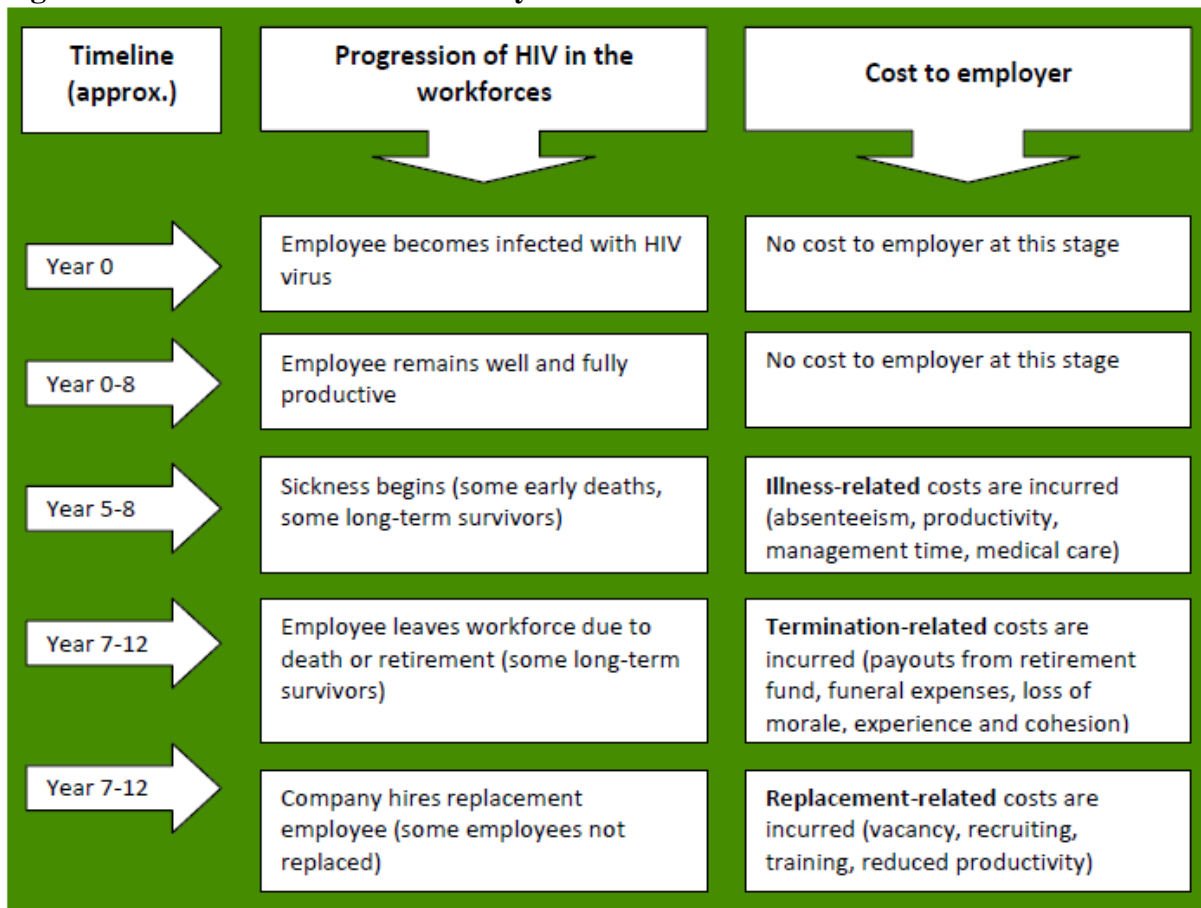
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- Skills poaching as skilled labour becomes scarcer;
- Increased absenteeism, death and associated costs;
- Increased recruitment and training costs;
- Need to employ additional staff with additional costs;
- Younger less experienced workers who may make expensive mistakes;
- Loss of operations and location-specific knowledge;
- Loss of motivation and team continuity;
- Poor morale;
- Increased demands for additional credit, transport, “light” duties;
- Strained employer/employee relationships.

Increased expenditure

The expenditure costs of HIV morbidity and mortality to commercial farms are dependent on a number of factors, including the size of a company, whether the workers are permanent or temporary and the job level and skills of workers employed by the company. Also the costs incurred by a farm will be felt in different time periods (see Figure two).

Figure 2. Timeline of costs incurred by commercial farms due to HIV



(Source: Center for International Health and Development, 2006)

Larger commercial farms that employ permanent workers are likely to incur a greater cost in terms of payouts in employee benefits, such as health coverage and funeral costs. A study in Kenya, for example, found that prolonged AIDS-related morbidity and mortality in the

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workforce was forcing commercial farms to allocate additional resources for medical care and funerals¹⁹. Farms in Swaziland attributed increased costs of production to rising healthcare costs largely associated with HIV, in addition to funeral costs and early retirement on medical grounds²⁰. The same study found that on one of the commercial farms interviewed, operational costs increased seven-fold over a four-year period, largely attributable to HIV.

On the other hand, however, it must be noted that farms that do not offer healthcare would incur costs in terms of reduced labour availability and compromised productivity. For example, workers that are on antiretroviral therapy (ART) and receive healthcare will likely remain healthy and productive for a longer time and therefore farms that support such provisions will be less likely to encounter negative impacts on productivity. Thus, the cost of HIV to commercial farms is not only in terms of expenditure (direct costs) but also stems from the cost of lost productivity (indirect costs).

Commercial farms also face costs in order to replace workers that can no longer work. The associated costs include both sourcing substitute labour and training workers. The level of training costs incurred may be affected by the position being replaced as higher skilled jobs would require more specialized training.

4. Commercial agriculture's response to the epidemic

4.1 Coping strategies of commercial farms

Commercial farms can employ a range of strategies to cope with the impacts of HIV. Strategies might focus on mitigating cost-related impacts of the epidemic or on HIV prevention²¹, as to contain future costs associated with the epidemic. Some coping strategies employed by farms to save on costs include²², for example, early retirement on medical grounds in order to save costs for the company, but also to provide the employ with necessary financial resources and time to plan for the future. Some agro-estates may also hold funerals of employees who have passed away on weekends instead of weekdays as to save on costs and to minimize absenteeism.

Some of the coping strategies employed by commercial farms, however, may have negative implications for employees. For example, an agro-estate in Kenya makes employees pay for medical expenses of their dependents. While this saves the company money, it increases the financial burden for households. Facing financial constraints, household members may engage in behaviours (e.g. commercial sex) that increase their vulnerability to HIV. Some agro-estates have also been known to not offer employment to people with HIV, after having tested them during medical examinations, which is an unethical practice. Finally, some commercial farms may use short-term contracts rather than offering permanent employment in order to avoid having to pay medical expenses. While some farms employ such strategies to save money, they negatively impact employees and their households and may violate human rights and International and national employment guidelines. It is therefore important that national and sector guidelines and laws exist and are applied as to protect the rights of workers.

¹⁹ Rugalema et al., 1999.

²⁰ Muwanga, 2002.

²¹ HIV prevention initiatives are discussed further in the following section.

²² See: Rugalema et al., 1999.

4.2 Responses to AIDS in commercial agriculture

The response of the commercial agriculture sub-sector to AIDS is varied. Some farm owners consider it the responsibility of the government to respond, whereas others were concerned but may lack necessary information and support to respond.

Most documented interventions focus on HIV awareness and education, prevention, as well as voluntary counselling and testing (VCT) services. The majority of interventions are thus aimed at farm workers. Few responses address implementing changes at farm level, such as working and living conditions, service provision, rights of workers and workplace policies. Annex 1 provides information on the International Labour Organizations (ILO) "Code of practice on HIV/AIDS and the world of work", including a checklist for planning and implementing an HIV workplace policy.

HIV workplace and prevention programmes on commercial farms are commonly used to raise awareness among farmers about HIV. HIV education to employees is probably the most common response by small and medium sized commercial farms. Some commercial farms implement health education programmes, while some carry out peer education programmes. For example, some companies in Kenya use puppet shows, drama, choirs and traditional dance groups in order to educate employees about HIV. Commercial farms in both Kenya and Zimbabwe have introduced programmes that use peer education as a way of raising awareness among farmers²³. Other elements of HIV prevention programmes on farms include initiatives to change sexual behaviour among farm workers, as well as condom distribution. The distribution of male condoms is in fact a rather common prevention measure used by agro-estates.

Care and support programmes and services are also made available on some commercial farms. Sexually transmitted infection (STI) control programmes are present on several commercial farms. On-site or mobile counselling and testing services are also available on some farms. Nutritional assistance may also be provided to employees on some farms.

Box 1. Examples of anti-HIV workplace programmes on commercial farms

Hippo Valley Estates Ltd. (Zimbabwe)

Hippo Valley Estates Ltd. – an agro-industrial company that grows and mills sugar cane – has significantly felt the impacts of AIDS. Facing HIV prevalence of nearly 35 percent among workers, the company has taken a holistic approach to HIV by addressing: non-discrimination, employee education, prevention, VCT, and ARV treatment. HIV prevalence among employees has since dropped by nearly half, over a three-year period. Key to the company's strategy is its focus on tackling HIV stigma through peer education, support groups and family health days. (*Source: GBC, 2009*)

Brook Bond Kenya Ltd. (Kenya)

Brook Bond – a tea growing and manufacturing company – is responding to the AIDS epidemic from several angles. Key features of the programme include: an HIV/AIDS policy, awareness raising and education, medical care, learning from best practice, condom distribution, VCT and ARV treatment. More than 80 000 people have benefited from the workplace programme, which targets both employees and their families. (*Source: Kivuitu et al., 2005*)

²³ Rugalema et al., 1999; IOM, 2003.

4.3 Further areas for intervention

Less common are interventions directed towards commercial farm owners about HIV vulnerabilities on farms (e.g. faced by farm workers) and within the sub-sector on the whole. These should be enhanced so that owners are better informed and better positioned to respond to and reduce vulnerabilities.

Farm owners should also be supported to enhance living conditions and services on farms. For example they could organize living arrangements that accommodate family members of workers. Also access to medical services (including ART) should be extended to all workers. This is not only a basic right, but would also be beneficial to farm owners as it would extend the productivity of workers.

Farmers' associations and unions should be strengthened as to be in a better position to support the rights of farm workers. At the same time, workers should be encouraged to join such associations and should be made aware of their rights. Farmers' associations would also be well positioned to support the development of workplace HIV policies for commercial farms²⁴.

National labour policies that support casual labourers in commercial farming should be strengthened. Such policies should address the precarious situation of many temporary workers whose conditions of employment contribute to their vulnerability to HIV.

²⁴ See Annex 1.

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Incorporating HIV considerations in interventions in commercial agriculture

1. Examine some recent projects/programmes in the commercial agriculture sector of the country where you work:
 - Do the projects/programmes have an AIDS component? If so please describe.
 - Have the projects/programmes been successful in reducing the vulnerability of the sub-sector to HIV or in mitigating its impacts?
 - What are some of the challenges these projects/programmes have faced in addressing HIV vulnerability or impacts?
 - If the projects/programmes do not have an AIDS component, how could they have been designed differently to be AIDS-sensitive?

2. Brainstorm a possible intervention that could be implemented in the country where you work to either address the vulnerabilities of the commercial agriculture sub-sector to HIV or to mitigate its impacts:
 - What would be the main objectives and activities of this intervention?
 - How would you evaluate the successful of the intervention? What indicators would you use?
 - What are some of the challenges that may be faced in implementing the intervention?
 - What measures would you take to minimize these challenges?

Activity 2: Addressing vulnerabilities of migrant and casual farm workers employed in commercial agriculture

1. What are the main vulnerabilities faced by migrant and temporary farm workers employed in commercial agriculture in the country where you work?
2. Can you identify any policies or programmes that address this group of workers or the vulnerabilities that they face? If so, please describe.
3. If not, how can existing policies or programmes be adapted to better address the vulnerabilities of this group of workers?

Activity 3: Assessing gender roles and transactional sex in the commercial agriculture sub-sector

1. What are the different vulnerabilities faced by men and women in commercial agriculture in the country where you work?
 - How does this increase their vulnerability to HIV?
 - What kinds of interventions could be implemented to address vulnerabilities?

2. How are men and women in commercial agriculture in the country where you work affected differently by the impacts of HIV?
 - What kinds of interventions could be implemented to mitigate the different impacts of HIV that are faced by men and women in commercial agriculture?

Activity 4: Organizing HIV prevention and treatment services for commercial farm workers

Design an HIV prevention and treatment project/programme for the commercial agriculture sub-sector:

1. Identify the partners to be involved in the project from the health and agriculture sectors, as well as NGOs, CBOs, etc.
2. How would the project/programme be funded?
3. What would be the key elements/activities of this project/programme (e.g. education, service provision, etc.) and who would implement the different components?
4. Describe the key concepts/messages that would be communicated in order to reduce risky sexual behaviour? Would the messages be different for men and women? Please describe.
5. How would you convey these messages (e.g. peer education, theatre, etc.)
6. What kinds of treatment services would be included in this project/programme (e.g. ARTs, nutrition support, etc.)? How would you ensure access to these services?
7. How would the results of this project be assessed?

Activity 5: Strengthening labour policies to support workers in commercial agriculture

1. What labour policies in the country where you work are applicable to the commercial agriculture sub-sector? Briefly describe them.
2. Do they address the situation of migrant or casual agricultural workers? If so, please describe.
 - Are they applied?
 - If not, what elements of the policy could be adapted to address migrant or casual workers?
3. Are HIV considerations included in these policies? If so, please describe.
4. How do you think such policies would have an impact on AIDS in the sub-sector?

SUMMARY REMARKS AND LESSONS LEARNED

The commercial agriculture sub-sector has not been immune to the effects of AIDS. The impacts on the different components of the sector, as well as the vulnerabilities faced are multifaceted. Commercial farm workers face vulnerabilities stemming from the seasonal and insecure nature of the work, coupled with poor living conditions, limited access to health services and related factors that increased risk of HIV infection and make them susceptible to its impacts. Commercial farms on the other hand are vulnerable due to their high dependence on human labour and thus the subsequent implications of HIV-related morbidity and mortality. These impacts extend to commercial farms' bottom line as they face reduced productivity and profit, as well as an increase in expenses as a result of the epidemic.

In order to protect their workers, some commercial farms have put in place a variety of programmes of which core aspects include:

- Raising awareness about the disease;
- Treatment of opportunistic infections and STIs;
- Provision of voluntary testing and counselling (VCT);
- Provision of anti-retroviral therapy (ART).

In some instances, commercial farms are members of business AIDS coalitions, which serve as a platform for exchanging knowledge, experience and sharing of resources. These responses, however, need to be enhanced and accompanied by AIDS workplace policies and strategies as to protect the rights and wellbeing of workers. This is the responsibility not only for farm owners, but also of the agriculture sector and government.

Lessons learned

1. Due to the high dependence of the commercial agriculture sub-sector on human labour, responses must address the vulnerabilities and impacts faced by its labour force.
2. Coping strategies of commercial farms cannot look exclusively at the bottom line, but must also take into consideration the rights and wellbeing of workers.
3. Investing in the wellbeing of workers (e.g. prevention and treatment programmes, healthcare, etc.) has positive long-term impacts on the productivity of the workforce. This can help contain future costs of commercial farms stemming from the recruitment and training of replacement labour.
4. Collaboration between commercial farms, unions, AIDS associations, government and workers themselves is essential for an effective response to the epidemic in the sub-sector.
5. The agriculture sector has an important role to play in terms of reducing vulnerabilities and impacts of the epidemic on the sub-sector and on those working in it.
6. Policy and programmes should focus on the comparative advantage of the agriculture sector in general and the commercial agriculture sub-sector in particular.

ACRONYMS AND ABBREVIATIONS

| | |
|------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral therapy |
| ARV | Antiretroviral (medicine) |
| FAO | Food and Agriculture Organization of the United Nations |
| GDP | Gross domestic product |
| HIV | Human immunodeficiency virus |
| ILO | International Labour Organization |
| IOM | International Organization for Migration |
| SADC | South African Development Community |
| STI | Sexually transmitted infection |
| VCT | Voluntary counselling and testing |

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South African Human Rights Commission. 2003. Inquiry into human rights violations in farming communities. Johannesburg, South Africa. (<http://www.info.gov.za/otherdocs/2003/farming/nat.pdf>)

ANNEX 1 – HIV workplace policy – guidelines from the “ILO code of practice on HIV/AIDS and the world of work”²⁵

The ILO code of practice contains a set of guidelines to address HIV in the work environment, within the framework of promoting decent work. It concerns all employers and workers in public and private sectors and applies to all types of work, both formal and informal. The rights and responsibilities for addressing HIV issues in work environments are threefold, including those of Governments and their competent authorities, employers and their organizations, as well as workers and their organizations. The following areas of action or covered in the guidelines:

- i) Prevention of HIV;
- ii) Management and mitigation of the impacts of HIV and AIDS on the world of work;
- iii) Care and support for workers infected and affected by HIV;
- iv) Elimination of HIV-related stigma and discrimination.

The key principles of the code of practice include:

- HIV as a workplace issues: treated like any other serious illness/condition; the workplace has a role to play in response to the epidemic.
- Non-discrimination: no discrimination against workers on the basis of real or perceived HIV status.
- Gender equality: recognition of gender dimensions of HIV; importance of gender equality and empowerment of women in preventing the spread of HIV.
- Healthy work environment: a healthy and safe work environment so as to prevent HIV transmission.
- Social dialogue: cooperation and trust between employers, workers, representative bodies, government, with active involvement of workers living with or affected by HIV.
- HIV screening should not be required.
- Confidentiality: of personal information regarding a worker's HIV status
- Continuation of employment relationship: HIV infection is not a cause for termination of employment
- Prevention: prevention strategies can include behaviour change, knowledge, treatment, a non-discriminatory environment.
- Care and support: affordable health services for all workers, including those with HIV

Checklist for developing and putting into action a workplace policy on HIV

“Employers, workers and their organizations should cooperate in a positive, caring manner to develop a policy on HIV/AIDS that responds to, and balances the needs of, employers and workers. Backed by commitment at the highest level, the policy should offer an example to the community in general of how to manage HIV/AIDS. The core elements of this policy, developed in sections 6–9 of this code include information about HIV/AIDS and how it is transmitted; educational measures to enhance understanding of personal risk and promote enabling strategies; practical prevention measures which encourage and support behavioural change; measures for the care and support of affected workers, whether it is they or a family

²⁵ ILO. 2001. An ILO code of practice on HIV/AIDS and the world of work. Geneva. (http://www.ilo.org/public/english/protection/trav/aids/code/languages/hiv_a4_e.pdf)

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member who is living with HIV/AIDS; and the principle of zero tolerance for any form of stigmatization or discrimination at the workplace. The following steps may be used as a checklist for developing a policy and programme:

- HIV/AIDS committee is set up with representatives of top management, supervisors, workers, trade unions, human resources department, training department, industrial relations unit, occupational health unit, health and safety committee, and persons living with AIDS, if they agree
- Committee decides its terms of reference and decision-making powers and responsibilities
- Review of national laws and their implications for the enterprise
- Committee assesses the impact of the HIV epidemic on the workplace and the needs of workers infected and affected by HIV/AIDS by carrying out a confidential baseline study
- Committee establishes what health and information services are already available – both at the workplace and in the local community;
- Committee formulates a draft policy; draft circulated for comment then revised and adopted
- Committee draws up a budget, seeking funds from outside the enterprise if necessary and identifies existing resources in the local community;
- Committee establishes plan of action, with timetable and lines of responsibility, to implement policy
- Policy and plan of action are widely disseminated through, for example, notice boards, mailings, pay slip inserts, special meetings, induction courses, training sessions;
- Committee monitors the impact of the policy;
- Committee regularly reviews the policy in the light of internal monitoring and external information about the virus and its workplace implications”

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A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

9

MODULE

**Developing AIDS Policies
in the Agriculture Sector**



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AIMS

The aims of this module are the following:

1. To develop an understanding of the role and importance of AIDS policies in the agriculture sector.
2. To present the participatory policy development process and its key steps.
3. To identify the main elements of the agriculture sector policy implementation process.

OBJECTIVES

Upon completing the module, the learner should:

1. Have a deeper understanding of the role of AIDS policies in the agriculture sector.
2. Know key steps in the participatory policy development process.
3. Be familiar with principal elements of the implementation process.

QUESTIONS FOR REFLECTION

1. Why is an agriculture sector AIDS policy necessary?
2. How should the agriculture sector be defined and what should it include?
3. What would happen if the agriculture sector does not have an AIDS policy?
4. Should such a policy be binding to the entire agriculture sector or just to the segment managed by the Ministry of Agriculture?
5. What are the key challenges in developing and implementing an AIDS policy?
6. Should a policy be implemented at all levels of the sector? Why?
7. Should a policy be systematically monitored, evaluated and regularly reviewed and adapted? Why?

INTRODUCTORY REMARKS

This module presents the learner with an overview of the role of AIDS policy in the agriculture sector and introduces the participatory policy development process. To facilitate its wider use, the focus of the module is on the technical side of policy making, while country-specific policy clearance mechanisms are not explicitly addressed.

READINGS: AN OVERVIEW OF DEVELOPING AIDS POLICIES IN THE AGRICULTURE SECTOR

1. The role of policy

The role of policy is to frame and guide practical action. Good, flexible and responsive policies are central to the development of a comprehensive response to AIDS. In its original meaning, the term “policy” was synonymous with wisdom and prudence: these are the qualities that should characterize any policy of substance.

The AIDS epidemic changes some of the basic assumptions upon which agricultural policies are designed and implemented – for example, it significantly alters the size and demographic structure of the agricultural labour force. The agriculture sector has at its disposal a number of policy tools that could be effective in reducing vulnerability to HIV infection and in building resilience to the socio-economic impacts of the epidemic.¹

The overall aim of an agriculture sector AIDS policy is to:

- Guide a comprehensive and explicit agriculture sector response to the epidemic.
- Integrate this response within a national AIDS policy framework.
- Bring the response in line with international agreements, conventions and principles.

While an agriculture sector policy must acknowledge and be informed by national policy frameworks and guidelines, its primary goal is to deal with issues that are specific to the agriculture sector. This means that the general features of a national AIDS policy – which are often modelled on a health sector approach – should be expanded to specifically address the functions and structures of the agriculture sector. It is also important for such policies to be aligned with international agreements and conventions, which now inform many aspects of policy-making, including workplace policies and commitments to gender equality and human rights. Any policy that does not explicitly take into account these issues is likely to be judged incomplete and inadequate by the international community.

An agriculture sector AIDS policy should take into account all aspects of the agriculture sector. In particular, the policy should make routine management of agricultural matters sensitive to HIV, with an emphasis on protecting and responding to those infected and affected by the epidemic. To attain this, the policy should lay down a number of achievable goals, objectives and guidelines that make planning, budgeting, managing, monitoring and reporting at every level of the agriculture sector sensitive and responsive to both direct and indirect impacts of HIV. A related, but no less important, feature of an AIDS agriculture policy will be its capacity to contribute to the existing policy goals of the agriculture sector, such as increasing production and strengthening rural livelihoods. Thus, from the agriculture sector's point of view, having an AIDS and agriculture policy is a win-win proposal in the long run.

1.1 Defining the agriculture sector

If an agriculture sector policy on AIDS is to be relevant to the needs of the entire sector, then it has to be based on a consensus on what the agriculture sector includes and excludes. In

¹ See du Guerny 1999, Topouzis 2003, Jayne et al. 2003 and Rau et al. 2008.

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most countries an agriculture policy on AIDS will be institutionally “hosted” by the Ministry of Agriculture (MoA), in which case the policy should reflect the MoA’s mandate. It needs to be emphasized that the functions and responsibilities of a MoA vary from country to country:

- In nearly all countries the MoA’s mandate covers the basic dimensions of agriculture: crop management, agricultural engineering and mechanization, extension services and agricultural education, agricultural policy and planning. Furthermore, many MoAs are mandated to manage agricultural cooperatives and other agriculture-related organizations.
- Other technical areas – such as land use and land development, livestock and/or animal production and veterinary services, forestry, fisheries and water affairs – may or may not be part of the mandate of the MoA. Similarly, nutrition issues and matters related to agricultural trade may not necessarily be assigned to the MoA.

Every country needs to agree on an operational definition of its agriculture sector for the purposes of policy development and for defining levels and sub-sectors to be included in the sector’s policy on AIDS.

1.2 Key players in the agriculture sector

While MoAs have both the mandate and the responsibility to optimize food production, foster sustainable use of agricultural resources and ensure food security for all, there are many other key players in the sector with significant capacity, responsibility and influence. These groups may include farmers’ organizations, private and independent producers, workers’ unions, civil society organizations active in rural areas, researchers and members of agricultural teaching institutions, funding agencies and other development partners. Although the situation will vary from country to country, it can be expected that some (or all) of these players will add value to the policy making process. In turn, they are likely to be pivotal in implementing an agriculture sector AIDS policy – or opposing it in the event that they are not engaged or consulted in the policy making process.

1.3 Policy development as an advocacy intervention

The process of policy development, adoption and implementation should be seen and conducted as a national advocacy intervention. For instance, the launching of a policy on an issue as important as HIV in agriculture, backed by an achievable action plan for implementation, often represents a signal of great importance. Such an intervention, among other things, can greatly help in generating support for addressing social and economic vulnerabilities in rural settings and mobilizing funding from both national and international sources.

1.4 Flexibility of an adaptive policy framework

It is well known that the impacts of HIV and AIDS change over time and vary from one geographic area to another. These dynamics suggest the need for a flexible policy framework with built-in provisions for regular revision and change. In many countries this implies a departure from the traditional way of formulating policy and therefore it may take time to be accepted. While many MoA officials may have reservations about regular (e.g. annual) policy review, it is important to build the policy as a flexible and responsive guiding framework that allows context- and time-specific implementation and decentralized delivery.

1.5 Comprehensive approach to policy themes

There is now a general consensus that AIDS policies need to address the whole continuum of prevention, treatment, care and support. They also need to address workplace issues and response management, as well as agricultural production, food security to rural livelihoods. It is imperative for the agriculture sector to move from a narrowly defined focus on a small number of isolated interventions towards a more comprehensive approach. There needs to be a focus on ensuring political will and technical capacity to manage the response process. Specifically, there is a need to rethink and advance the role of agricultural policy in the national response to AIDS. Jayne et al. summarize this role as follows:

“One of the most important ways in which agricultural policy can contribute to reducing the spread and consequences of AIDS is to contribute effectively to poverty reduction. Risky sexual behaviors are at least partially related to limited opportunities to earn a livelihood through other means. Moreover, raising households’ and communities’ living standards over the long-run through productivity-enhancing investments in agricultural technology generation and diffusion, improved crop marketing systems, basic education, infrastructure, and governance will improve their ability to withstand the social and economic stresses caused by the disease. Greater focus on these productivity-enhancing investments is likely to be a critical part of an effective response to the HIV/AIDS pandemic (...).”²

1.6 Follow-up steps

Developing a draft agriculture sector AIDS policy is only the first step towards policy implementation. Any draft policy must be reviewed within the MoA, the wider government and, in some cases, development partners. The process may need significant time and changes may need to be made to the draft policy document before official approval and ratification can take place. Those leading the policy development process need to be prepared to respond to such requests swiftly and effectively.

2. Quick guide to the participatory policy development process

Experience shows the significant advantages of a short, proactive and participatory approach to policy development and its implementation. The recommended process steps are described in detail in the subsequent sections. It is important to stress that innovation and speed are of the essence and that a good policy does not necessarily need a long preparation period. It has been documented that speed and innovation, if properly managed, do not reduce the quality of outputs.

2.1. Ensure support of key stakeholders

The first step in developing a policy should be to obtain support of key stakeholders, including upper-level managers of the Ministry of Agriculture. This is crucial to ensure that the policy development process, as well as the action plan produced to implement the policy, have broad sponsorship, legitimacy and sufficient resources allocated. In practical terms, this means establishing a stakeholder group broadly representative of the MoA and other important key players. As a rule of thumb, this stakeholder group should have a maximum of

² Jayne, T. S., Villarreal, M., Pingali, P. and Hemrich, G. 2005. HIV/AIDS and the agricultural sector in eastern and southern Africa: anticipating the consequences. Rome, FAO.
(<http://www.ifpri.org/pubs/books/oc50/oc50ch08.pdf>).

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40 members and for credibility's sake not less than 20. The composition of this group is critical and requires the utmost political sensitivity.

Once this stakeholder group has been established, consensus should be reached on the goals, scope and objectives of the policy development process, as well as on the decision-making processes and procedures to be followed. Discussing various aspects of the policy development process within the stakeholder group is very important to ensure transparency and buy-in from all stakeholders. The following questions will help to structure the policy development process:

- Who will lead the policy development process (e.g. officials from one or more concerned government ministries or agencies, or external consultants)?
- What will be their specific roles and responsibilities?
- How will other stakeholders be involved (e.g. as part of the stakeholder team or as a source of information)?
- Will international organizations be involved? If yes, how?
- How will coordination and transparency be ensured?
- What resources (financial and human) are required and available? If there is a shortfall in available resources, how will this be addressed?
- What is the expected time frame?

2.2. Define guiding principles

An agriculture sector AIDS policy must be guided by a set of principles that reflect the rights and responsibilities of all key players in the sector. In addition, the principles must correspond to the country's national AIDS policy or guidelines, and must be in line with international conventions, guidelines and regulations, as well as to national laws and policies. In particular, the principles must take into account gender equity objectives and recognize the universality of human rights. To be effective, these principles should address all key issues in the agriculture sector. For example, the Malawi forestry sector strategy for 2007-2011³ is based on the following guiding principles:

- Multi-sectoral approach and partnerships
- Greater involvement of people living with HIV
- Good governance, transparency and accountability
- Openness, non-stigmatization and non-discrimination on the basis of HIV status
- Interrelatedness of interventions
- Motivated, strong and dynamic leadership

2.3. Undertake a situation analysis

The purpose of this step is to:

- a) Examine how the AIDS epidemic affects the agriculture sector.
- b) Assess how various parts of the sector are responding to these impacts and what the effects are of those responses.

³ See Annex 1.

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- c) Identify promising entry points for policy intervention in the areas of prevention, support and impact mitigation.

The situation analysis will also provide a baseline of the current situation, which will be useful to subsequently measure and evaluate the impact of policy interventions.

The following tips could be useful when undertaking the situation analysis:

- Consult different stakeholders: Different institutions will have relevant information to contribute to the review and analysis of the existing situation. Government ministries or agencies involved in the agriculture and food sectors, public health, trade and development planning are likely to have important information. The food industry, academic and scientific institutions, as well as civil society organizations may also have useful views and insights.
- Take stock of existing reports, evaluations and assessments: Many countries have already assessed the interlinkages between the AIDS epidemic and various aspects of agriculture. In some cases, a lot of relevant information may have already been gathered, in which case the main task will be to review, analyze, and synthesize this information. Making use of existing reports and assessments will save time and resources.
- Use different techniques to gather and analyze information: Information can be collected and analyzed in different ways, depending on needs and the availability of time and financial resources. Possible methods to gather information include: desk review of documents and reports, key informant interviews, focus group discussions and field surveys.
- Double-check information and emphasize confidentiality: Double-checking information collected from different sources is necessary to ensure accuracy. Emphasizing confidentiality may help to increase access to all relevant information, including information that is considered sensitive.

In most cases the outcome of the situation analysis will consist of an analytical paper with data and findings regarding the links between AIDS and agriculture, as well as a list of entry points for policy interventions. The paper should be detailed but not too technical so that it can be read and understood by all relevant stakeholders. It should provide a set of preliminary, yet carefully thought-out recommendations on what types of policy action would be required to improve the current situation.

2.4. Define policy themes and desired outcomes

To be comprehensive, an agriculture sector AIDS policy must address four internationally recognized policy and implementation themes:

1. Prevention
2. Treatment, care and support
3. Workplace issues
4. Management of the response

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By addressing all four of these themes, the risk of disproportionately focusing on just one and excluding the others will be avoided. It is likely that many of the interest groups involved will have a single-theme focus. However, within the wider stakeholder group these partisan interests are likely to merge and thus make it possible to develop a comprehensive perspective, within which each of the four themes can be adequately addressed.

One important clarification is needed here: In terms of an agriculture policy on AIDS, “prevention” means reducing vulnerability to HIV by addressing the underlying context in which risk behaviours take place. It needs to be stressed that agricultural policy measures to reduce vulnerability can influence the risk of HIV exposure, but do not eliminate it. It follows that “policies to reduce vulnerability do not replace policies to reduce risk, but should create positive synergies”⁴.

The following tips can be useful in defining desired outcomes of an agriculture sector AIDS policy:

- Focus on the future (without neglecting the current issues): A goal for each theme should be established, which will describe the “desired outcome” once the policy is implemented. The goals, taken together, should portray an improved situation in the agriculture sector, brought about by the successful implementation of the AIDS policy at every level and in every area. In other words, the desired outcomes will be the result of achievements during the planned implementation period. Achieving the desired outcome requires that: (a) everyone plays their part, (b) adequate resources are available, and (c) an effective monitoring and reporting system is in place.
- Consult key stakeholders and other concerned groups: It is recommended to include representatives of all key stakeholders in the discussions about desired outcomes. This can also contribute to the development of a set of shared expectations, which could later help to ensure that these stakeholders are committed to taking the necessary steps to achieve desired outcomes.
- Use facilitation where there are many diverging views: It is important to be aware that stakeholders may have very different views about the “desired outcomes”, reflecting their particular action agendas, roles, interests and concerns. Therefore, professional facilitation (from inside or outside the country) may be necessary to promote open discussion and enable diverse views to be voiced. Encouraging particular categories of stakeholders to elaborate their own vision separately before trying to reach consensus on one vision may also assist the process.
- Consider experiences and lessons from other countries: During the discussions about desired outcomes, it may be helpful to consider what can be learned from other countries. Consulting case studies may be useful in this regard.

2.5. Define priority areas for policy intervention

Once there is agreement on the desired outcomes, the next step is to define priority areas for policy intervention. For each overarching theme goal, a set of objectives and activities should

⁴ du Guerny, J. 1999. AIDS and agriculture in Africa: can agricultural policy make a difference? *Food, Nutrition and Agriculture*, 25: 12-17. (<ftp://ftp.fao.org/docrep/fao/X4390t/X4390t03.pdf>).

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be listed to address each key issue and focus attention. A checklist should also be included for implementation. The output of this step will be a comprehensive list of activities that would be required in order to achieve desired future outcomes.

The following tips can be useful in defining priority areas for policy intervention:

- Propose as many reasonable alternatives as possible: When it comes to addressing AIDS in the agriculture sector, there is no “silver bullet” solution. Those involved should feel comfortable to share ideas without any obligation or commitment. Involving an external facilitator may help stakeholders identify priority options they may not have otherwise considered.
- Review the costs and benefits of the various options identified: Costs and benefits can be considered in qualitative and/or quantitative terms. It is often difficult to measure the costs and benefits of interventions against the AIDS epidemic. This is because it is basically impossible to quantify the cost of a life or to put a monetary value on the aggregate social and economic benefits of HIV prevention and impact mitigation. The same is true for malaria⁵ and many other diseases of poverty. However, it should be noted that controlling the spread of HIV was number one when, in 2004, the world's top nine economists ranked 17 categories of development interventions in terms of cost-benefit analysis.⁶
- Actively communicate and advocate the rationale and the content of the policy: Informing high-level officials about the outcome of the situation analysis is important, as is the need to inform them about the policy that was developed. It is essential to clearly explain and highlight the benefits to be achieved through the implementation of this policy. Involving the national media (e.g. inviting newspapers or television stations to report on the preparation of the policy) can support communication and advocacy efforts. Organizing a half-day workshop or having a signing ceremony for representatives of the main stakeholder organizations involved can also be useful to promote and visibly demonstrate high-level endorsement.

Country-specific examples of agriculture sector AIDS policies are presented in the Annexes. These examples reflect large differences in the scope and extensiveness of the policy interventions developed in different countries. The reader is invited to spend some time studying these examples and to consider their structure and components, clarity and internal consistency, the types of interventions included, their relative importance, differences in descriptive detail, as well as strong features and possible shortcomings.

3. Implementing an agriculture sector AIDS policy

The work invested in developing an agriculture sector AIDS policy will be of little value if steps are not taken to ensure that at least some of its major thrusts are implemented. On the other hand, it is usually unrealistic to expect full implementation of all of the recommendations in the policy document. The process of formulating a policy should itself

⁵ Packard, R. M. 2009. "Roll back malaria, roll in development"? Reassessing the economic burden of malaria. *Population and Development Review*, 35(1): 53-87.

⁶ Duddy, J. 2008. What role does cost-benefit analysis play in development issues? Association for Women's Rights in Development. (<http://www.awid.org/eng/Issues-and-Analysis/Library/What-role-does-cost-benefit-analysis-play-in-development-issues>)

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include elements for the implementation stage, and for that purpose it is helpful to be aware of the mechanisms of policy implementation while designing the policy document.

Principal elements of the implementation process include:

- Communicating the policy both “vertically” (to different actors within the agriculture sector) as well as “horizontally” (to actors in other sectors).
- Developing a medium-term implementation plan, from which short-term (e.g. annual) implementation plans can be formulated.
- Establishing an implementation secretariat or some other high-level committee designated with the responsibility to manage and monitor the execution of the policy.
- Mobilizing the necessary resources (human, financial, etc.) and support both within the country and internationally.
- Executing the policy courageously, keeping in mind that implementation requires persistence and a long-term commitment on the part of those involved.

Even with the best of intentions, the policy implementation process may encounter a range of obstacles along the way. One of the keys of successful implementation is a carefully structured implementation monitoring system that enables frequent and rapid reporting to the implementation secretariat on progress and problems in each of the areas of the policy. The implementation secretariat needs to have the authority to take measures to accelerate the implementation process in areas where progress is slow or delayed – or to recommend such measures to higher authorities (e.g. the cabinet).

Policy implementation is a continuing effort. While a solid launch of the policy is important, maintenance and concerted implementation is vital. The policy itself must be kept relevant. If suitable controls and feedback mechanisms are built into the implementation process, then a policy can have tangible consequences. If no corrective mechanisms are put in place, then the policy risks becoming irrelevant and ineffective.

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Analysis of different agriculture sector policies

Look at the country-specific examples of agriculture sector AIDS policies presented in the Annexes. Consider their structure, scope and internal consistency, and answer the following questions:

1. What kinds of interventions are included?
2. What is their relative importance and what are their differences?
3. Which are in your opinion the strongest features?
4. Can you identify any possible shortcomings?

Write down your answers on paper. In groups compare your answers and discuss areas of agreement and disagreement.

Activity 2: Identification of interest groups within the agriculture sector

Consider the agriculture sector in your country. Agree on a definition and list interest groups within the sector.

1. What are their capacity, responsibility and power?
2. How can they add value to policy making?
3. Can they have a role in implementing an agriculture sector AIDS policy?
4. How can they be involved in the process?

SUMMARY REMARKS AND LESSONS LEARNED

This module is based on the viewpoint that in AIDS-affected countries with agriculture-based economies, an agriculture sector AIDS policy is an indispensable instrument of good governance. The importance of such a policy stems from the fact that the epidemic is first and foremost a management challenge. The policy development process should be approached as an opportunity to build on the comparative advantage of the agriculture sector to respond to long-standing systemic and structural problems, particularly those related to socio-economic inequalities and dysfunctions within rural societies.

Policy development in the era of AIDS is the business of every stakeholder and not just the government. The involvement of sectoral partners in interactive consensus-building can add significant value to the policy development process. Furthermore, it presents an opportunity to make effective use of participatory policy making methods, strengthen partnerships between stakeholders, and thus increase the agriculture sector's potential to respond to the epidemic.

The development of an agriculture sector AIDS policy must be seen as a reinforcement of the wider national policy framework of each country, and must be compliant with international policies, conventions, guidelines and protocols.

What may be less evident is the utmost importance of linking the agriculture response with policies and strategies developed by other sectors – in other words, with other government ministries and agencies, such as national AIDS commissions. A multi-sectoral context is critical for building a truly holistic response to such issues as household vulnerability, food security, and ART roll-out.

Lessons learned

1. Good, flexible and responsive policies are vital for a comprehensive AIDS response.
2. An agriculture sector AIDS policy should take into account all aspects of the agriculture sector. It should address issues of prevention, treatment, care and support, as well as workplace issues and response management, agricultural production, food security and rural livelihoods.
3. An agriculture sector AIDS policy should be informed by national policy frameworks and guidelines. It should be in line with international agreements, conventions and principles, while dealing with issues that are specific to the agriculture sector.
4. In addition to the Ministry of Agriculture, it is important that other key players in the sector are included in the policy development process as this will facilitate commitment from the entire sector. Communication is essential in this regard as it ensures transparency as the policy is developed and implemented.
5. Key elements of a successful policy development process include: (a) ensuring buy-in from all key players in the sector; (b) defining key principles to guide the policy; (c) conducting a situation analysis in order to have a baseline of the current situation, upon which impacts of policy interventions can also be measured; (d) defining policy themes, desired outcomes and priority areas for policy intervention.

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6. An implementation plan, with short and long-term objectives, should be developed to ensure timely execution of the policy. This should also include feedback mechanisms in order to respond to changes in the situation.

ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| AFFLS | Adult farmer field and life school |
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral therapy |
| ARV | Antiretroviral [medicines] |
| ASLM | Agriculture sector line ministry |
| CBO | Community-based organization |
| CSO | Civil society organization |
| FAO | Food and Agriculture Organization of the United Nations |
| HIV | Human immunodeficiency virus |
| JFFLS | Junior farmer field and life school |
| LGA | Local government authority |
| MoA | Ministry of Agriculture |
| NGO | Non-governmental organization |
| TB | Tuberculosis |

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ANNEX 1 – Malawi fisheries HIV and AIDS strategy (2007-2011)⁷

| Goals: <ol style="list-style-type: none"> 1. Prevent and control the spread of HIV and AIDS. 2. Reduce the negative impact of HIV and AIDS on the fisheries sector. 3. Improve the livelihoods and quality of life of those infected and affected by HIV and AIDS, their families and the society to which they belong. | | |
|---|--|--|
| Priority areas | Actions | Indicators |
| 1. Improved policy framework | <ul style="list-style-type: none"> • Link the fisheries policy framework to the HIV and AIDS policy. | <ul style="list-style-type: none"> • Fisheries Policy is consistent with National HIV and AIDS Policy. |
| 2. Strengthened programme leadership | <ul style="list-style-type: none"> • Enhance commitment to implement the HIV and AIDS strategy in the fisheries sector | <ul style="list-style-type: none"> • Functional Management Committees in place at all levels. • Management appraisal systems in assessing performance in delivery of HIV and AIDS Strategy put in place and adopted. |
| 3. Effective programme coordination and partnerships | <ul style="list-style-type: none"> • Establish and strengthen mechanisms for coordinating the implementation of the strategy in the sector. | <ul style="list-style-type: none"> • Existence of HIV and AIDS Coordination Units in the fisheries sector that are functional. |
| 4. Capacity building | <ul style="list-style-type: none"> • Build institutional and individual capacity to effectively implement the strategy at all levels in the sector. | <ul style="list-style-type: none"> • Number of HIV and AIDS units established and functional. • HIV and AIDS programmes incorporated and integrated in policies and programmes. • Reduced levels and incidences of stigma and discrimination amongst employees and communities. • Partners working in Fisheries sector include HIV and AIDS in their programmes. |
| 5. Prevention of further spread of HIV infection | <ul style="list-style-type: none"> • Protect workers and communities from HIV and AIDS through improved knowledge and behavioural change. | <ul style="list-style-type: none"> • Number of concrete initiatives developed and implemented to protect workers and communities. • Improved knowledge, attitude and practices to prevent HIV and AIDS amongst workers and communities. |
| 6. Improved access to HIV and AIDS treatment, care and support services | <ul style="list-style-type: none"> • Make HIV and AIDS treatment, care and support services more accessible to fisheries workers and | <ul style="list-style-type: none"> • More employees and their spouses are provided with nutritional and medical support. • Partnerships with service providers and |

⁷ The excerpts presented in the annexes are in original wording. The focus is on: (a) overall objectives, (b) strategies for achieving them, and (c) specific activities/actions. The full version of a strategy document generally also includes justifications of the various objectives, descriptions of guiding principles and the desired outcomes, lists of key actors for each strategic area, information on management and coordination arrangements, and so on.

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| | | |
|-------------------------------------|--|--|
| | communities. | <p>support groups for people living with HIV and AIDS established.</p> <ul style="list-style-type: none"> • Increased mobilization of NGOs and CBOs to provide homecare to people living with HIV and AIDS in fishing communities. |
| 7. Sustainable impact mitigation | <ul style="list-style-type: none"> • Mitigate the impacts of HIV and AIDS in a sustainable way. | <ul style="list-style-type: none"> • Improved income and nutritional levels of infected and affected persons and their households. |
| 8. Dynamic research on HIV and AIDS | <ul style="list-style-type: none"> • Strengthen and diversify research on HIV and AIDS in the fisheries sector to formulate and implement evidence-based policies and programmes. | <ul style="list-style-type: none"> • Action plan on research and HIV and AIDS developed and implemented. • More linkages and joint research with international research centres. |
| 9. Financing | <ul style="list-style-type: none"> • Mobilize and effectively use resources to implement the strategy. | <ul style="list-style-type: none"> • Number of HIV and AIDS programmes and the extent of implementation. • Amount of funds allocated vs. disbursed. |
| 10. Improved awareness | <ul style="list-style-type: none"> • Raise awareness through information, education and communication. | <ul style="list-style-type: none"> • More stakeholders are aware of the HIV and AIDS strategy. • Number of HIV and AIDS resource centres established. • Messages specific to the impact of HIV and AIDS in the fisheries sector developed and disseminated. |
| 11. Monitoring and evaluation | <ul style="list-style-type: none"> • Effectively monitor and evaluate implementation of the strategy. | <ul style="list-style-type: none"> • Monitoring and evaluation system for HIV and AIDS developed. |

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ANNEX 2 – Tanzania agriculture sector strategy for HIV/AIDS and other related chronic diseases (2006)

| Objective 1: Empower orphans and vulnerable children in agricultural, pastoral and fishing communities and provide them with opportunities for long-term livelihood security | |
|---|--|
| Strategies | Key activities |
| Facilitate transferring agricultural knowledge, entrepreneurial skills as well as life skills to orphans and vulnerable children in agricultural, pastoral and fishing communities through Junior farmer Field and life Schools (JFFLS) | <ul style="list-style-type: none"> • In targeted districts, select JFFLS participants and local facilitators running the JFFLS • Adapt training materials and train local facilitators • Awareness raising at community level and establish school site • Run year-round curriculum with children, comprising practical field activities, agricultural topics, life skills, entertainment and school feeding • Assist graduates with youth associations and entrepreneurship skills |
| Build capacity of extension workers to consider and act on the children in terms of agriculture, health and community development | <ul style="list-style-type: none"> • Adapt training materials and select extension workers • Organize training workshops |
| Improve nutrition of orphans and vulnerable children through school feeding programmes and food rations for food insecure households that are taking care of orphans and vulnerable children | <ul style="list-style-type: none"> • Select schools and food insecure households in vulnerable and HIV/AIDS affected areas • Provide the necessary food ratios and monitoring intake |
| Objective 2: Empower rural widows and female headed households to reduce their vulnerability and to mitigate the impact of HIV/AIDS on their livelihoods | |
| Strategies | Key activities |
| Empower rural women and impart knowledge and skills related to agricultural production, agro-processing and marketing through Adult Farmer Field and Life Schools (AFFLS) for vulnerable and poor female-headed households affected by HIV/AIDS | <ul style="list-style-type: none"> • In targeted districts, select AFFLS participants and local facilitators running the AFFLS • Adapt training materials and train local facilitators • Awareness raising at community level and establish school site • Run year-round curriculum with children, comprising practical field activities, agricultural topics, life skills, entertainment and school feeding • Assist graduates with credit and saving schemes |
| Support existing women's cooperative and producers' groups with income generation activities such as livestock, small-scale aquaculture and horticulture, and with awareness raising on HIV/AIDS prevention | <ul style="list-style-type: none"> • Adapt training materials and train existing women's cooperatives and producers' groups in appropriate income-generating activities and HIV/AIDS prevention • Support the trained women with access to appropriate micro-credit and saving schemes • Support vulnerable female-headed households with information and access to farm inputs and tools |
| Facilitate social support at the | <ul style="list-style-type: none"> • Identify barriers for women's participation in |

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| | |
|--|---|
| community level that seek to overcome barriers to vulnerable rural women's participation in community based organisations, e.g. by promoting group labour and child care facilities | community-based organizations <ul style="list-style-type: none"> Identify and support appropriate mechanisms that would overcome these barriers |
| Objective 3: Improve access to and adoption of labour saving technologies and practices to overcome food security problems among HIV/AIDS affected households | |
| Strategies | Key activities |
| Promote and support the introduction of conservation agriculture as a farming system that potentially saves labour and resources in high impacted communities through farmer groups or farmer field schools. | <ul style="list-style-type: none"> Identify and adapt existing conservation agriculture practices for different parts of the country Organize exchange visits for farmer groups to expose them to conservation agriculture Train farmer groups on conservation agriculture |
| Promote and facilitate adoption of labour-saving technologies that are appropriate to the diverse needs of men and women in order to increase agricultural productivity among vulnerable households. | <ul style="list-style-type: none"> Identify existing and appropriate labour-saving technologies (i.e. small water pumps, drip-irrigation, simple water harvesting techniques, agroforestry, direct planting equipment such as jab planters, etc.) Introduce the different technologies through group efforts, using existing channels such as the farmer field schools Develop mechanisms through which HIV/AIDS affected households can access these technologies (grant, credit, etc.) |
| In collaboration with other sectors, promote and support the improvement of rural infrastructures such as feeder roads, storage facilities, dips and charco dams that can ease access to water and markets. | <ul style="list-style-type: none"> Provide support to ongoing infrastructure development initiatives |
| Objective 4: Increase disposable income and assets among households affected by HIV/AIDS | |
| Strategies | Key activities |
| Promote and support suitable group agribusiness enterprises among vulnerable and affected households | <ul style="list-style-type: none"> Identify suitable enterprises for HIV/AIDS affected households that require low capital investment, are easy to manage, have low labour inputs, marketable, and have a quick rate of growth on return Build capacity to improve entrepreneurial skills among rural men, women and children in agricultural, pastoral and fishing communities affected by HIV/AIDS Facilitate their access to user-friendly grant and credit schemes to engage in income generating activities |
| Develop and improve appropriate marketing linkages through group marketing, market days, outgrowing schemes and rural enterprise centres | <ul style="list-style-type: none"> Facilitate cooperatives and community groups with modern market equipment skills (e.g. setting up village business information centres to provide market information) Develop market extension strategies that seek to commercialize low input, high value crops |

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| Objective 5: Improve the food and nutrition security status of HIV/AIDS affected households | |
|---|--|
| Strategies | Key activities |
| Enhance the nutritional status of HIV/AIDS affected households through nutritional education and physical access to a variety of nutritionally adequate food and diversified diets | <ul style="list-style-type: none"> • Introduce irrigated home gardens to vulnerable and affected households through farmer field schools and such other groups • Provide support to these home gardening groups with technical and nutritional training, drip irrigation, kits, small livestock and farm inputs • Support training and awareness at community level, including home-based care givers, related to nutritional care and support for people living with HIV/AIDS • Conduct gender-sensitive training for extension staff and health and nutrition personnel on food and nutrition improvement for people living with HIV/AIDS • Facilitate coordination between agricultural extension staff, rural health centres, home-based care organizations, community development workers, and social support organizations for nutritional support to people living with HIV/AIDS |
| Raise awareness on HIV/AIDS and nutrition linkages | <ul style="list-style-type: none"> • Develop information and communication materials to improve people's knowledge on nutritional needs of people living with HIV/AIDS, taking into consideration the needs of different groups • Disseminate information on nutrition and HIV/AIDS linkages using appropriate channels (e.g. leaflets, posters, rural radio) |
| In collaboration with the Ministry of Health, investigate the potential role of indigenous and traditional foods and medicinal plants to help alleviate HIV/AIDS related nutritional needs | <ul style="list-style-type: none"> • Support research and development on medicinal plants, herbs and nutritional crops that mitigate effects of HIV/AIDS • Collect existing information on the use of medicinal plants and herbs and disseminate using leaflets, rural radio and other channels |
| Objective 6: Strengthen social community support for households affected by HIV/AIDS | |
| Strategies | Key activities |
| Raise awareness about HIV/AIDS with emphasis on eliminating stigmatization and disseminate information on the links between HIV/AIDS, gender inequalities and food security, through media, posters, booklets and other suitable channels | <ul style="list-style-type: none"> • Collect and review existing information on HIV/AIDS, its causes and impacts and stigma • Develop and translate information briefs, posters and rural radio programmes to eliminate stigma in rural communities • Organize anti-stigma sensitization workshops at community level |
| Support community based social and economic safety nets to take care of vulnerable groups | <ul style="list-style-type: none"> • Identify and support appropriate community-based safety nets for vulnerable households (e.g. Mama Mkubwa) • Raise awareness of the importance of community safety nets in communities highly impacted by AIDS where no support is in place and assist in establishing appropriate safety net measures |

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| Objective 7: Address and prevent property grabbing, especially among widows and orphans | |
|---|---|
| Strategies | Key activities |
| In collaboration with the legal community undertake advocacy and sensitization work as regards the laws pertaining to property grabbing | <ul style="list-style-type: none"> • Conduct research and obtain and consolidate existing information on the extent and practices of property grabbing among widows and orphans • Develop and disseminate posters, pamphlets, rural radio programmes and other to raise awareness among communities and LGAs on the statutory laws pertaining inheritance and property rights of men, women and children |
| Support the implementation and review of land and inheritance rights legislations, particularly for affected households and vulnerable groups | <ul style="list-style-type: none"> • In collaboration with other sectors, support the review and amendments of statutory laws for difficulties among affected households and vulnerable groups in having access to and control over land and land tenure, credits and other resources • Ensure local law enforcement agencies are well informed of the existing inheritance and land rights legislations • Support training of local law enforcement agencies on these laws and on the importance of gender equal access to, and control over, land and property for affected households and vulnerable groups |
| In collaboration with other sectors support strategic litigation at community level | <ul style="list-style-type: none"> • Support meetings with community leaders to identify violations of statutory laws on land and inheritance and to determine ways of preventing these • Translate inheritance and land acts and publish and disseminate these in booklet form at community level • Sensitize rural communities on the importance of written wills • Train paralegal workers in the writing of wills |
| Objective 8: Build the capacity of agriculture sector line ministries (ASLM) staff to plan and respond to the challenges posed by HIV/AIDS | |
| Strategies | Key activities |
| Sensitize and build capacity of upper-level decision makers to enable them to integrate an HIV/AIDS dimension into existing policies | <ul style="list-style-type: none"> • Organize an appropriate short-term training programme for upper-level decision-makers on mainstreaming HIV/AIDS in the agricultural sector |
| Raise the awareness among ASLM staff and other agricultural service providers at regional levels, as well as their partners at the community level, to the nexus of HIV/AIDS, gender, agriculture production and rural livelihoods, and increase their capability for mainstreaming HIV/AIDS and gender issues into their programme and project formulation exercises | <ul style="list-style-type: none"> • Develop, adapt and translate existing training materials • Develop and organize a training programme for ASLM staff at different levels on HIV/AIDS, gender inequality and food security linkages • Build capacity of District staff to integrate HIV/AIDS and gender into their district plans • Build capacity of ASLM staff to develop proposals for the Global Fund for TB, AIDS and Malaria and other appropriate sources of funding |

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| <p>Mainstream issues of HIV/AIDS and gender in agriculture training curricula and extension messages in agricultural training institutes</p> | <ul style="list-style-type: none"> • Link agricultural training institutes and universities with those institutions that have an HIV/AIDS and gender curriculum. • Assist agricultural training institutions and universities to integrate HIV/AIDS, gender and agricultural linkages into their curricula • Support agricultural training institutes and universities with training and educational material development |
|--|---|
| <p>Objective 9: Carry out action-oriented research on HIV/AIDS impact and mitigation for advocacy and planning purposes</p> | |
| <p>Strategies</p> | <p>Key activities</p> |
| <p>Develop a comprehensive research agenda on the linkages between poverty, vulnerability, food insecurity and HIV/AIDS</p> | <ul style="list-style-type: none"> • Develop a conceptual framework for studying the impacts of HIV/AIDS on the agricultural sector • Develop appropriate research tools • Build capacity in research skills and gender disaggregated data analysis • Conduct relevant research on these linkages in different agro-ecological and livelihood systems, including pastoral areas, fishing communities, the commercial sector as well as cooperatives, water user associations and other rural institutions • Report writing and dissemination of results through appropriate forum • Use findings to inform action and policy review and formulation processes |
| <p>Develop a comprehensive research agenda on the effectiveness of agricultural mitigation strategies</p> | <ul style="list-style-type: none"> • Develop a monitoring and evaluation system for HIV/AIDS mitigation interventions • Identify promising and successful mitigation approaches and research their effectiveness and the capacity constraints for communities and households to undertake these interventions • Document and disseminate this information to inform future action • Research into technologies and other mechanisms to mitigate the impact of HIV/AIDS on food security |

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ANNEX 3 – Uganda strategy for reducing the impact of HIV and AIDS on fishing communities (2005)

| Goals | Objectives |
|--|--|
| <p>Goal 1: To reduce HIV prevalence in fishing communities</p> | <p>Objective 1.1: Promote safe sexual behaviour among fishing communities</p> <p>Objective 1.2: Reduce the risk of blood-borne transmission in fishing communities and workplaces</p> <p>Objective 1.3: Reduce the prevalence of sexually transmitted infections in fishing communities</p> <p>Objective 1.4: Reduce the risk of mother to child transmission in fishing communities</p> |
| <p>Goal 2: To mitigate the impact of HIV/AIDS in the fisheries sector and community</p> | <p>Goal 2a: Mitigate the health effects of HIV/AIDS and improve the quality of life of people living with HIV and AIDS in or from fishing communities</p> <ul style="list-style-type: none"> • Objective 2a.1: Increase and expand access to comprehensive health care and support for people living with HIV and AIDS <p>Goal 2b: Mitigate the psychosocial and economic effects of HIV/AIDS in fishing communities</p> <ul style="list-style-type: none"> • Objective 2b.1: Reduce HIV/AIDS related vulnerability through protection against violence of rights • Objective 2b.2: Promote and provide psychological and economic support to orphans and vulnerable children, people living with HIV and AIDS and affected families in fishing communities <p>Goal 2.c: Mitigate the impact of HIV/AIDS on the development of the fisheries sector</p> |
| <p>Goal 3: To strengthen national capacity to coordinate and manage the multisectoral response to HIV/AIDS including in fishing communities</p> | <p>Objective 3.1: Strengthen coordination of the multisectoral response at national, local government and community levels</p> <p>Objective 3.2: Strengthen capacity to coordinate and undertake research related to HIV/AIDS in relation to fisheries and fishing communities</p> <p>Objective 3.3: Promote and strengthen capacity to manage strategic information for HIV/AIDS related to fishing communities</p> |

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

10

MODULE

Leadership and Resource Mobilization



Building Capacity for the Agriculture Sector's Response to AIDS
Module 10: Leadership and Resource Mobilization

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Module 10: Leadership and Resource Mobilization

AIMS

The aims of this module are the following:

1. To gain a general understanding of the role of the agricultural sector as a leader in reducing vulnerability to HIV and in mitigating its impacts.
2. To describe possible leadership steps to assert the role of the agriculture sector in the AIDS response.

OBJECTIVES

Upon completing the module, the learner should be able to:

- Identify where the agriculture sector could provide leadership in HIV prevention and AIDS impact mitigation.
- Describe how the agriculture sector could provide leadership in the AIDS response at country, regional and international levels.
- Identify potential resources that can be mobilized to support the agriculture sector response to AIDS for a country, based on international health partnerships and global health initiatives.

QUESTIONS FOR REFLECTION

1. On leadership:
 - In light of the AIDS epidemic, what role can the Agriculture sector play in leading a country toward achieving Millennium Development Goals (MDGs) one, six and eight?
 - What challenges might the sector face in terms of leadership in the AIDS response?
 - What kinds of partnerships could the Agriculture sector form in order to more effectively lead the AIDS response?
2. On resource mobilization:
 - How might the Agriculture sector proceed in securing available resources for AIDS-related interventions?

INTRODUCTORY REMARKS

This module covers two (inter-related) components: leadership and resource mobilization. Effective leadership in the agriculture sector – based on the sector's comparative advantage and unique expertise in contributing to the AIDS response – can influence its ability to mobilize resources to respond to the epidemic. As the world is turning from crisis interventions to sustainable responses to AIDS, it is a good time for the agriculture sector to contribute to reducing underlying factors leading to HIV vulnerability and to mitigating its impacts. Donors also need to be convinced of the value of the agriculture sector's contribution. The sector's contribution to AIDS responses depend on each country's specific disease patterns and epidemic profiles.

READINGS: AN OVERVIEW OF AGRICULTURE LEADERSHIP AND RESOURCE MOBILIZATION FOR THE AIDS RESPONSE

1. Agriculture sector leadership

While previous modules addressed technical responses to AIDS within the agriculture sector, the focus of this section is to identify and describe possible leadership steps to assert the role of the agriculture sector in responding to the epidemic.

1.1 Establish a sound knowledge base to inform policy and programmes

The AIDS epidemic is complex and diverse. UNAIDS promotes AIDS responses that are tailored to the local context and that are evidence-informed through epidemiological analysis, behavioural data and an understanding of social and gender norms¹. The Agriculture sector can gather, analyse and disseminate information on HIV issues in the sector, which will contribute to an evidence-informed response to the epidemic from two aspects:

- 1) For those outside of the agriculture sector: To inform the health and other sectors on how the agricultural sector can contribute to reducing vulnerability to HIV mitigating its impacts. This first requires an understanding of the health sector's approach to the epidemic as to facilitate the establishment of a niche for the agriculture sector in a multi-sectoral partnership and response to the epidemic.
- 2) For the agriculture sector: To document how the AIDS epidemic has impacted the agriculture sector. This second aspect provides evidence-based advocacy to agriculture ministries and sub-sectors for their active participation in responses. This, however, requires an understanding of how the agriculture sector views the epidemic. Such information can be used to facilitate the mainstreaming of HIV issues in the agriculture sector.

The agriculture sector (both public and private) should take the lead in developing a knowledge base and disseminating information on the linkages between AIDS and agriculture. It should also consolidate existing information and increase awareness on the impacts of HIV and other diseases on households, communities, rural populations, the agriculture sector itself, as well as the economy. This will require building the capacity of the sector to disseminate and communicate knowledge through carefully selected national and international fora and media. It is also critical to strategically communicate these issues with key donors, both through bilateral and multilateral channels. Research findings on AIDS and agriculture could furthermore be used to inform and advocate within the United Nations system, as well as being used by agriculture Ministries within countries to inform National AIDS Commissions and National AIDS coordinators.

The role of the agriculture sector in AIDS responses should take advantage of the sector's comparative advantage. Knowledge generation and information dissemination should thus focus on key areas where the agriculture sector can build resilience to HIV and its impacts –

¹ UNAIDS. 2009. *HIV: Know your epidemic, understand the politics*, 7 January 2009. Geneva. (http://www.unaids.org/en/KnowledgeCentre/Resources/FeatureStories/archive/2009/20090105_Know_your_Epi.asp)

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for example enhancing food security², improving nutrition support for households and identifying labour-saving approaches in food production and rural development. Food security is important in reducing people's vulnerability to HIV in both rural and urban areas. Food insecurity and poverty can lead to migration or high-risk sexual behaviours as ways of coping.³ Migration has been associated with high-risk sexual behaviour, resulting in an increase in vulnerability to HIV. HIV can further weaken household food security, compromise labour resources, and deepen poverty in already poor rural households. These are some of the issues that the agriculture sector should focus on and analyse in order to further build a knowledge base to inform policy and programmes.

1.2 Cultivate partnerships

The AIDS epidemic has been a highly politicized issue. Politics, ideology and ignorance have at times been more influential on policy than epidemiology, technical knowledge or evidence.⁴ Policy decisions are a result of “ongoing interactions and conflicts among institutions (the structures and rules which shape how decisions are made), interests (the groups and individuals who stand to gain or lose from change) and ideas (discourses, arguments and evidence)”⁵.

Therefore, in addition to knowledge creation, it is important to understand the political dynamics determining whether and how knowledge is used to guide AIDS policies, programmes and resource allocation.⁶ Such understanding is necessary in order to effectively lead advocacy for evidence-informed policy and programme actions as insufficient appreciation of the political dimension could undermine such efforts. The purpose of influencing policies is to create an enabling environment for an effective and sustainable AIDS response.

There are two dimensions from which the agriculture sector could engage in such leadership efforts: (1) from within the agriculture sector and (2) by forging strategic partnerships with non-agriculture sectors, such as the health and planning sectors. To achieve this, it is important to consider the following key international principles:

- Engage civil society and community based organizations (CBOs) in planning, collaboration, implementation, monitoring and evaluation of initiatives.
- Ensure the full and active participation of people affected by and living with HIV.
- Address gender inequities and other factors of vulnerability in policies and programmes.

An example of applying a participatory approach is the Malawi Agricultural Sector HIV and AIDS Strategy Document. The strategy, promoted by the Malawi Agriculture Ministry, ensured the participation of stakeholders at all levels of planning, implementation, coordination, management and monitoring and evaluation (see Figure 1).

² Both availability of and access to nutritious food.

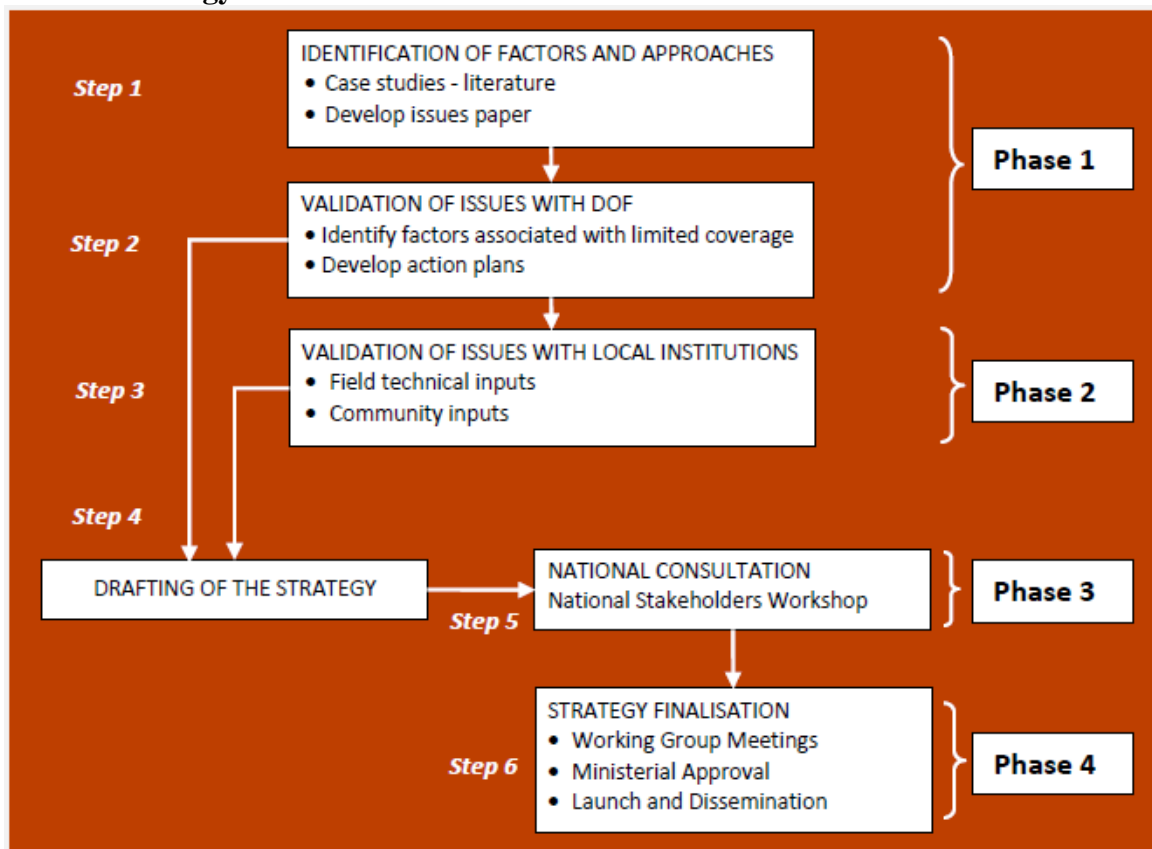
³ The World Bank. 2007. HIV/AIDS, nutrition and food security: what we can do – a synthesis of international guidance. Washington, The International Bank for Reconstruction and Development/The World Bank. (<http://siteresources.worldbank.org/NUTRITION/Resources/281846-1100008431337/HIVAIDSNutritionFoodSecuritylowres.pdf>)

⁴ Dickinson, C. and Buse, K. 2008. Understanding the politics of national HIV policies: the roles of institutions, interests and ideas. HLSP Institute. (<http://www.hivpolicy.org/Library/HPP001555.pdf>)

⁵ John 1998, quoted in Ibid.

⁶ Ibid.

Figure 1. Malawi strategy – an example of a participatory process in developing a national strategy



Strategic partnerships at the global, regional and national levels should include:⁷

- Collaboration with relevant technical divisions of institutes and organizations working in the agriculture sector.
- Cooperation with United Nations entities, international organizations and relevant regional bodies.
- Engagement of key sectors at national level (e.g. agriculture, health, education, etc.).
- Establishment of partnerships with local policy-makers and service providers, including community based organizations and the private sector.

It is important for the agriculture sector to identify and participate in global health initiatives. Some key aspects to consider include:

- Institutional interests driving the HIV agenda.
- Actors or key players involved in HIV policy decisions.
- Incentives and strategies driving the direction of HIV programmes, and resultant resource allocation.

⁷ Adapted from: Rugalema, G. and Mathieson, K., eds. 2009. Disease, vulnerability and livelihoods on the Tanzania-Uganda interface ecosystem to the West of Lake Victoria: diagnostic survey of north-western Tanzania. Rome, FAO. (<ftp://ftp.fao.org/docrep/fao/011/i0759e/i0759e.pdf>)

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1.3 Ensure active advocacy and policy dialogue

The knowledge accrued by the agriculture sector will only be useful if communicated and disseminated to relevant institutions, decision makers and other key actors in an effective and timely manner. For example, participation in international consultations and/or scientific conferences, coupled with effectively managed and well-timed information dissemination at national, regional and international levels are crucial in ensuring that issues related to HIV and the agriculture sector receive the necessary attention.⁸

Another area where the agriculture sector can take a leadership role is in advocating for, and formulating, sector-specific AIDS strategies and policies based on the specific context and comparative advantage and expertise of the agriculture sector. At the country level, national agriculture strategies should integrate issues of HIV vulnerability and impact mitigation. Strategies should also address gender equity and should engage other sectors, ensuring a participatory approach.

The agriculture sector also has a role to play in advocating for the integration of agriculture responses in national AIDS strategies (where applicable). At present, most national AIDS strategies are predominantly health sector strategies. It is essential that the unique attributes of agriculture sector responses and contributions be advocated and integrated into national health sector strategies. It is therefore important for the agriculture sector to work closely with the Ministry of Health to ensure that the agriculture perspective is taken into account.

The development of a national AIDS strategy for the agriculture sector or mainstreaming HIV issues in the agriculture sector and its sub-sectors should consider the following:

- 1) Ensure that the agriculture sector plan is incorporated in the National Development Plan. In countries where there is a poverty reduction strategic (PRS) process, ensure that the agriculture sector is part of this.
- 2) Ensure that the agriculture sector AIDS strategy is consistent with the national AIDS strategy, based on the three ones principles⁹.
- 3) Incorporate agriculture issues into national health-related strategic plans by participating in the consultation, formulation and implementation of national strategies.

1.4 Be strategic – formulate a sector strategy to guide action

As already noted, it is important for the agriculture sector to advocate for the integration of agriculture sector responses in national AIDS strategies, in addition to advocating for the mainstreaming of HIV issues in agriculture sector strategies. Some country examples of agriculture sector AIDS strategies include Malawi, Ethiopia, Tanzania, Uganda and Zimbabwe¹⁰. The success of strategy implementation will depend to a large part on leadership within the sector. Effective leadership is necessary to advocate for the formulation, adoption, implementation and monitoring and evaluation of strategies, as well as to ensure adequate

⁸ Dickinson and Buse, 2008.

⁹ The three ones principles are: (1) one agreed HIV/AIDS Action Framework that provides the basis for coordinating the work of all partners; (2) one National AIDS Coordinating Authority, with a broad based multi-sector mandate; (3) one agreed country level Monitoring and Evaluation System.

¹⁰ Refer to module 9 for further information on developing an agriculture sector AIDS policy, in addition to examples of policies in Malawi, Tanzania and Uganda.

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resource allocation. Good governance in the sector is essential to ensure cost-effective implementation of strategies, as well as the gathering of critical and sound data for monitoring and evaluation and continued refinement of strategies. This is important in order to demonstrate the relevant role of the agricultural sector in supporting effective AIDS responses.

2. Funding sources and entry points for the agriculture sector

At the G8 summit in 2005, leaders pledged a commitment of US\$25 billion per year to African aid. This pledge included support for universal access to HIV prevention, treatment, care and support. According to UNAIDS, in 2008 global financing for AIDS reached record highs of US\$13.8 billion. The largest source of funding is through domestic sources – accounting for 52 percent. Bilateral and multilateral funding account for 31 percent and 12 percent respectively.¹¹

The agriculture sector needs to strategically tap into these resources in order to support its efforts to respond to the epidemic. There are four main channels of funding¹² that could be used to support the agriculture sector response to AIDS:

- Multilateral international financing – e.g. G8, EC, UNAIDS, the Global fund to fight AIDS, tuberculosis and malaria, international development banks (e.g. Asian Development Bank – ADB, African Development Bank – AfDB)
- Bilateral donor country support – e.g. US President's Emergency Plan for AIDS Relief (PEPFAR)
- Private sector support – e.g. Bill and Melinda Gates Foundation, corporations, companies and international NGOs
- Domestic national government resources and individual out of pocket payments

2.1 Multilateral channels

The key multilateral channels that would be relevant to the agriculture sector include the United Nations Joint Programme (UNJP), the United Nations Joint Programme on AIDS (UNAIDS), UNITAID and the Global Fund to Fight AIDS, TB and Malaria (GFATM).

2.1.1 United Nations Joint Programme (UNJP)

The United Nations Joint Programme (UNJP) is a key mechanism through which the United Nations works at country level. The purpose of having a joint UN country programme is to enhance the development impact of the UN's work by organizations planning and designing their programmes together. The process of identifying and developing a Joint Programme strengthens the effectiveness and efficiency of national implementation.

A Joint Programme is a set of activities included in a common work plan and budget, developed jointly by several United Nations organizations and national partners. The partners

¹¹ UNAIDS. 2009. UNAIDS annual report 2008: towards universal access. Geneva. (http://data.unaids.org/pub/Report/2009/jc1736_2008_annual_report_en.pdf)

¹² UNAIDS and the Kaiser Family Foundation. 2008. *Financing the response to AIDS in low- and middle income countries: International assistance from the G8, European Commission and other donor Governments, 2007*, by J. Kates, J.A. Izazola and E. Lief. Washington. (http://www.kff.org/hivaids/upload/7347_04-2.pdf)

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prepare a joint programme document in which the roles and responsibilities of each party are identified and coordination and management roles are allocated. The document is then signed by all participating organizations.

In determining a joint Programme, each country team identifies and decides on common themes that the UN country team will focus on. Most countries have a United Nations theme group on HIV, comprising of Heads of participating UN organizations who meet on a regular basis and provide general oversight and policy guidance for the implementation of the UNJP on HIV (see box 1 for an example of a terms of reference for a United Nations HIV team). All United Nations programmes and activities relating to HIV in a country are usually reflected in the UNJP and are undertaken in accordance with the United Nations Development Assistance Framework (UNDAF).

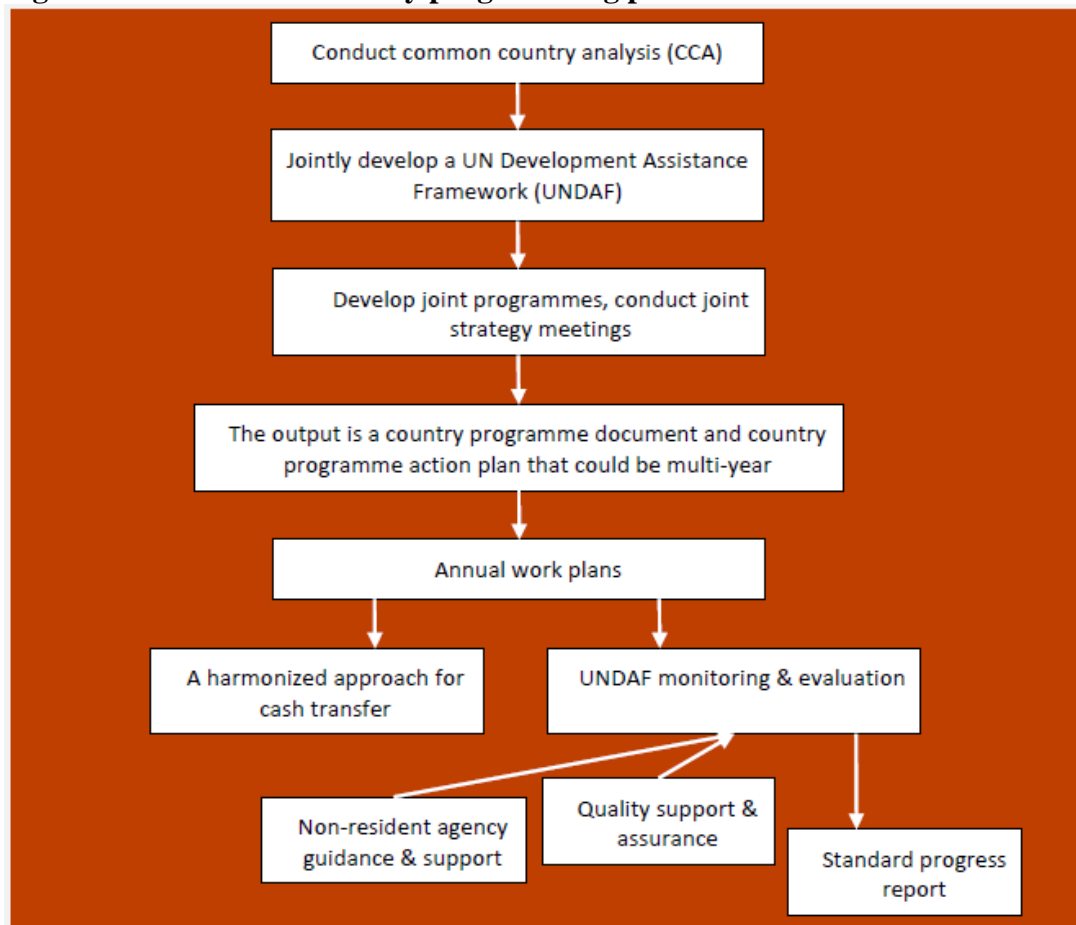
Box 1. Terms of Reference for a joint UN team on HIV (Viet nam)¹³

- a) Support national authorities and stakeholders, including civil society and PLHIV groups, in their efforts to implement an accelerated national response and resolve impediments to implementation of the National Strategy on HIV/AIDS Prevention and Control in Viet Nam till 2010 with a vision to 2020, and other policy documents;
- b) Facilitate the implementation of the 'Three Ones' principles in Viet Nam, including joint programming, policy dialogue and partnerships with national and international stakeholders
- c) Provide an entry point for national stakeholders to access HIV technical assistance from the UN system
- d) Develop common communication strategies and key messages on HIV and ensure greater understanding among key partners and stakeholders about the roles and responsibilities of individual agencies
- e) Coordinate the mobilization of resources – financial and technical – for a scaled-up national response to HIV
- f) Further develop, facilitate and monitor the implementation of the HIV components of the Viet Nam UN Development Assessment Framework (UNDAF), and other UN policies and joint programmes on HIV
- g) Support the joint and individual work of UN organizations and ensure that technical directions are consistent with recognized best practice and that full advantage of synergies is being taken.
- h) Develop and implement a Joint UN Team on HIV monitoring and evaluation plan.
- i) Provide technical advice to and follow up on decisions made by the UN HIV Theme Group
- j) To support the implementation of the UN Learning Strategy on HIV/AIDS, through: (i) Developing the knowledge and competence of UN staff (including mainstreaming of HIV into all UN programmes); and (2) Ensuring basic AIDS competence of all staff (including knowledge about the UN's HIV policies and entitlements)
- k) Other tasks as may be assigned by the UN HIV Theme Group

FAO country offices are encouraged to actively participate in the United Nations country programming process and to assert its leadership role in building sustainable responses based on the agriculture sector's expertise and mandate. The steps in a common country programming process are illustrated in figure 2. In countries where FAO does not have a presence, it is still feasible to participate through the non-resident agency support system.

¹³ See: http://www.un.org.vn/index.php?option=com_content&task=blogcategory&id=127&Itemid=208#hiv_jp

Figure 2. UN common country programming process¹⁴



2.1.2 Joint United Nations Programme on HIV/AIDS (UNAIDS)

The joint United Nations team on HIV is usually composed of the ten UNAIDS co-sponsoring United Nations entities: UNDP, UNESCO, UNICEF, UNFPA, UNHCR, UNODC, ILO, WFP, WHO and the World Bank.

The UNAIDS country coordinator convenes, coordinates, and facilitates the joint UN Team on HIV. At country level, UNAIDS has a small Programme Acceleration Fund (PAF), which allows efficient action to implement some of the joint HIV programmes by its co-sponsors and their implementing partners. The actual amount of the fund changes from year to year and is dependent on the specific needs of a country. UNAIDS and its co-sponsors jointly develop a unified budget and work plan (UBW)¹⁵ that is approved by the UNAIDS Programme Coordinating Board. The UBW is a unique instrument in the UN system, combining a joint programme of work of the ten UNAIDS co-sponsors and Secretariat in a biennial budget and work plan. The purpose of the UBW is to maximize coherence, coordination and impact of the UN's response to AIDS.

¹⁴ This flow chart is developed by L-N Hsu, based on information from United Nations Development Group: Common country programming process.

¹⁵ UNAIDS. 2009. UNAIDS 2010-2011 unified budget and workplan. 24th Meeting of the UNAIDS Programme Coordinating Board, Geneva, Switzerland, 22-24 June 2009. Geneva. (http://data.unaids.org/pub/InformationNote/2009/20090515_20102011_ubw_final_en.pdf)

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The unified budget and workplan provides for:

- Unified and coordinated action on jointly established priorities, taking into account the comparative advantage of each member of the joint programme.
- A budget focused on joint priorities and results, maximizing the impact of available resources.
- A workplan that provides a framework for joint implementation, translated into clear and accountable operational plans at the country level.
- A performance monitoring and evaluation framework designed to support results-based management, promote transparency, strengthen accountability, improve reporting and reflect links between collective and individual efforts.

FAO country offices should be a member of the country UN theme group on HIV and collaborate with UNAIDS co-sponsors in implementing activities supported by the PAF. This requires the type of leadership and advocacy described in the first component of this module. FAO can also provide inputs to the formulation of a common country programme and engage ministries of agriculture in this process.

2.1.3 UNITAID

In 2006, France, Brazil, Chile, Norway and the United Kingdom initiated the creation of an international drug purchase facility called UNITAID with the aim of scaling up access to HIV, malaria and TB treatment in developing countries. The organization's resources chiefly come from sustainable and predictable sources – e.g. from the tax on airline tickets. This innovative form of funding allows the organization to support “term long-term projects that can impact the market for health commodities”¹⁶.

UNITAID funding is channeled through partners¹⁷ working on the AIDS response who then work in collaboration with national partners – e.g. governments, NGOs and procurement agents. The specific focus of projects is on “medicines, diagnostics and related commodities and (that) have an expected positive impact on the market”¹⁸. As such, funding proposals are evaluated against these UNITAID strategic objectives.

This financing for drugs and diagnostics can allow the agriculture sector to ensure that treatment support is made available to affected rural populations. In addressing HIV treatment, the agriculture sector should also consider co-infection with tuberculosis and access to treatment for rural populations.

2.1.4 The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)

The Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) is a private/public partnership that was created in 2002 to increase funding for AIDS, tuberculosis and malaria. It has become the main source of funding for the three diseases, with approved funding of US\$19.3 billion in 144 countries and providing a quarter of all international financing for the

¹⁶ See: <http://www.unitaid.eu/en/UNITAID-Mission.html>

¹⁷ Some partners include: Foundation for Innovative New Diagnostics (FIND); The Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria; Roll Back Malaria; UNAIDS; Stop TB Partnership; UNICEF; William J. Clinton Foundation, HIV/AIDS Initiative (CHAI); World Health Organization.

¹⁸ Ibid.

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AIDS response¹⁹. The Fund works in close collaboration with other bilateral and multilateral organizations in efforts to respond to these diseases.

The main principles guiding the Global Fund are as follows²⁰:

- To operate as a financial instrument, not as an implementing entity.
- To make available and leverage additional financial resources.
- To support programmes that evolve from national plans and priorities.
- To operate in a balanced manner in terms of different regions, diseases and interventions.
- To pursue an integrated and balanced approach to prevention and treatment.
- To evaluate proposals through independent review processes.
- To operate with transparency and accountability.

The GFATM provides funding support to country responses to AIDS through the following channels:

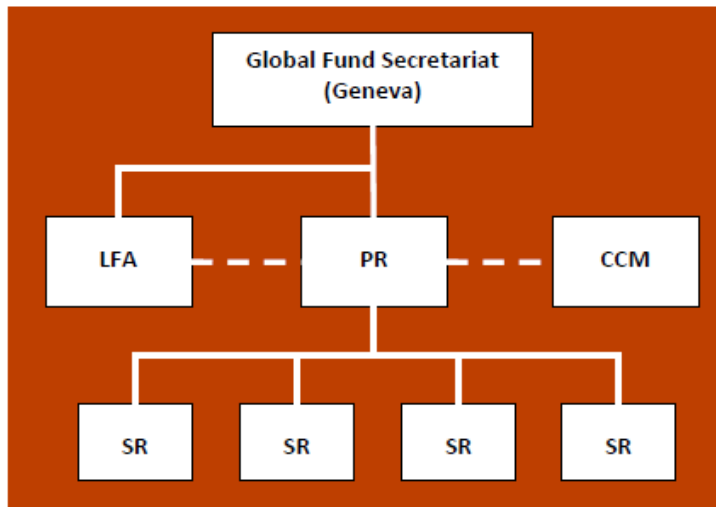
- Annual rounds (up to two per year depending on resources) – The application deadline for each round per year is set as close to similar time frames and dates per year as feasible. These disease response grants are open to all low- and middle-income countries and civil society organizations. The application should normally be sent by a country through its Country Coordination Mechanism (CCM). The grant rounds also cover health system strengthening.
- The rolling continuation channel (RCC) – This channel is by invitation only. Only those countries currently receiving GFATM grants for a particular disease or diseases with good performance scores and continuing to fulfil GFATM eligibility criteria are invited by the GFATM Secretariat to apply.
- In addition, there were two new funding channels piloted by the GFATM Secretariat in 2009: (a) county coordination mechanism (CCM) funding and (b) national strategy application (NSA). These will be discussed further in subsequent sections.

The architecture of the Global Fund is shown in figure 3, whereas the Global Fund grant application process is outlined in figure 4. GFATM is a performance-based funding mechanism. Therefore subsequent funding requires good performance – demonstrated results against defined performance targets. The core structures of the process are discussed in the following sections.

¹⁹ See: <http://www.theglobalfund.org/en/about/?lang=en>

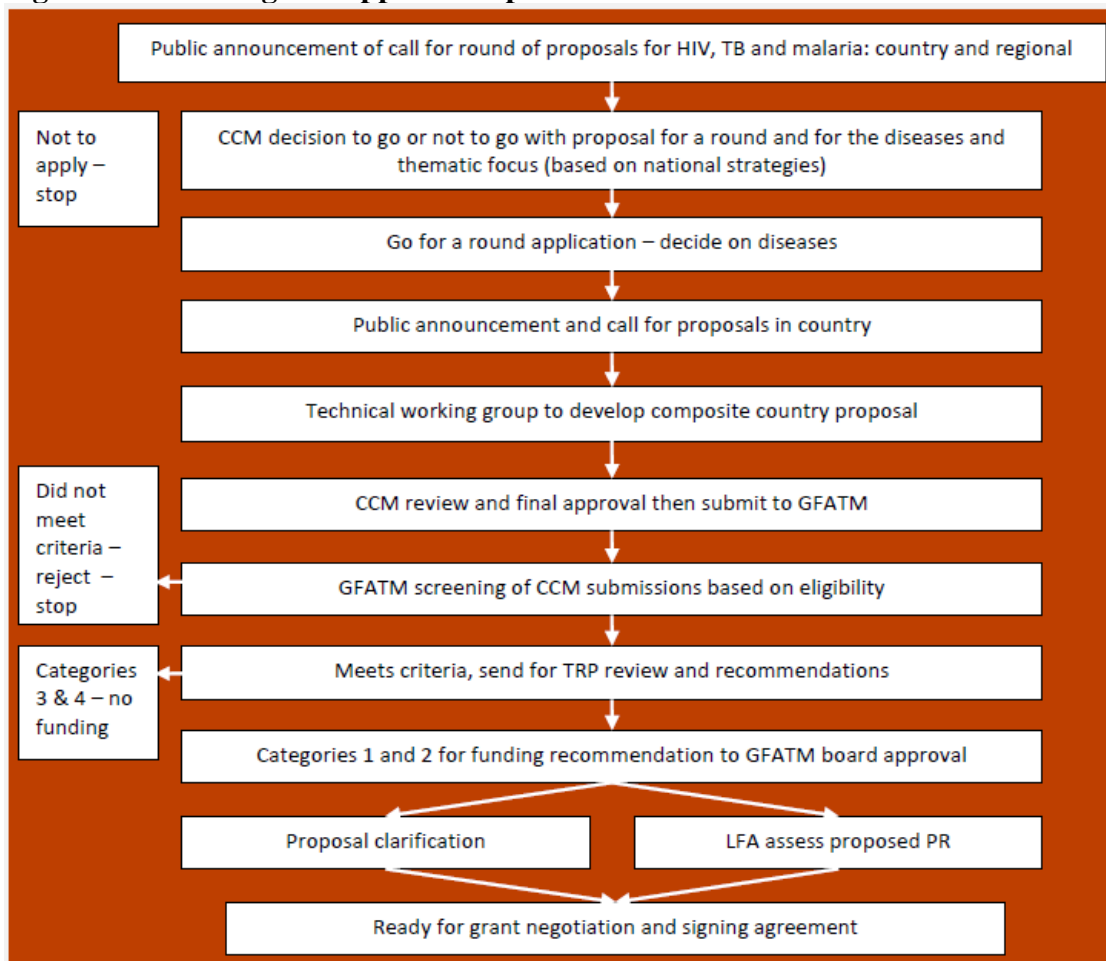
²⁰ See: <http://www.theglobalfund.org/en/how/?lang=en>

Figure 3. Reporting relationships for grant implementation in the Global Fund – in-country architecture²¹



(Source: Aidspan, 2009)

Figure 4. GFATM grant application process²²



²¹ The solid lines indicate a direct reporting relationship. The dotted lines signify that there is an informal relationship between the entities (that does not involve one entity formally reporting to the other).

²² This flow chart was prepared by L-N Hsu, based on information from GFATM.

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(A) Country coordination mechanism (CCM):

The main responsibilities of CCMs are to:²³

- Coordinate a participatory and transparent process to prepare and submit country proposals.
- Nominate one or more principal recipients (PRs) in a country that will be responsible for grant implementation if the proposal is approved.
- Ensure an open process in selection of sub-recipients (SRs) for grant implementation. This process must be clearly articulated in the grant proposal stage.
- Provide oversight for GFATM grant implementation in a country.
- Approve major changes in grant implementation as proposed by the PR and submit the requests to GFATM for approval.

In order to advocate to CCM for the inclusion of agriculture responses to AIDS, FAO and national ministries of agriculture should:

- Make sure that addressing farming communities and rural populations' needs is part of national disease strategies.
- Identify and develop a good working relationship with relevant CCM members and ensure they are familiar with the impact of HIV on agriculture communities (including farming, fishing, forestry, as well as migrant farmers) and the contribution of the sector towards sustainable responses.
- Lobby for Ministry of Agriculture representation in the CCM in countries where there is clear evidence of HIV impacts on agriculture
- Advocate to country CCM members for the inclusion of agriculture issues.
- Utilize the knowledge-based created to develop and disseminate concise briefing notes or factsheets to CCM members and request that agriculture sector-related HIV issues are put on CCM meeting agenda, particularly when it relates to national strategy application (NSA) and disease-specific round proposals.
- Advocate to key donors and board members of the Global Fund on the importance of food security, nutrition and rural poverty reduction in AIDS responses.

For regional funding, the same mechanism applies, however, the regional proposal would need to identify a regional entity to be the PR.

Some of the ways to find out who members of CCM are in a country include:

- Visit the GFATM website at <http://www.theglobalfund.org/en/> and select the country of choice under the 'grant portfolio' tab. On each country profile page there is a list of CCM members under 'contacts'.
- Find the most recently approved proposals for each country and particular diseases under the 'country grant portfolio' tab.
- Contact the Ministry of Health and National AIDS commissions and programmes who will have information regarding CCM members.

²³ See: <http://www.theglobalfund.org/en/ccm/?lang=en>

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(B) Local fund agency (LFA):

The Global Fund is operated by a Secretariat based in Geneva and they have no in-country presence. They therefore have a Local Fund Agency (LFA) that serves as the “eyes and ears” for the Secretariat in ensuring financial accountability of country grant recipients. The LFA is often an accounting firm (e.g. Price Waterhouse Coopers or Lybrant) but at times they may be the Swiss Tropical Institute or other technical entities. The list of LFAs is available on the GFATM website. The LFA is responsible for assessing the viability and soundness of operations of a potential Principal Recipient before a grant agreement is finalized.

(C) Principal recipient (PR):

Grants are disbursed directly by GFATM to one or more Principal Recipients (PRs) who then use these funds to implement prevention, care and treatment programmes. They are selected by the Country Coordination Mechanism (CCM), and are responsible for ensuring timely implementation of grants. A phase I grant typically includes the first two years of any approved grant. Phase II funding will allow a country to complete the full five-year grant period. Timely implementation and demonstrated progress towards the intended results during Phase I (typically for up to two years of any approved grant) will ensure that the country is eligible to request for a Phase II continuation of the same grant.

In 2008, the GFATM established dual-track financing, which is the inclusion of both governmental and non-governmental PRs in proposals for GFATM financing. Country PRs tend to be Ministries of Health, International NGOs (e.g. PSI, World Vision International, International AIDS Alliance, etc.), local NGOs, UNDP and UNICEF.

(D) Sub-recipient (SR):

The Principal Recipient, through an open and transparent process, announces a call for proposals to implement components of a grant. CCMs can also make a public announcement to solicit proposals during the proposal formulation stage. All entities (Government Ministries, NGOs or the private sector) who are interested in implementing activities can respond to the call and submit a proposal. The CCM usually forms a technical working group with international and local consultants to develop a composite country submission incorporating proposals considered acceptable in terms of both quality and theme. A successful recipient of the call is known as a Sub-recipient (SR). There are usually several SRs for one grant, under one PR. FAO, the Ministry of Agriculture, as well as community agriculture organizations are eligible to be SRs.

(E) Technical review panel (TRP):

Disease-specific proposals from countries are reviewed by an independent external technical review panel (TRP). The Board of the GFATM then decides on the grants for each round based on recommendations from the TRP.

(F) National strategy application (NSA):

The National Strategy Application (NSA) is a new GFATM funding stream, in which about 22 countries were invited to participate in the first learning wave in 2009. It is through this

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mechanism that the agriculture sector has the most promising opportunities to secure resources. Participation in the NSA process can enhance potential for getting support from bilateral donors as more and more donors prefer to support national strategies. Therefore, responses that are reflected in a country's national strategy have a greater chance of gaining attention and support from both bilateral and multilateral resources. As already indicated in the CCM roles and responsibilities, GFATM supports proposals that are based on specific national diseases strategies. Proposed responses by a country therefore need to be harmonized with its national strategies.

The Policy and Strategy Committee of the GFATM Board emphasized the importance of multi-stakeholder involvement. Where there are two or more PRs for a country's disease programme, a single stream of funding is to be maintained for each PR and each disease.

National strategy applications are validated based on the following criteria:

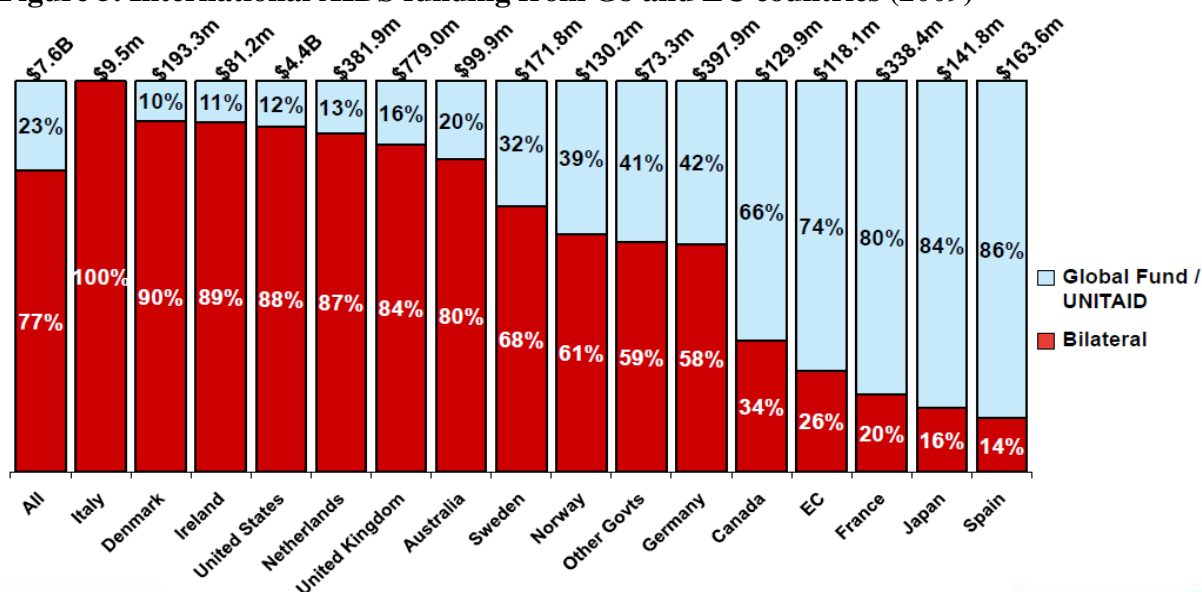
- a) Harmonization and soundness of the policies and strategies.
- b) Transparent, participatory, multisectoral and multistakeholder process.
- c) Proper financial and budget planning.
- d) Clear governance and management arrangements.
- e) Monitoring and evaluation.

The flow chart in Annex 1 shows the potential for agriculture sector participation in the national strategy application.

2.2 Bilateral donors

Donor funding is channelled through bilateral and multilateral channels (e.g. The Global Fund). Figure 5 shows the level and channel of international donor funding (from G8 and EC countries) for AIDS in 2009.

Figure 5. International AIDS funding from G8 and EC countries (2009)



(Source: UNAIDS and the Kaiser Family Foundation, 2010)

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The United States is the largest donor for AIDS support, followed by the United Kingdom and the Netherlands. The United States provides bilateral funding to countries through the US President's Emergency Plan for AIDS Relief (PEPFAR), which was launched in 2003. It focuses on establishing and scaling up HIV prevention, care and treatment programmes through bilateral and multilateral channels. In its first phase, PEPFAR covered 15 countries: twelve in Africa (Botswana, Cote D'Ivoire, Ethiopia, Kenya, Mozambique, Namibia, Nigeria, Rwanda, South Africa, Tanzania, Uganda, and Zambia), two in the Caribbean (Guyana, Haiti) and one in Asia (Viet Nam). Overall, the allocation has been 55 percent on treatment, 20 percent on prevention, 15 percent on palliative care and 10 percent on orphaned and vulnerable children.

Table 1 highlights G7 and European Commission departments or organizations that manage funding for AIDS. See Annex 2 for a matrix of major donor government structures and mechanisms for financing the AIDS response in low and middle income countries.

Table 1. G7 & EC departments/agencies for HIV/AIDS assistance

| Government | Departments/agencies |
|---------------------|---|
| Canada | Canadian International Development Agency (CIDA); Department of Finance; Department of Foreign Affairs and International Trade; Health Canada; International Development Research Center (IDRC) |
| France | International Interministerial Cooperation and Development Committee; Ministry of Foreign Affairs; Ministry of Economic Affairs, Finance and Industry; Priority Solidarity Fund; French Development Agency |
| Germany | Federal Ministry for Economic Cooperation and Development (BMZ); German Bank for Reconstruction (KfW); Agency for Technical Cooperation (GTZ); Ministry of Health |
| Italy | Ministry of Foreign Affairs; Ministry of Economy and Finance |
| Japan | Japan International Cooperation Agency (JICA); Ministry of Foreign Affairs MOFA); Ministry of Health; Ministry of Finance; Japan Bank for International Cooperation (JBIC) |
| U.K. | Department for International Development (DFID); Foreign and Commonwealth Office; The Treasury |
| U.S. | State Department; U.S. Agency for International Development (USAID); Centers for Disease Control and Prevention (CDC); Department of Defense (DoD); Department of Labor (DoL); Department of Agriculture (USDA); Peace Corps; National Institutes of Health (NIH) |
| European Commission | EuropeAid; Tacis (Eastern Europe and Central Asia); CARDS (Balkans); European Development Fund (EDF) for Africa, the Caribbean, and Pacific; ALA for Asia and Latin America; MEDA for the Mediterranean and Middle East; ECHO (Humanitarian worldwide); PHARE (Pre-accession assistance); SAPARD (Pre-accession agricultural support) |

(Source: Kaiser Family Foundation, 2005)

2.3 Private sector resources

The main source of private sector funding for the AIDS response has been through foundations, multi-national companies, some pharmaceutical companies (e.g. donation of medication) or business coalitions on AIDS. Some funding from private companies may also be in the form of drug price reduction or the donation of commodities. Multi-national companies often allocate resources for their employees as part of a workplace HIV

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programme²⁴. In order to ensure workplace support for agricultural workers, FAO should work in partnership with the International Labour Organization (ILO).

The Bill and Melinda Gates Foundation is one of the largest private funders of the AIDS response. The foundation principally funds U.S. 501(c) (3) organizations²⁵ and other tax-exempt organizations²⁶ who then work with partners and beneficiaries in the field. They have funding for both the health and development sectors and in its support for the development sector there is an explicit category for farming or the agriculture sector. Health sector funding focuses largely on vaccine development and roll-out, as well as on pharmaceutical research and advancement. In order to apply for funding, organizations must first prepare a letter of intent, which is reviewed by the foundation and if found to be of interest and fits with the funding criteria, the organization is requested to start the formal application process. If the agriculture sector can assert its leadership and show how agriculture and AIDS are linked, it will be better positioned to apply for funding to support programmes in response to the epidemic.

2.4 Domestic resources

It is important to have the agriculture sector reflected in a country's national development strategic plan and poverty reduction strategy (as discussed in section 1.3 of this module). Each country government should also make allocations in its annual budget for HIV, TB and malaria (usually in the health sector). While some governments may not typically respond favourably to requests from the Ministry of Agriculture for funding for AIDS responses, in some high HIV prevalence countries, all relevant ministries may be requested to develop sectoral AIDS response strategies. Ministries of Agriculture must aim to include AIDS responses in their regular programme budget and must advocate for domestic resource allocation to agriculture sector responses to AIDS.

²⁴ See: Module 8, Annex 1 for further information on a HIV workplace policy – guidelines from the “ILO code of practice on HIV/AIDS and the world of work”.

²⁵ Organizations with tax-exempt status (determined by the IRS).

²⁶ See: <http://www.gatesfoundation.org/grantseeker/Pages/overview.aspx>

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: The agriculture sector's leadership capacity

Examine the agriculture sector in your country of service:

1. Where is the agriculture sector in terms of its approaches and leadership style
2. How could it strategically change its focus, goals and operational structure to address the AIDS epidemic?
3. Determine gaps in the agriculture sector's response to AIDS and identify possible opportunities for improving or scaling up the response.
4. In light of the AIDS epidemic, is the agriculture sector able to execute its functions and its organizational capability to maintain maximum levels of service provision and productivity?

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

Activity 2: Accessing potential resources and partnerships for the AIDS response

1. Identify and explore potential resources (e.g. human resources, support networks, technical tools, information and financial resources) that are available both in and outside your country of service.
2. Identify potential partners that the agriculture sector could collaborate with in responding to the epidemic.
 - a) What organizations are involved in mainstreaming?
 - b) Who has relevant information, experience, expertise and lessons learned? Is there a need to start from the ground up when experience and resources already exist?
 - c) What is the nature and value of existing partnerships or collaborations with other sectors and/or organizations in response to AIDS within the internal domain?

SUMMARY REMARKS AND LESSONS LEARNED

The agriculture sector at international, national and local levels needs to devise a strategic approach for the sector's leadership in responding to AIDS, based on a sound knowledge base to inform policy and programmatic actions. In order to effectively mobilize resources it is important for the sector to be recognized as leaders in sustainable responses to HIV, TB and malaria. To be recognized as a leader in the response, the sector needs to develop and implement a clear, multi-pronged strategy that includes policy-oriented knowledge generation, information dissemination, and strategic communication.

It is critical that the leadership and decision makers in the agriculture sector understand the political context at country and international levels in order to properly and timely position advocacy efforts. This includes advocacy for specific policies, as well as ensuring timely participation in order to integrate agriculture sector responses in national strategic plans for HIV, and in some instances for TB and malaria. Most important, it is essential that the sector to stay focused and maintain momentum.

Lessons learned

1. Effective agriculture sector leadership, based on the agriculture sector's comparative advantage and unique expertise in contributing to AIDS responses, can influence the sector's ability to mobilize resources to respond to AIDS.
2. It is important that leaders understand the political determinants that guide AIDS policies, resource allocation decisions and influence programmes in order to effectively lead advocacy efforts for evidence-informed policy and programme actions.

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ACRONYMS AND ABBREVIATIONS

| | |
|--------|--|
| ADB | Asian Development Bank |
| AfDB | African Development Bank |
| AIDS | Acquired immunodeficiency syndrome |
| CBO | Community-based organization |
| CCM | Country coordination mechanism |
| DoF | Department of Fisheries |
| EU | European Commission |
| FAO | Food and Agriculture Organization of the United Nations |
| GFTAM | Global Fund to Fight AIDS, Tuberculosis and Malaria |
| G7 | Group of seven (France, Germany, Italy, Japan, United Kingdom, United States and Canada) |
| G8 | Group of eight (France, Germany, Italy, Japan, United Kingdom, United States, Canada and Russia) |
| HIV | Human immunodeficiency virus |
| ILO | International Labour Organization |
| LFA | Local fund agency |
| NGO | Non-governmental organization |
| NSA | National strategy application |
| PAF | Programme acceleration fund |
| PEPFAR | U.S. President's Emergency Plan for AIDS Relief |
| PR | Principal recipient |
| PRS | Poverty reduction strategy |
| RCC | Rolling continuation channel |
| SR | Sub-recipient |
| SWAP | Sector wide action plan |
| TB | Tuberculosis |
| TRP | Technical review panel |
| UBW | Unified budget and workplan (UNAIDS) |
| UN | United Nations |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| UNDAF | United Nations Development Assistance Framework |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |

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| | |
|--------|---|
| UNFPA | United Nations Population Fund |
| UNHCR | United Nations High Commissioner for Refugees |
| UNICEF | United Nations Children's Fund |
| UNJP | United Nations Joint Programme |
| UNODC | United Nations Office on Drugs and Crime |
| WFP | World Food Programme |
| WHO | World Health Organization |

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ANNEX 2 – Matrix of major donor government structures and mechanisms for financing the AIDS response in low and middle income countries²⁸

| KEY DIMENSIONS | THE G7 GOVERNMENTS | | | | | | |
|--|---|---|---|--|--|--|--|
| | Canada | France | Germany | Italy | Japan | United Kingdom | United States |
| Fiscal Year (FY) | April 1-March 31 | Calendar Year | Calendar Year | Calendar Year | April 1-March 31 | April 1-March 31 | October 1-Sept 30 |
| Principal Government Funding Departments & Agencies | CIDA; Department of Finance; Department of Foreign Affairs and International Trade; Health Canada; IDRC | CICID; AFD; Ministry of Foreign Affairs; Ministry of Economic Affairs, Finance, and Industry; PSF | BMZ; KfW; GTZ; Ministry of Health | Ministry of Foreign Affairs; Ministry of Economy and Finance | JICA, MOFA, JICWELS, JBIC | DFID; Foreign and Commonwealth Office; The Treasury | State Department; USAID; CDC; NIH; DoI; DoD; USDA |
| Funding Obligated In: -Single-year -Multi-year -Both | Single-year | Multi-year | Single-year | Multi-year | Both | Multi-year | Both |
| Funding Disbursed In: -Single-year -Multi-year -Both | Single-year | Multi-year | Multi-year | Multi-year | Both | Multi-year | Both |
| Type of Funding/Support: -Grant -Concessional Loan -Other (commodities, personnel) | grants | grants; concessional loans (AFD) | grants; concessional loans (KfW) | grants | grants; concessional loans (JBIC) | grants | grants; other |
| Timing of Annual Budget | Proposed budget to Parliament (February) | Proposed budget to National Assembly (September) | Proposed budget to Bundestag (September) | Proposed budget to Parliament (September) | Proposed budget to Diet (January) | Proposed budget to Parliament (February) | Proposed budget to Congress (February) |
| Primary Funding Channel: -Bilateral -Multilateral -Both | Bilateral | Multilateral | Bilateral | Multilateral | Bilateral | Bilateral | Bilateral |
| Funding Is: -HIV/AIDS specific -sector-wide/basket funding -general budget support | Specific | Specific | Specific | Specific | Both | -Specific -Projectized/ multisectoral -Sector-wide/basket | Specific |
| Country or Regional Focus/Emphasis for Development Assistance | Western hemisphere, Africa | Francophone | Africa, Asia | Horn of Africa | Asia | Africa/Asia/ Caribbean | 15 focal countries: 12 in Africa, 2 in Caribbean, 1 in Asia |
| Number of Countries/Regions for Development Assistance | Assistance programs/projects in 145 countries. | "Priority Solidarity Zone" African countries. | 36 "focus partner" countries; 28 other partner countries. | Five field missions | | Assistance programs in 97 countries. | Over 100 countries. HIV/AIDS effort concentrated in 15 focal countries |
| Primary Recipient of Funds: -NGOs (Including International NGOs) -governments -both | Both | Governments | Both | NGOs | Governments | Governments | NGOs |
| Donor Has Major Field Staff Presence: Yes/No | Yes | No | No | No | Yes | Yes | Yes |
| Web site | www.acdi-cida.gc.ca | www.diplomatie.gouv.fr/cooperation/dgcid/ ; www.afd.fr/jahia/jahia/lang/fr/pid/1 | www.bmz.de/ ; www.gtz.de/ ; www.kfw.de | www.esteri.it | www.mofa.go.jp/ ; www.jica.go.jp/ ; www.jbic.go.jp | www.dfid.gov.uk | www.state.gov/s/gac |

²⁸ UNAIDS and the Kaiser Family Foundation. 2008. *Financing the response to AIDS in low- and middle income countries: International assistance from the G8, European Commission and other donor Governments, 2007*, by J. Kates, J.A. Izazola and E. Lief. Washington. (http://www.kff.org/hivaids/upload/7347_04-2.pdf)

Building Capacity for the Agriculture Sector's Response to AIDS
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| KEY DIMENSIONS | OTHER DONOR GOVERNMENTS & THE EUROPEAN COMMISSION | | | | | |
|--|--|--|--|--|--|---|
| | Australia | Ireland | Netherlands | Norway | Sweden | European Commission |
| Fiscal Year (FY) | July 1-June 30 | Calendar year | Calendar year | Calendar year | Calendar year | Calendar Year |
| Principal Government Funding Departments & Agencies | AusAid | DCI/Irish Aid | DGIS | NORAD | SIDA | EuropeAid; Tactis; CARDS; EDF; ALA; MEDA; ECHO |
| Funding Obligated In: -Single-year -Multi-year -Both | Both | Single-year | Multi-year | Single-year | Both | Multi-year |
| Funding Disbursed In: -Single-year -Multi-year -Both | Both | Single-year | Multi-year | Single-year | Both | Multi-year |
| Type of Funding/Support: -Grant -Concessional Loan -Other (commodities, personnel) | grants | grants | grants | grants | grants | grants; concessional loans (EDF) |
| Timing of Annual Budget | Proposed budget to Parliament (May) | Proposed budget to Dail (September) | Proposed budget to Tweede Kamer (September) | Proposed budget to Storting (September) | Proposed budget to Rikstag (September) | Proposed budget to European Parliament (June) |
| Primary Funding Channel: -Bilateral -Multilateral -Both | Bilateral | Both | Bilateral | Bilateral | Both | Bilateral |
| Funding Is: -HIV/AIDS specific -sector-wide/basket funding -general budget support | Specific | Specific | -Specific -Projectized/ multisectoral -Sector-wide/basket | -Specific -Projectized/ multisectoral -Sector-wide/basket | -Specific -Projectized/ multisectoral | Specific |
| Country or Regional Focus/Emphasis for Development Assistance | East Asia/ Pacific | Africa | Africa, Asia | Africa | Africa | Africa/ Caribbean/ Pacific |
| Number of Countries/Regions for Development Assistance | 33 partner countries. | 7 "priority countries"; 17 other countries. | Assistance programs in 36 partner countries. | Assistance programs/ projects in 7 "Main partner countries" & 18 | Assistance projects in 120 countries. | Assistance programs/ projects in 150 countries. |
| Primary Recipient of Funds: -NGOs (including International NGOs) -governments -both | Governments | Both | Both | Both | Both | Governments |
| Donor Has Major Field Staff Presence: Yes/No | No | No | Yes | No | No | No |
| Web site | www.ausaid.gov.au | www.dci.gov.ie | www.minbuza.nl | www.norad.no | www.sida.se | http://ec.europa.eu/comm/development/index_en.htm |

BUILDING CAPACITY FOR THE AGRICULTURE SECTOR'S RESPONSE TO AIDS

A TRAINING MANUAL FOR AGRICULTURE SECTOR WORKERS

11

MODULE

Programme Monitoring and Evaluation



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AIMS

The aims of this module are the following:

1. To introduce the role of monitoring and evaluation in the agriculture sector's response to AIDS.
2. To analyse UNAIDS Monitoring and Evaluation (M&E) Framework and explore how it can be adapted to the agriculture sector.
3. To stimulate thinking and ideas on how to improve the monitoring and evaluation of outcomes and impacts of agriculture sector AIDS programmes.

OBJECTIVES

Upon completion of the module the learner should:

1. Have a basic understanding of the main purposes of monitoring and evaluation in the agriculture sector's response to AIDS.
2. Have knowledge on various types of monitoring and evaluation and be familiar with different tools and techniques to carry out monitoring and evaluation of projects and programmes.
3. Have a general understanding of the UNAIDS M&E framework and how it can be adapted to the agriculture sector.
4. Be familiar with different vulnerability models used in the United Nations system, which could be useful to monitor and evaluate agriculture sector AIDS programmes.

QUESTIONS for REFLECTION

1. What is the main goal of M&E?
2. Why is it important to monitor and evaluate agriculture sector AIDS programmes?
3. How can M&E contribute to advocacy efforts with the health and other sectors for the role of agriculture in the AIDS response?
4. What indicators could be used for M&E of agriculture sector AIDS programmes?
5. What challenges might the agriculture sector face in engaging in M&E activities?
6. What can be done to improve M&E of outcomes and impacts of agriculture sector AIDS programmes? How can outcomes and impacts be assessed?

INTRODUCTORY REMARKS

Monitoring and evaluation (M&E) are interconnected and complementary techniques. Their main purpose is to enhance accountability, strengthen programmes and improve advocacy. While monitoring is done routinely, evaluation involves periodically stepping back and gathering information. Evaluation involves reflecting on and analysing data and information in order to gain a broader perspective on the effect and potential impact of programmes.

Within the agriculture and other sectors, decision makers require evidence of the efficient and effective use of resources. Meanwhile, those working in the agriculture sector and on programmes need to provide evidence of the optimal use of resources – the sector needs to

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build its evidence base and document its successes and failures in responding to the AIDS epidemic. Monitoring and evaluation is an invaluable tool in this regard. It allows the sector to address challenges and shortcomings and to improve activities and programmes. M&E can also inform and provide direction for future work and the scaling up of activities. The information obtained from M&E activities is crucial for national decision makers in the agriculture sector, as well as for donors at national and international levels.

Continued advocacy in the agriculture and other sectors is important to ensure support for the sector's role in responding to AIDS. Positive outcomes from M&E can support such advocacy efforts. In this regard, it is also important to ensure that M&E activities used by the agriculture sector are in line with the national AIDS M&E system.

In this module the learner is presented with an overview of programme monitoring and evaluation for agriculture sector AIDS programmes. The first part of the module looks at the role and importance of monitoring and evaluation when developing programmes. It then goes on to describe what monitoring and evaluation is and looks at various M&E tools and techniques. The module then looks at existing M&E frameworks, which can be useful for the agriculture sector in developing M&E activities for its AIDS programmes.

READINGS: AN OVERVIEW OF MONITORING AND EVALUATION FOR AGRICULTURE SECTOR AIDS PROGRAMMES

1. Monitoring and evaluation in programme planning

1.1. Importance of M&E in programme planning

Effective planning is important in order to ensure optimal use of programme and project resources and to reduce the chance of problems during implementation. Monitoring and evaluation should be part of the planning process from the very beginning as it is difficult to go back and set up an M&E system once the programme is already being implemented. Information relating to performance and targets should be gathered from the start of the programme planning process, typically when the needs assessment is carried out. This provides the information against which achievements and programmed results will likely be assessed over time.

Monitoring and evaluation help determine if a programme or project is working and when circumstances have changed. Carrying out M&E provides the necessary information to make decisions about programmes and about changes that need to be made. Programmes should be regularly monitored and adjusted before being evaluated and re-planned.

While there is not a single standard method for planning for monitoring and evaluation, the use of a logical framework¹ can be useful.

1.2. Logical framework

In the programme planning process, creating a log frame is a useful and important step as it provides a picture of how the programme will work to achieve its goal(s). It addresses the relationship between inputs and results in a focused and practical manner. Annual work plans are derived from the logical framework. A log frame is a useful tool during the programme planning stage as it helps those developing the programme to think about how activities create outputs, which meet objectives and ultimately the programme goals(s). It is important that it is developed at the inception of a programme for easier reporting on progress, for funding, and for adapting and adjusting the programme. A log frame is important for the planning, implementation, and the monitoring and evaluation of a programme.

A log frame is a matrix (see table 1 for an example of a log frame template) in which information is completed row by row, in descending order from top to bottom. The logic is then verified row by row from bottom to top. Objectively verifiable indicators should be included for all rows. They provide a simple yet reliable means to measure achievements and results and they also reflect processes and changes in the context.

Table 1. Log frame matrix

| Hierarchy of objectives | Objectively verifiable indicators | Means of verification | Assumptions |
|---|---|--|--|
| Goal/Impact: What the programme intends to contribute in the long term | Measure impacts: Assesses actual change in conditions of the basic | Typically measured through baseline and end line (evaluation) surveys. | Acknowledgement of other things that might happen (beyond direct |

¹ Also referred to as Log Frame.

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| | | | |
|---|---|--|---|
| as a result of achieving intermediate objective. | problem; shows changes that are fundamental and sustainable without continuing programme support. | | control) that help achieve desired impact. |
| Objectives/Outcomes: What response the programme intends to achieve among the target population group. | Measure effects: Describe target population responses to programme outputs (e.g. systemic changes in institutions). | Also measured by the difference between baseline and end line measurements | Other conditions that might be brought out by other actors. |
| Outputs: What the programme intends to achieve in the short term as a result of programme activities. | Describe programme products: Describe the direct results of programme activities for which the programme is responsible. | Should be recorded in programme monitoring reports. | |
| Activities: What the programme implementers will do. Lists activities or interventions undertaken by the programme in order to produce the desired outputs. For each output there may be more than one activity. | Measure completion: Whether or not activities were completed and in comparison to any targets. | Monitoring and annual reports. | |
| Inputs: What resources are necessary to implement project activities. | Financial, human, logistic resources: Resource needed to carry out activities. | | |

(Source: FAO, 2010)

1.3. Indicators

Indicators are measurable or tangible signs that something has been done or that something has been achieved. They are an essential part of a monitoring and evaluation system because they are essentially what are measured and monitored. Using indicators, one can answer the following questions: Who? How many? How often? How much?

It is however important to decide early what indicators will be used so that information and data can be collected immediately. Two of the types of indicators that can be used for measuring the impact of AIDS programmes in the agriculture sector include impact indicators and effect indicators. Impact indicators measure lasting changes in the condition or aspects of the quality of life of a population. Effect indicators measure changes in the behaviour and practices of individuals and households, as well as changes in the coverage and quality of services of public and private institutions and other systemic changes.

The characteristics of good indicators are:

- SMART: specific, measurable, attainable, relevant and time bound; and
- SPICED: subjective, participatory, interpreted, cross-checked, empowering and diverse.

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One challenge with measuring indicators is that other variables or factors may have an impact on them. Within a project or programme, however, it is possible to identify such variables and to take them into account.

Key steps to developing indicators:

- 1) Identify the problem/situation being addressed (e.g. social situation – health, education, etc.).
- 2) Develop a vision for how the problem areas will be – this will help determine impact indicators. Some questions to ask include:
 - What indicates that the vision has been achieved?
 - What indicators are available that can be measured to indicate that the vision has been achieved?
- 3) Develop a vision for how things should be achieved – this will help determine process indicators.
- 4) Develop indicators for effectiveness.
- 5) Develop indicators for efficiency targets (e.g. timeframes, costs, time allocations, etc.).

Indicators can be quantitative or qualitative. Quantitative indicators provide information on “how much” or “how many” (e.g. how much a workshop cost, how many people attended it, etc.). Qualitative indicators provide information on how people feel about a situation, how things are done, how people behave, etc. Monitoring and evaluation should include both quantitative and qualitative information in order to be comprehensive.

2. Monitoring

2.1. *Role of monitoring*

Monitoring essentially means keeping track of programme activities and outputs on a regular basis throughout implementation. Collecting data on a programme's process is essential in order to ensure that a programme is on track and consistent with established plans. Monitoring is most useful when undertaken within the context of an overall monitoring and evaluation plan and in line with the overall goals of the programme. When done properly, monitoring is an important tool for effective programme management and provides a good base for evaluation. It allows those involved in programmes to determine whether the resources available are sufficient and being used well, whether capacity is sufficient and appropriate, and whether the programme is achieving its desired outcomes.

Monitoring involves the following aspects:

- establishing indicators of efficiency, effectiveness and impact;
- setting up systems to collect information related to these indicators;
- collecting and recording this information;
- using the information to inform day-to-day management of the programme.

Two key types of monitoring include:

- 1) Results monitoring: the effects of a programme are monitored by assessing perceptions and responses of the target population against programme outputs. This helps those

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implementing programmes to understand the level of acceptance of programme outputs or interventions.

- 2) Objective monitoring: this involves checking whether programme objectives are being achieved or are likely to be achieved within the timeframe of the programme.

2.2. Monitoring methods and tools

Methods to collect information for monitoring and evaluation should be build into programme plans. They should facilitate a steady flow of meaningful and useful information, which should be stored in such a way that it is easily accessible. Some sources of information that can be used for M&E purposes include reports, financial statements, meeting minutes, etc. Other more specific tools that can be used to supplement information include: case studies, recorded observations, diaries, structured questionnaires, interview, focus groups, sample surveys, review of statistics, etc.

Table 2 looks at some of the various methods that can be used to collect information for monitoring and evaluation purposes. The appropriate method(s) need to be selected that fit the needs and resources of the programme.

Table 2. Information collection methods

| Method | Description | Usefulness | Disadvantages |
|-------------------------|--|---|--|
| Interview | Can be structured, semi-structured or unstructured. Involve asking specific questions aimed at getting information that will enable indicators to be measured. Questions can be open-ended or closed (yes/no answers). Can provide qualitative and quantitative information. | Can be used with almost anyone who has some involvement with the programme/project. Can be done in person or on the telephone or even by e-mail. Very flexible. | Requires some skill on the part of the interviewer. |
| Key informant interview | Interviews that are carried out with specialists on a topic or with someone who may be knowledgeable on a particular issue. | As key informants often have little to do with the programme or project, they can be quite objective and offer useful insights. They can provide information on the "big picture", where people more involved may focus on more specific details. | Needs a skilled interviewer with a good understanding of the topic. Be careful not to take information as the absolute truth just because a key informant has said it. |
| Questionnaire | Written questions that are used to get written responses. When analyzed, information can enable indicators to be measured. | Can save a lot of time if it is self-completed. Allows for many respondents. Gives people a feeling of anonymity and therefore they may say things they would not say to an interview. | With people who do not read and write, someone has to go through the questionnaire with them. This can take time and the number of respondents will be reduced. It is not possible to explore what people are saying any further. Questionnaires tend to be over-used and people get |

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| | | | |
|----------------------|--|--|--|
| | | | tired of completing them. Questionnaires must be piloted to ensure that questions can be understood. For complex questionnaires requiring computerised analysis, and expert may be needed. |
| Focus group | A group of about 6 to 12 people are interviewed together by a skilled interviewer/facilitator, with a carefully structured interview schedule. Questions are usually focused around a specific topic or issue. | Can be a useful way of getting opinions from a rather large sample of people. | Difficult to do random sampling for focus groups, meaning findings may not be able to be generalized. People may influence one another either to say or keep quiet about something. If possible, focus groups interviews should be recorded and then transcribed. This requires special equipment and can be time consuming. |
| Community meeting | Involves a gathering of a fairly large group of beneficiaries to whom questions, problems, situations are presented for input to help in measuring indicators. | Useful for getting a broad response from many people on specific issues. A way of involving beneficiaries directly in an evaluation process, giving them a sense of ownership of the process. Useful to have at critical points in community projects. | Difficult to facilitate – requires a very experienced facilitator. May require breaking into small groups followed by plenary sessions when everyone comes together again. |
| Fieldworker reports | Structured report forms ensure that indicator-related questions are asked and answers and observations recorded on every visit. | Flexible. An extension of normal work, so cheap and not time-consuming. | Relies on field workers being disciplined and insightful. |
| Ranking | Involves getting people to say what they think is most useful, most important, least useful, etc. | Can be used with individuals and groups, as part of an interview schedule or questionnaire, or as a separate session. Where people cannot read and write, pictures can be used. | Quite a difficult concept to get across and requires very careful explanation and testing to ensure that people understand what you are asking. If they misunderstand, data can be distorted. |
| Visual/audio stimuli | Include pictures, movies, tapes, stories, role plays, and photographs. Used to illustrate problems or issues, past events or future events. | Useful to use together with other tools, particularly with people who cannot read or write. | Necessary to have appropriate stimuli and the facilitator needs to be skilled in using such stimuli. |
| Rating scales | This technique makes use of a continuum, along which people are expected to place their own feelings, observations etc. People are usually asked to say whether they agree strongly, agree, don't know, disagree, and disagree strongly with a | It is useful to measure attitudes, opinions, and perceptions. | You need to test the statements very carefully to make sure that there is no possibility of misunderstanding. A common problem is when two concepts are included in the statement and you cannot be sure whether an |

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| | | | |
|----------------------------------|--|--|---|
| | statement. You can use pictures and symbols in this technique if people cannot read and write. | | opinion is being given on one or the other or both. |
| Critical event/incident analysis | Way of focusing interviews with individuals or groups on particular events or incidents. Aims at getting a full picture of what actually happened. | Useful when something problematic has occurred and people feel strongly about it. If all involved are included, it should help the evaluation team to get a picture that is reasonably close to what actually happened and to be able to diagnose what went wrong. | Evaluation team can end up submerged in a vast amount of contradictory detail and lots of "he said/she said". Can be difficult to remain objective. |
| Participant observation | Involves direct observation of events, processes, relationships and behaviours. Observer gets involved in activities rather than maintaining a distance. | Useful way of confirming (or otherwise) information provided in other ways. | Difficult to observe and participate. Process is time-consuming. |
| Self-drawings | Involves getting participants to draw pictures, usually of how they feel or think about something. | Can be useful, particularly with younger children. | Can be difficult to explain and interpret. |

(Source: FAO, 2010)

2.3. Monitoring techniques

Some possible monitoring techniques include:

- **Physical inspection:** Gathering evidence by, for example, reviewing new equipment bought and observing inventory, invoices, or other supporting documents.
- **Confirmation:** Confirming whether target individuals or households have received goods for services from a project or programme. This can be done by asking beneficiaries directly
- **Inquiry:** Asking communities questions about the operations of a programme. This is used to get a better understanding of the programmes successes and failures in service delivery.
- **Observation:** Witnessing physical activities, such as the setting up of activities or programmes.
- **Participatory programme reviews:** Involving stakeholders in programme reviews in order to establish a shared vision and consensus on challenges in implementation and how to address them to achieve common programmed outcomes.
- **Supervisory visits:** Regular visits to observe the programme implementation process.

2.4. Documenting monitoring activities

In order to ensure effective monitoring, it is important to document monitoring activities. The following techniques can be used for this purpose:

- **Monitoring plan:** The monitoring plan should serve as the basis for all monitoring activities.
- **Monitoring tools/instruments:** These are various forms that are used to organize the review of activities (separate forms can be used for each activity). They can be designed and used for both desk reviews and on-site monitoring.
- **Working papers:** These are written records developed during monitoring to document all steps of the review process. They serve as a written record of the review from its onset, until the report is written. They include the monitoring instruments and detailed information collected during the review.
- **Summaries:** They provide an objective overview of the review and put findings into perspective.
- **Monitoring report:** This is a clear and accurate report on the results of the monitoring review. This is a formal report that is presented to the programme coordinator or other authorities.
- **Corrective action plan:** This plan outlines the steps taken to address gaps and challenges faced in implementing the programme.

3. Evaluation

3.1. *What is evaluation?*

The evaluation of a programme looks at its actual impacts against defined strategic plans. It essentially compares what the programme intended to do with what was accomplished and how it was accomplished. The evaluation can take place during programme implementation (called 'formative' evaluation), with the aim of improving the strategy and functioning of the programme. Alternatively, the evaluation can take place after the programme has concluded (called 'summative' evaluation), which aims to draw lessons from a completed programme. It seeks to determine the relevance of the programme and how well it reached objectives and development efficiency (if the input to the work was appropriate in terms of the output) and effectiveness (the extent to which it achieved specific objectives).

Evaluation involves:

- Looking at what the programme intended to achieve – What difference did it want to make? What impact did it want to have?
- Assessing programme progress towards what it wanted to achieve and its impact targets.
- Looking at the strategy of the programme to see if the programme followed the strategy, if it worked or not and why, etc.

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- Looking at how the programme worked – Was there an efficient use of resources? What was the opportunity cost of the way it worked? How sustainable is the way in which the programme works? What are the implications for the various stakeholders?

Different ways of doing an evaluation:

- Self evaluation: Involves a programme holding up a mirror to itself and assessing how it is doing in order to learn and improve.
- Participatory evaluation: A form of internal evaluation, involving as many people with a direct stake in the programme as possible. The involvement of an outsider would be in the role of a facilitator, not as an evaluator.
- Rapid participatory appraisal: A qualitative way of doing evaluations and is carried out by an interdisciplinary team over a short period. It helps to understand the local situation and is quick, inexpensive, useful, flexible and interactive. It involves the use of secondary data review, direct observation, semi-structured interviews, key informants, group interviews, games, diagrams, maps and calendars.
- External evaluation: Carried out by a carefully chosen outsider.
- Interactive evaluation: Involves active interaction between an outside evaluator and the programme being evaluated. An insider may be included in the evaluation team.

3.2. Undertaking an evaluation

An evaluation should be based on a good understanding of why the evaluation is being commissioned, how the findings will be shared and used and the political context within which it will be conducted. Defining the scope of a programme is important in this regard as it helps to focus the evaluation.

A number of key questions should be asked when conducting an evaluation. An evaluation team would examine and assess a range of programme elements and aspects in order to be able to answer these questions.

- Who is currently benefiting from the programme and in what ways?
- Do programme inputs justify the outputs? What is the basis of the justification?
- What would improve the efficiency, effectiveness and impact of the programme?
- What lessons can be learned from this programme, in terms of it being replicated?
- How can a project of this kind respond to the identified problem?

There are a range of approaches that can be used when conducting an evaluation and a good evaluation will often use a combination of approaches. Particular emphasis may be placed on one approach, however, findings from using other approaches should always be considered. Table 3 details some of the different approaches to evaluation.

Table 3. Approaches to evaluation

| Approach | Major purpose | Typical focus questions | Likely methodology |
|------------|--------------------------|--------------------------|------------------------|
| Goal-based | Assessing achievement of | Were the goals achieved? | Comparing baseline and |

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| | | | |
|------------------|--|--|---|
| | goals and objectives. | Was it done efficiently? Were they the right goals? | progress data. Finding ways to measure indicators. |
| Decision-making | Providing information. | Is the project effective? Should it continue? How might it be modified? | Assessing range of options related to the project context, inputs, process and product. Establishing some kind of decision-making consensus. |
| Goal-free | Assessing the full range of project effects (intended and unintended). | What are all the outcomes? What value do they have? | Independent determination of needs and standards to judge project worth. Qualitative and quantitative techniques to uncover any possible results. |
| Expert judgement | Use of expertise. | How does an outside professional rate this project? | Critical review based on experience. Informal surveying and subjective insights. |

(Source: FAO, 2010)

3.3. Next steps in the evaluation process

Once an evaluation has been conducted, subsequent steps in the process include analyzing the information collected, taking action on the results and reporting findings.

The evaluation team that conducted the evaluation should analyze the information collected. Those working on the programme may also carry out further analysis. Analysis essentially entails converting detailed information into a clearer understanding of patterns, trends, and interpretations. Once data has been collected, a structure for the analysis should be developed based on themes and concerns that emerge from the information. Data is then organized under the themes and patterns, trends and possible interpretations are identified. After evaluation data has been analyzed, the findings need to be reported to various programme stakeholders. Reporting can take on a variety of forms, including written form, verbal communication, or PowerPoint presentations, slides and videos.

It is important that programmes respond to the outcomes of monitoring and evaluation, based on information that emerges from the analysis of data. Programmes should learn from the findings, conclusions and recommendation of the monitoring and evaluation process. Subsequently, decisions need to be made about how to move forward with the programme and about what changes need to be made to the programme. This step may also involve dealing with possible resistance to changes within the programme, as well as among stakeholders.

4. Learning from existing M&E frameworks

Many organizations, such as UNAIDS and UNDP, have invested resources and effort, and have made considerable progress in developing monitoring and evaluation frameworks. This section seeks to learn from work that has been done in this area, which can help to guide the M&E activities in the agriculture sector.

This section is divided into two parts. Section 4.1 adapts the UNAIDS M&E framework to the agriculture sector by highlighting key points relevant to monitoring and evaluation of

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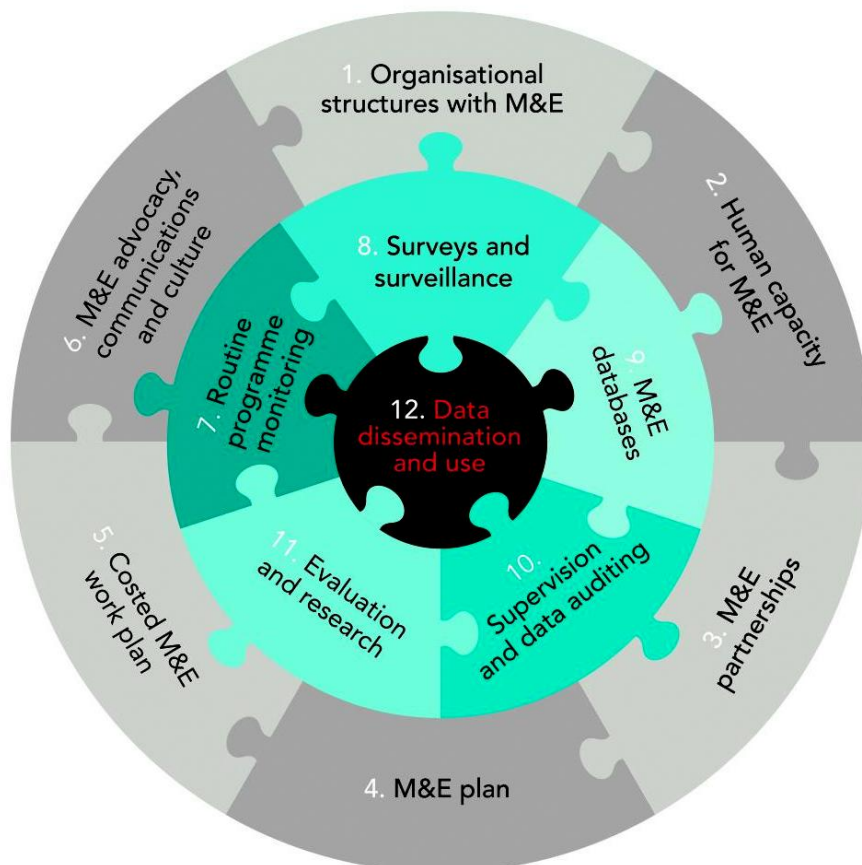
agriculture sector AIDS responses. The complete UNAIDS framework² should be used as a reference to supplement this section, as it covers the elements of the framework in greater detail. By describing the framework's components from an agriculture perspective, it can better help agriculture sector workers tailor M&E to meet the specific needs of the sector.

Section 4.2 looks at UNDP's M&E framework for adaptation to climate change. While this framework does not look specifically at AIDS M&E, it can be useful to the agriculture sector in developing M&E tools, in particular to address outcomes and impacts of responses.

4.1. Adapting the UNAIDS M&E Framework to the agriculture sector

UNAIDS has identified 12 components for an M&E system (see figure 1). Not all of the components are highly relevant for monitoring and evaluation of agriculture sector AIDS programmes, but they are briefly presented because they should be included as part of a checklist. Each component should be considered and prioritized based on the degree of importance for the national situation. Although numbered, the components are not sequential.

Figure 1. Organizing framework for a national AIDS M&E system



(Source: UNAIDS, 2008)

The figure should be read as interconnected components of building blocks. As for the three concentric circles, the outer circle represents the human resources, partnerships and planning

² See: UNAIDS. 2008. Organizing framework for a functional national HIV monitoring and evaluation system. Geneva.

(http://data.unaids.org/pub/BaseDocument/2008/20090305_organizingframeworkforhivmesystem_en.pdf)

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to support data collection and use. The middle circle focuses on the mechanisms through which data are collected, verified and transformed into useful information – this is where indicators are relevant. The central piece represents the main purpose of the M&E system – using data for decision-making. The following section looks at the 12 components of the UNAIDS M&E system, while highlighting how they relate to M&E of agriculture sector AIDS programmes.

1) Organizational structures with AIDS M&E functions

Since Ministries of Agriculture (MoA) already have their own M&E units, the issue is to integrate M&E of agriculture sector AIDS programmes into the existing unit. Doing so requires discussions with the M&E unit and relevant decision-makers. In addition to internal discussions within the Ministry of Agriculture, it would be useful at an early stage for a focal point of the MoA's M&E unit to engage in discussions with the M&E unit of the National AIDS Authority or Ministry of Health. Resource requirements for M&E of agriculture sector AIDS programmes also need to be evaluated and secured.

2) Human capacity

Staff in the Ministry of Agriculture's M&E unit already have expertise in monitoring and evaluation. However, they would need, along with the Ministry's focal point on AIDS, training in the specific aspects of M&E of AIDS programmes. Staff should become familiar with the system established (or being developed) in the country for AIDS M&E and should be able to develop relevant indicators on AIDS for the agriculture sector.

This is important because M&E of agriculture sector AIDS programmes should be developed to serve the needs of decision-making in both agriculture and AIDS. Therefore, compatibility and coherence is crucial right from the beginning.

3) Partnerships to plan, coordinate and manage the M&E system

Without impinging on the M&E unit of the Ministry of Agriculture, other partnerships should be identified within the Ministry, the agriculture sector at large, national AIDS authorities and donors, and other interested stakeholders who can assist with the development of M&E for agriculture sector AIDS programmes in the sector. A working group or a task force could be set up to assist in this process.

4) National M&E plan for the agriculture sector's AIDS response

This plan should be of a strategic nature, including identifying data needs, indicators, data collection and assigning roles within the M&E unit, as well as with AIDS focal points and the Ministry of Agriculture. The plan should cover a 4 to 5 year period and should be regularly revised as developments take place. The plan can cover the national, as well as sub-national levels if necessary. This plan, along with the annual work plan (component 5), needs to conform to the format and standards used by the M&E unit of the Ministry of Agriculture.

5) Annual costed national AIDS M&E work plan

The annual work plan is the operationalization of the national plan. The annual work plan needs to assign priorities and to cost the activities to be carried out under it.

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6) Advocacy, communication and culture for M&E for agriculture sector AIDS programmes

M&E of agriculture sector AIDS programmes needs the support of decision-makers within the Ministry of Agriculture, as well as within the agriculture sector itself. Stakeholders and staff working in agriculture outside of the AIDS field might be resistant or skeptical about the value of agriculture sector AIDS responses. There is a need for further dialogue in this regard in order to show transparency and accountability so as to change attitudes.

Advocacy and communication are also necessary outside of the agriculture sector and particularly towards the health sector, national AIDS authorities, as well as donors. They need to understand and recognize the importance of M&E of agriculture sector AIDS programmes and to be informed of developments and activities of the Ministry of Agriculture and the results of activities in this field.

7) Routine AIDS programme monitoring

This component is closely linked to components 4 and 5, with priority generally given to monitoring routine programme performance. Decision-makers need frequent and standardized data. Routine data monitoring corresponds to inputs (e.g. staff, funds, materials), activities (e.g., training of staff, preparation of communication materials) and outputs that focus on immediate results (e.g. the number of home gardens established or orphans trained).

Information can also be incorporated from other available sources – for example, from national AIDS programmes on coverage of rural populations by services or access to ARTs. In a similar manner, existing data and indicators on the agriculture sector can also be brought to the attention of decision-makers in the context of agriculture and AIDS, such as data on food security or vulnerabilities of farming systems, which can serve as early warning signals for HIV or trends in population mobility.

8) Surveys and surveillance

This component refers to high quality studies on various aspects of the epidemic, which can strengthen the agriculture sector in responding to AIDS. From a practical point of view, it would be better to piggyback on, or collaborate with, other relevant surveys that are carried out. This means keeping abreast of plans to conduct surveys by other organizations – such as Demographic and Health Surveys and the AIDS Indicator Survey – and intervening at the early stages in order to have a possible influence. Adding key questions of relevance to the agriculture sector and especially discussing data analysis plans (e.g. levels of disaggregation by geographic area, types of rural population – farmers, pastoralists, fisherfolk) can greatly enhance the value of the data for the Ministry of Agriculture's M&E unit.

9) National and sub-national databases

Under this component one has to ensure that information relevant to agriculture and AIDS is integrated into the national database of the Agriculture sector. This ensures its legitimacy in the sector and in the eyes of decision-makers, while also enhancing the potential of its usefulness to various users.

Depending on available resources, sub-national databases should be considered in order to monitor rural areas that play an important role in the epidemic, such as near market or border

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towns and among specific high-risk rural populations such as fisherfolk. Such databases can assist in tailoring agriculture sector AIDS programmes to meet the needs of these populations, as well as play an important role for advocacy.

National AIDS programmes develop databases for what they consider most at risk groups (MARGs), such as sex workers or injecting drug users. Such efforts, however, generally do not include important MARGs, such as fisherfolk or commercial farm workers. By addressing these important groups, the agriculture sector would be making an important contribution to the overall response to the epidemic.

10) Supportive supervision and data auditing

It is often stressed that quality data is in part a question of time and patience, associated with continuing efforts. A well designed indicator based on poor data can be misleading and negatively affect the credibility of not just the M&E system, but also the issue of agriculture and AIDS. Quality data is difficult to obtain and is often the result of continuing improvements. This should be recognized and it highlights the importance of auditing data quality. It is possible that the M&E unit of the Ministry of Agriculture already has an auditing system in place. In such a case it can be extended to the agriculture sector response to AIDS.

Auditing is also important at the field level because this is where issues with data often start. This, however, requires the provision of support and training in order to improve performance. Collection procedures may also need to be improved and this can be discovered and addressed following an audit.

11) HIV evaluation and research

The M&E findings must aim to answer the needs of the agriculture sector as well as respond to those of AIDS programmes since the agriculture sector's response to AIDS is at the intersection of the two. In view of the fact that M&E of agriculture sector AIDS programmes is still in its infancy, research is needed to improve the system. Since complexity increases with the evaluation of outcomes and especially impacts, research would be particularly useful in these two areas. Moreover, once an indicator is adopted, research is necessary to evaluate its strengths and weaknesses – e.g. Does it really reflect the situation? What are its limitations? How can it assist in decision-making?

12) Data dissemination and use

This component is at the heart of the M&E of agriculture sector AIDS programmes as it represents the ultimate goal of the efforts invested in the previous components. Preparing a dissemination plan for M&E results is an excellent tool for supporting advocacy efforts. However, the understanding and use of results needs to be adapted for different types of stakeholders through appropriate presentations. All identified stakeholders need to receive and have access to results in order to promote their use in agriculture as well as health and AIDS programmes. Such an approach can greatly promote interest in, understanding of and support for agriculture sector AIDS programmes.

4.2. UNDP's M&E framework for adaptation to climate change³

UNDP has developed an M&E framework for adaptation to climate change. While this framework was developed to look at adaptation to climate change, it uses several well-accepted indicators, which could be applicable for conducting monitoring and evaluation of agriculture sector AIDS programmes. The framework focuses on four key types of indicators:

- 1) Coverage (quantitative)
- 2) Impact (quantitative, qualitative, survey-based, narrative)
- 3) Sustainability (quantitative, qualitative, survey-based, narrative)
- 4) Replicability (quantitative)

The following section looks at these indicators in greater detail, while adapting them to the agriculture sector's AIDS response. Table 4 provides an example of this framework as it is applied to an agriculture and food security project.

1) Coverage

- Number of policies, plans or programmes introduced or adjusted to incorporate HIV vulnerabilities and impacts.
- Number of stakeholders (e.g. households, communities, organizations, decision-makers) engaged in capacity development activities for vulnerability reduction or impact mitigation.
- Number of stakeholders served by new or expanded AIDS-related services or programmes (e.g. HIV prevention, testing or treatment; nutrition programmes, etc.)
- Number of investment or funding decisions revised or made to incorporate the AIDS epidemic.
- Number of vulnerability or impact-reducing practices/measures implemented to support adaptation of livelihoods and/or resource management.

2) Impact

- Percent change in stakeholders' behaviours as a result of programme interventions.
- Percent change in stakeholders' capacities to manage AIDS-related impacts.
- Percent change in use of HIV-related services and programmes, for example, testing, treatment, training, etc.
- Percent change in stakeholder perceptions of vulnerability to (or capacity to adapt to) HIV and related impacts.
- Improvement in the relevant quantitative development outcome (food security, nutrition status, health outcomes, etc.) in relation to past data.

3) Sustainability

- Number of project beneficiaries involved in capacity development for implementation of specific adaptation or mitigation measures.
- Availability of skills and resources necessary to continue adaptation and mitigation after conclusion of project/programme (at relevant scale).
- Stakeholder perceptions of sustainability.

³ This section is adapted from: UNDP. 2007. Monitoring and evaluation framework for climate change adaptation (draft). (http://www.undp.org/climatechange/adapt/downloads/Adaptation_ME_DRAFT_July.pdf)

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4) Replicability

- Number of 'lessons learned' documented.
- Number of relevant networks or communities with which lessons learned are disseminated.

Table 4. Application of UNDP's M&E framework for adaptation to climate change

| TA 1. Agriculture/Food Security | | |
|---|---|----------------|
| Project Objective: Vulnerability of farmers and pastoralists to increased drought and rainfall variability reduced. | | |
| Outcomes | Indicators | Indicator Type |
| 1. Rainfall capture and storage systems introduced or improved where rainfall is declining or becoming more variable. | 1.1 Number of farms and pastoralist households participating in rainfall capture and storage schemes. | Coverage |
| | 1.2 Water used for food production collected using capture and storage systems among farmers/pastoralists, measured as % change from baseline and % of total annual water requirements. | Impact |
| | 1.3 Perceived impact of project-driven use of rainfall capture and storage on food security (QBS of affected stakeholders) | Impact |

(Source: UNDP, 2007)

LEARNING REINFORCEMENT ACTIVITIES

Activity 1: Selection of indicators for M&E of agriculture sector AIDS programmes

1. Based on your experience and on what you learned in the module, make a list of key indicators that you would use for M&E of agriculture sector AIDS programmes in the country where you work.
2. In pairs or small groups compare your lists and explain your choices to your partner(s). Discuss the following:
 - a) How did you go about selecting the indicators?
 - b) To what extent are these indicators country-specific?
 - c) In your opinion, could the indicators selected by your partner(s) be useful for M&E of agriculture sector AIDS programmes in your country? Why or why not?

Activity 2: Developing a log frame

Working in small groups, think about a proposal for a possible project that you would like to implement. Using the following format, develop a log frame that can be used in the project proposal.

| Hierarchy of objectives | Objectively verifiable indicators | Means of verification | Assumptions |
|---|---|--|---|
| Goal/Impact: What the programme intends to contribute in the long term as a result of achieving intermediate objective. | Measure impacts: Assesses actual change in conditions of the basic problem; shows changes that are fundamental and sustainable without continuing programme support. | Typically measured through baseline and end line (evaluation) surveys. | Acknowledgement of other things that might happen (beyond direct control) that help achieve desired impact. |
| Objectives/Outcomes: What response the programme intends to achieve among the target population group. | Measure effects: Describe target population responses to programme outputs (e.g. systemic changes in institutions). | Also measured by the difference between baseline and end line measurements | Other conditions that might be brought out by other actors. |
| Outputs: What the programme intends to achieve in the short term as a result of programme activities. | Describe programme products: Describe the direct results of programme activities for which the programme is responsible. | Should be recorded in programme monitoring reports. | |
| Activities: What the programme implementers will do. Lists activities or interventions undertaken by the programme in order to produce the desired outputs. For each output there may be more than | Measure completion: Whether or not activities were completed and in comparison to any targets. | Monitoring and annual reports. | |

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| | | | |
|--|--|--|--|
| one activity. | | | |
| Inputs: What resources are necessary to implement project activities. | Financial, human, logistic resources: Resource needed to carry out activities. | | |

SUMMARY REMARKS AND LESSONS LEARNED

Monitoring and evaluation (M&E) is a complex yet essential part of programming, serving three key purposes: accountability, strengthening of a programme and advocacy. It is thus important for the agriculture sector to develop and carry out M&E activities for its AIDS programmes. Existing M&E systems also need to take into account specificities of the agriculture sector's response to AIDS. This entails, for example, taking into account specific indicators on the vulnerability of farming systems or households, rural-urban migration, etc.

There are many available tools and techniques that can be used for monitoring and evaluation activities. M&E of agriculture sector AIDS programmes can also benefit from the expertise and experience gained from M&E of AIDS programmes. The UNAIDS framework presented in the module is a flexible system that allows for considerable adaptation and thus can be utilized for the needs of the agriculture sector.

M&E of agriculture sector AIDS programmes is not just a technical question of constructing indicators; it involves making policy and programme decisions that influence the selection and use of indicators. Moreover, as the ultimate goal of M&E is to demonstrate impact of programmes, the impact component of the evaluation of agriculture sector AIDS programmes requires particular attention. The evaluation of outcomes and impacts can be complex but it is important due to its potential to strengthen the agriculture sector's AIDS response and its credibility among other sectors.

Lessons learned

1. Monitoring and evaluation should be taken into consideration from the onset of the programming planning process, as information gathered at the beginning of programme planning will help provide the basis upon which outputs and impacts can be measured and assessed.
2. Indicators are a necessary component of M&E as they serve as the measure of programme performance and help to answer key questions regarding the performance of programmes.
3. Monitoring is a routine practice to assess a programme's progress. This is an integral component of evaluation, which is a more comprehensive exercise of analysing data and information and assessing programme impacts.
4. An evaluation exercise should be based on a clear understanding of its purpose and how findings will be utilized and disseminated. Programmes should learn from and be adapted and shaped based on outcomes of M&E.

ACRONYMS AND ABBREVIATIONS

| | |
|--------|---|
| AIDS | Acquired immunodeficiency syndrome |
| ART | Antiretroviral therapy |
| CBA | Community based adaptation (UNDP) |
| CRIS | Country response information system |
| GEF | Global environment facility |
| GRD | Global response database |
| HIV | Human immunodeficiency virus |
| KRA | Key result area |
| MARGs | Most at risk groups |
| M&E | Monitoring and evaluation |
| MoA | Ministry of Agriculture |
| PLHIV | People living with HIV |
| PRA | Participatory rural appraisal |
| SMART | Specific, measurable, attainable, relevant and time bound |
| SPICED | Subjective, participatory, interpreted, cross-checked, empowering and diverse |
| TA | Thematic area |
| UN | United Nations |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| UNDP | United Nations Development Programme |
| UNGASS | United Nations General Assembly Special Session (on HIV/AIDS) |
| VRA | Vulnerability reduction assessment (UNDP) |

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Annex 1 – M&E implementation plan for HIV and AIDS in the Ministry of Agriculture of Zimbabwe, 2006-2010⁴

| Main Programme Objectives | Key Indicators | Frequency of Reporting |
|--|---|---|
| 1. Demonstrated leadership & commitment in the fight against HIV & AIDS | 1. No. of managers & supervisors with HIV/AIDS programme in their key result areas (KRAs) 2. One clear annual plan & budget for HIV/AIDS | 1. Quarterly |
| 2. Effective coordination of HIV & AIDS programmes in the Agricultural sector | 1. No. of HIV/AIDS coordinating focal persons at headquarters & departments 2. No. of staff supported by programme funds 3. An agricultural sector HIV/AIDS website set-up. | 1. Monthly 2. Quarterly 3. Not stated |
| 3. Senior managers, focal persons, frontline staff & community-based institutions are capacitated to mainstream HIV & AIDS into agricultural programmes & projects | 1. No. of senior managers, focal persons, frontline staff & community-based institutions personnel trained in HIV/AIDS programming 2. No. trainings done per year 3. No. of agricultural colleges incorporating HIV/AIDS & gender issues into curricula | 1. Monthly 2. Quarterly |
| 4. Set-up an agricultural management system (AMIS) | 1. No. of functional AMIS databases at departmental level | 1. Monthly |
| 5. Research with evidence-based decision making & programming | 1. Number of evidence-based research projects conducted 2. No. of Project proposals approved & funded by research priority area | 1. Monthly 2. Annually |
| 6. Prevention of new HIV infections | 1. No. of agricultural institutes/centres facilitating VCT on site 2. No. of departments facilitating the distribution of male & female condoms. | 1. Monthly 2. Quarterly |
| 7. Improve access to care & treatment services for vulnerable groups. | 1. No. of households accessing food aid while on ART 2. No. of livelihoods programmes that offering care and treatment for vulnerable groups | Monthly for all |
| 8. Improve food & security for vulnerable groups | 1. No. of agricultural institutes offering nutritional gardens for PLHIV 2. No. of facilities with balanced meals 3. No. of affected or infected households accessing agricultural inputs | 1. Monthly 2. Quarterly 3. Quarterly |
| 9. Gender sensitive mitigation programmes & economic empowerment of vulnerable groups | 1. No. of facilities practising multi-skilling to cover-up for increased absenteeism & loss of staff through death | 1. Monthly |
| 10. Effectively monitor, evaluate & assess the impact of sector programmes on HIV & AIDS & regularly review the strategy | 1. No. of Provincial training for data collection system 2. No. of monthly meetings feedback distributed to each province by head office 3. No. of coordination meetings held with other stakeholders 4. No. of monthly returns submitted to head office on core indicators by provinces 5. No. of reviews conducted during the lifespan of the strategy 6. No. of provincial visits done by the coordinating unit | 1. Monthly 2. Monthly 3. Monthly 4. Monthly 5. Annually 6. Monthly |

⁴ The table is extracted from FAO, 2010. It highlights the main programme objectives, key indicators, and frequency of reporting of the M&E implementation plan.