
**Sustainable Agricultural/
Rural Development and
Vulnerability to the AIDS Epidemic**

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FAO and UNAIDS Joint Publication

UNAIDS Best Practice Collection

December 1999

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FOREWORD

While the AIDS epidemic has reached every country in the world, more than 95 percent of all seropositive people live in the rural and urban areas of developing countries. For this reason, and because of the comparative advantages of the each partner in their fields of specialty, the Food and Agriculture Organization of the United Nations (FAO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) are currently intensifying an already fruitful record of cooperation between themselves.

HIV infection is still too often viewed as simply a medical matter. In fact, the epidemic has far-reaching consequences at all levels of society and its socio-economic repercussions stretch far beyond the domain of health. For national and regional responses to be effective, therefore, it is essential that the epidemic is tackled at all levels and sectors of society: household and community; the public sector; health care, education and welfare sector; and the business sector.

AIDS impacts in developing countries are out of the ordinary in many ways, but three stand out. First, AIDS affects primarily the most productive age groups; second, although it strikes most harshly among the poor and marginalized in global terms, AIDS does not spare the elites or middle class; and third, AIDS is not gender-neutral. For an example of the latter, one has only to look at the acute vulnerability of widows compared to widowers in high-prevalence societies.

However, no matter what level of prevalence is found in any given country, the impact of AIDS on affected families and communities is of devastating magnitude. Thus, while macroeconomic effects are of importance in evaluating the socioeconomic impact of HIV/AIDS, they must never be separated from the human-scale consequences on individuals.

FAO's constitutional mandate is to improve food production and distribution as well as the conditions of rural population. To that end, it works in partnership with governments, regional organizations, international organizations, nongovernmental organizations (NGOs) and, where appropriate, with the private sector.

For its part, UNAIDS has task of mobilizing a broad-based response to the global health and development challenges posed by HIV/AIDS. The programme works in partnership with governments, NGOs and the business sector as well as its seven co-sponsors (UNICEF, UNDP, UNDCP, UNFPA, UNESCO, WHO, and the World Bank), and other regional and international bodies.

Together, and with their range of partners and expertise, FAO and UNAIDS are uniquely positioned to develop measures to alleviate the impact of AIDS on food security, and to reduce vulnerability to AIDS through sustainable rural development. This joint publication is but one example of cooperation between the two partners.

ACKNOWLEDGEMENTS

We would like to thank the following FAO staff members who generously contributed to the case studies: Yeb Hiemstra (Technical Cooperation Department, Information and Procedures Unit [TCDI]), Sulayman M'Boob (FAO Representative in Tanzania) and Justus Kabyemera of the FAO representation in Tanzania; Ellen Muehlhoff (Economic and Social Department, Nutrition Programme Service [ESNP]) and Elizabeth Phiri, National Programme Coordinator of the Zambia project "Improving Household Food Security and Nutrition in the Luapula Valley;" and Kevin Gallagher and Rob Nugent of the Global Integrated Pest Management Programme Facility in Southern Africa and Cambodia respectively.

Sam Page, Coordinator of the Zimbabwean NGO African Farmers' Organic Research and Training shared with us several of her papers on HIV/AIDS and answered our questions with regard to the Zambezi Valley Organic Cotton Project. Damber Gurung, a consultant for the Rural HIV initiative of the World Bank, gave valuable comments on the Bank case studies and was very helpful in trying to locate relevant documents.

Special thanks are due to Silke Weigang (Sustainable Development Department, Extension, Education and Communication Service [SDRE]) for her insightful comments and practical suggestions on the draft which were especially useful.

The assistance of many other FAO staff members is gratefully acknowledged, and in particular: Sandra Aviles (Office of the Director General [ODG]), Makiko Taguchi (Integrated Pest Management Facility), Florence Egal (ESNP), Barbara Cooney (Technical Cooperation Department, Investment Center Division [TCI]), Ida Eline Engh and Donatella Ruggiero (Sustainable Development Department, Population Programme Service [SDWP]). We would also like to thank other colleagues from SDWP for reviewing the draft and the Informal Group on AIDS for commenting on the recommendations.

In addition, we acknowledge the staff member of UNAIDS who collaborate closely on this volume. They include Werasit Sittitrai, Michel Caraël, Anita Alban, Andrew Wilson, Wiwat Rojanapithayakorn and Krittayawan Boonto of UNAIDS.

Last but not least, Guenter Hemrich reviewed several early drafts of this paper and contributed extensively to the conceptual analysis of the case studies. Des Cohen, Senior Adviser of the UNDP HIV and Development Programme, questioned the validity of the concept of “vulnerability” used in this paper. Josef Decosas generously shared his material on the Akosombo River Dam with us and put us in touch with the West Africa Project to Combat AIDS (WAPTCA) which is operating in the Manya Krobo District in Ghana. Nzambi Khonde, Project Coordinator of WAPTCA provided us with an update on the HIV/AIDS situation in the Akosombo Dam area and an overview of activities of the St Martin’s Hospital CIDA AIDS project and the Manya Krobo District Health Administration AIDS project.

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GLOSSARY OF TERMS AND ACRONYMS

AFFOREST	African Farmers' Organic Research and Training
AIDS	Acquired Immune Deficiency Syndrome; the last and most severe stage of the clinical spectrum of HIV-related diseases
CIDA	Canadian International Development Agency
Cohort	A group of individuals born in the same calendar year or group of years
Dependency ratio	Population aged less than 15 and over 65 (dependent population), divided by the population aged 15 to 64 (productive population)
DFID	Department for International Development of United Kingdom
FFS	Farmer Field Schools
FFW	Farmer Field Workers
GTZ	German Technical Cooperation
HIV	Human Immunodeficiency Virus; a retrovirus that damages the human immune system thus permitting opportunistic infections to cause eventually fatal diseases. The causal agent for AIDS
HIV prevalence	Total number of persons with HIV infection alive at any given moment in time
IEC	Information, education and communication programmes
Incidence	An epidemiological term which refers to the number of new cases of a disease occurring in a population during a given period of time, usually a year
Infant Mortality Rate	The number of deaths of infants under one year of age from a cohort of 1,000 live births
IPM	Integrated Pest Management

IPPM	Integrated Production and Pest Management
Life Expectancy at birth	The average number of years a group of people born in the same year can be expected to live if mortality at each age remains constant in the future
NGOs	Nongovernmental organizations
NOVIB	Nederlandse Organisatie voor Internationale Ontwikkelingssamenwerking
NPC	National Project Coordinator
Opportunistic infections	The many parasitic, bacterial, viral and fungal infections which are able to cause disease once the immune system has been damaged. These are the most common clinical manifestations that establish the diagnosis of AIDS. They are characterised by an aggressive clinical course, they resist therapy and have a high rate of relapse
Pandemic	A global epidemic
PFGs	Participatory Farmers' Groups
PLWAs	Persons living with AIDS
PRA	Participatory Rural Appraisal
RD	Rural development
Seroprevalence	The percent of a population tested positive for infection in a blood test.
SPFS	Special Programme for Food Security
SRL	Sustainable Rural Livelihoods
STDs	Sexually transmitted diseases
STIs	Sexually transmitted infections
TBO	Technical Backstopping Officer

1. INTRODUCTION

1.1. Background

By end-1998, an overwhelming 95% of the 33.4 million people living with HIV/AIDS were in developing countries.¹ Africa, which accounts for only one tenth of the world's population, remains the global epicentre of the epidemic with 83% of all deaths to date and 9 out of 10 new infections. **In nine countries in sub-Saharan Africa, adult HIV prevalence rates exceed 10%.²** The southern part of the continent holds the majority of the world's hardest hit countries: in **Botswana, Namibia, Swaziland and Zimbabwe, between 20% and 26% of the population aged 15-49 is living with HIV or AIDS.**³ In West Africa, Côte d'Ivoire and Nigeria are particularly affected: in the former, 10% of the adult population is infected with HIV while in the latter 2.2 million people are living with the HIV virus.⁴

In Asia, HIV seropositivity rates are still comparatively low⁵ but the spread of the epidemic is rapid. By mid-1998, almost 7 million people were believed to be infected with HIV. Given that over half of the world's population lives in this region, small differences in rates can make a dramatic difference in the absolute numbers of people infected and on the potential impact of the HIV epidemic. In **India**, for instance, which now has 1 billion inhabitants, HIV infection rates are still low at under 1% of the total adult population, yet this translates into about **4 million people living with HIV.** This makes **India the country with the largest number of HIV infected people in the world.**⁶

In Latin America, the spread of HIV has been slower than in other regions but is well established, while some Caribbean countries have among

¹ UNAIDS/WHO, *AIDS Epidemic Update: December 1998*, Geneva, p. 2.

² Botswana, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Zambia and Zimbabwe; in *ibid.*, p. 7.

³ *ibid.*, p. 3.

⁴ UNAIDS/WHO, *Report on the Global HIV/AIDS Epidemic, June 1998*, Geneva, p. 10.

⁵ It is important to bear in mind, however, that only a few countries in the region have sophisticated systems for monitoring the spread of the virus, so HIV estimates in Asia often have to be made on the basis of less information than in other regions. See *ibid.*, p. 12.

⁶ *ibid.*, p. 13.

the highest incidence rates in the world.⁷ In total, over 1.5 million people are believed to be living with HIV in Latin America and the Caribbean.⁸

The HIV epidemic is **undermining the hard-earned gains of development efforts** of the last 40 years. In heavily affected countries, progress in raising child survival rates is being reversed, life expectancy is declining (by an average of 17 years in nine countries with adult HIV prevalence rates of 10% or more); health care systems are increasingly unable to cope; businesses are experiencing significant losses in skilled and semi-skilled personnel as well as in managers which is affecting productivity, savings and investments; and governments are losing highly trained and experienced leaders in all sectors (from employment to education, social welfare, the judiciary and agriculture).

HIV/AIDS disproportionately affects sectors that are highly labour-intensive or have large numbers of mobile or migratory workers, including agriculture, transportation and mining. In subsistence, small-scale agriculture south of the Sahara, labour shortages exacerbated by HIV/AIDS combined with declining household incomes are compounding food and livelihood insecurity and contributing to changes in farming practices and farming systems.

Meeting the complex, long-term challenges of HIV/AIDS has necessitated an **expanded response**. **Such a response** seeks to intensify direct health interventions that influence the immediate aspects HIV/AIDS risk prevention and care, while promoting innovative action to address the broader context of the epidemic, including its socio-economic causes and consequences.⁹ This is because effective responses to HIV risk reduction *per se* are not enough: there is a need for broad prevention strategies focusing on **vulnerability** to HIV.¹⁰ Strategies focusing on vulnerability to HIV are in line with changes in development practice toward human-centered approaches premised on participation, gender and people's empowerment so as to ensure a broad base to development and sustainability.

⁷ The Status and Trends of the Global HIV/AIDS Pandemic, Official Satellite Symposium of the XI International Conference on AIDS, July 5-6 1996, p. 23.

⁸ UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, op. cit., p. 15.

⁹ UNAIDS Brief, June 1997.

¹⁰ See section 2.1 of this paper for a discussion of "risk" and "vulnerability".

To date, little attention has been paid on reducing vulnerability to HIV. The near exclusive emphasis on the impact of HIV/AIDS has inadvertently concealed the socio-cultural and socio-economic dimension of vulnerability to HIV to HIV. Yet, **it is only by changing the economic, social and cultural conditions that make it difficult or impossible for a number of people to protect themselves from HIV that vulnerability to HIV can be addressed.**¹¹

Efforts to contain the spread of HIV tend to focus on urban areas even though, given the predominantly rural composition of many developing countries, particularly in Africa, the number of rural people infected with HIV may exceed that of urban dwellers. This paper seeks to address this lacuna by focusing on the rural dimension of vulnerability and risk to HIV and on how agricultural and rural development projects and programmes can contribute to reducing them. Such a focus is particularly relevant, given the continued and often rapid spread of HIV/AIDS to previously unaffected areas or areas at the early stages of the epidemic.

1.2. Purpose and Scope

The concept of best practice is not reserved for “ultimate truths” or “gold standards.” For UNAIDS, best practice is the continuous process of learning, feedback, reflection and analysis of what works (or does not work) and why. It is the basis from which UNAIDS, its cosponsors and partners identify, exchange and document important lessons learned.

In the context of the above definition, the paper attempts to identify some key elements for the development of HIV/AIDS vulnerability and risk reduction strategies.

In light of the above, the purpose of this paper is three-fold:

- i) to analyze the dynamics and implications of vulnerability and risk to HIV in the rural socio-economic setting;
- ii) to investigate on the basis of case studies whether agricultural/rural development projects address vulnerability and risk to HIV, and if so, how; and

¹¹ The World Bank, *Investing in HIV/AIDS*, June 1998, p. 3.

- iii) to delineate how agricultural and rural development projects and programmes can play a catalytic role in reducing vulnerability and risk to HIV.

The paper is based on a set of seven case studies of agricultural/rural development projects and programmes operating in countries with high, medium and low HIV prevalence. All but one are in sub-Saharan Africa. However, this does not mean that the paper is only relevant for Africa. On the contrary, the findings presented herein are relevant for a number of Asian, Central/ South American, and Caribbean countries affected by the epidemic, and in particular:¹²

□ **Myanmar:** the adult HIV prevalence rate is about 1.8%,¹³ or about half a million people out of a population of 47 million.¹⁴ HIV infection among sex workers rose from 4% in 1992 to over 20% in 1996, while among pregnant women in six urban areas an estimated 2.2% are infected.¹⁵ Outside of the major urban areas, HIV prevalence ranged from no evidence of infection to 8% in 1996.

□ **Cambodia:** the HIV prevalence rate among adults is 3.7% (see 1998 Epi Report on Cambodia for more details). Life expectancy with AIDS was 48 years in 1998 whereas it would have been almost 51 years without AIDS.¹⁶

□ **Thailand:** the adult HIV prevalence rate at the end of 1997 was estimated at over 2% or approximately 750,000 people living with HIV. In the northern part of the country, up to 10% of pregnant women are estimated to be HIV positive.¹⁷

□ **Haiti:** HIV prevalence rates among the adult population are about 5% in urban and rural areas alike.¹⁸ Life expectancy has declined by 4

¹² According to the U.S. Bureau of the Census, Report WP/98, World Population Profile: 1998, U.S. Government Printing Office, Washington, DC, 1999.

¹³ UNAIDS/WHO, Myanmar Epidemiological Fact Sheet on HIV/AIDS and STDs, June 1998.

¹⁴ 1996 data cited in International Migration, Special Issue on HIV/AIDS, vol.36, No. 4, 1998, p. 569.

¹⁵ UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, op. cit., p. 14.

¹⁶ ibid.

¹⁷ UNAIDS/WHO, Thailand Epidemiological Fact Sheet on HIV/AIDS and STDs, June 1998.

¹⁸ U.S. Bureau of the Census, World Population Profile: 1998, op. cit., p. 65.

years as a result of AIDS from 55.5 years (without AIDS scenario) to 51.4 years (with AIDS scenario) in 1998. Mortality among children under 5 years with AIDS has risen to almost 156 per 1,000 live births while without AIDS it would have been 146.¹⁹

□ **Honduras** is the most affected country in Central America.²⁰ Adult HIV prevalence was estimated at almost 1.5% at the end of 1997.²¹ Life expectancy was 65 years with AIDS whereas it would have been over 69 years without AIDS in 1998.²²

□ **Guyana** is the most affected country in Latin America: testing of pregnant women in ante-natal clinics in 1992 showed that 7% were HIV positive.²³ The adult HIV prevalence rate at the end of 1997 was over 2%.²⁴

Parts of **India and China**, which have concentrated HIV epidemics that are spreading rapidly in rural areas and populations are also affected by HIV/AIDS.

An important point to bear in mind when reading this paper is that even in countries with generalized HIV epidemics, there continues to be stigma, secrecy and shame shrouding HIV/AIDS. This has restrained the authors from using available information freely and from explicitly delineating the impact of the pandemic on some of the projects. Fear of stigmatization is a fundamental obstacle to addressing vulnerability to HIV. It also points to the urgency for continued HIV/AIDS awareness and prevention, particularly outside the health sector, and more specifically, within Ministries of Agriculture and/or Rural Development (inclusive of agricultural extension services), NGOs and projects and programmes in rural areas supported by bilateral and international organizations.

Finally, this paper does not analyze the impact of HIV/AIDS on agricultural production systems and rural livelihoods nor on agricultural and rural development projects and programmes and rural institutions *per se*. The

¹⁹ *ibid.*, Demographic Indicators With and Without AIDS, 1998, p. 56.

²⁰ International Migration, Special Issue on HIV/AIDS, *op. cit.*, p.615.

²¹ UNAIDS/WHO, Honduras Epidemiological Fact Sheet on HIV/AIDS and STDs, June 1998.

²² U.S. Bureau of the Census, World Population Profile: 1998, *op. cit.*, p. 56.

²³ *ibid.*, p. 65.

²⁴ UNAIDS/WHO, Guyana Epidemiological Fact Sheet on HIV/AIDS and STDs, June 1998.

impact of HIV/AIDS is dealt with only peripherally as this has been extensively documented by FAO and others.²⁵

1.3 The Rural Dimension of HIV

HIV/AIDS has primarily been perceived as and dealt with as an “urban” problem. Rural areas are considered to be far removed from the epicentres of the epidemic, as they tend to have lower HIV prevalence rates than urban areas. In actual fact, however, **the number of people living with HIV may, in absolute numbers, predominate in rural areas.** For instance:

□ **India**, where 73% of the population (or about 730 million people) is rural, was believed to have a predominantly “urban” HIV epidemic. However, recent studies have shown that HIV is spreading faster in some rural areas than is the case in urban areas. A recent survey of randomly selected households in Tamil Nadu, a small state with 25 million people, found that 2.1% of the adult population living in rural areas had HIV, as compared with 0.7 of the urban population. This means that about half a million people are already infected with HIV in Tamil Nadu alone.²⁶

□ In some **Southern African** countries like Swaziland, South Africa, Zimbabwe and Botswana, there is little difference in HIV infection rates between rural and urban areas.²⁷ In fact, in Zimbabwe, HIV prevalence

²⁵ For an analysis of the impact of HIV/AIDS on agricultural production systems in Eastern Africa see FAO, *What has AIDS to do with Agriculture*, Rome, 1994; Tony Barnett, “The Effects of HIV/AIDS on Agricultural Production Systems and Rural Livelihoods in Eastern Africa (Uganda, Zambia, Tanzania): A Summary Analysis,” FAO, 1994 and the Zambia, Uganda and Tanzania country reports on which the above summary analysis is based. For an analysis of the impact of the epidemic on agricultural production systems in Western Africa see Andrée Black-Michaud, “Impact du VIH/SIDA sur les systèmes de production agricole et l’environnement rural au Burkina Faso et en Côte d’Ivoire,” FAO, 1997. For an analysis of the impact of the epidemic on rural communities see Daphne Topouzis with Guenter Hemrich, *The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda*, *UNDP HIV and Development Programme Discussion Paper No. 2*, 1996. Other relevant publications include: G. Hemrich, *HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation: Focus on Agriculture and Rural Development*, GTZ, May 1997; and Daphne Topouzis, *The Implications of HIV/AIDS for Rural Development Policy and Programming*, *UNDP HIV and Development Programme Study Paper #6*, FAO/UNDP, New York, June 1998.

²⁶ UNAIDS/WHO, *AIDS Epidemic Update: December 1998*, *op.cit.*, p. 4.

²⁷ An important determinant of the differential levels of HIV infection is the amount of movement and linkages between urban and rural areas. See Lieve Fransen and Alan Whiteside, “HIV and Rural Development: An Action Plan,” *Considering HIV/AIDS in Development Assistance: A Toolkit*, The European Community, 1997.

rates are highest in rural Buhera which reports 50.8% HIV prevalence among pregnant women attending ante-natal clinics.²⁸

□ In **Latin America**, data show that the epicenter of the HIV epidemic is shifting from urban to rural areas.²⁹

The main reasons why rural HIV needs to be addressed include the following:³⁰

- Even though the number of new HIV infections among certain population sub-groups is falling in a few countries (i.e. urban adolescents in Uganda, young women in Bukoba, Tanzania,³¹ sex workers and their clients in Thailand,³² etc.), **HIV prevalence rates continue to rise in rural areas** of most developing countries through migration, trade, refugee movements, strengthened rural-urban linkages, etc. However, HIV infection rates in rural areas are hard to measure and more prone to under-reporting or misdiagnosis, as a result of poor health infrastructure, restricted access to health facilities and inadequate surveillance mechanisms. For this reason, rural HIV remains, to some extent, silent and invisible - in other words, an unknown entity for policy-makers and development planners.³³
- **Institutional infrastructure and support is less developed in rural areas.** There are fewer institutions operating and availing HIV/AIDS information, education and communication programmes (IEC), providing testing and counseling for HIV, and making condoms accessible in rural than in urban areas. Such services are both less accessible in remote communities and less tailored to

²⁸ Russel Kerkhoven and Memory Sendah, "HIV/AIDS in Zimbabwe," *AIDS Analysis Africa*, Vol. 9, No. 6, 1999.

²⁹ The Status and Trends of the Global HIV Epidemic, *op. cit.*, pp. 23 and 26.

³⁰ Daphne Topouzis, The Implications of HIV/AIDS for Rural Development Policy and Programming, UNDP HIV and Development Programme Study Paper #6, *op. cit.*, pp. 3-4.

³¹ In women aged 15-24 in the urban area of Bukoba, HIV prevalence fell from 28% in 1987 to 11% in 1993. In the surrounding rural area, HIV prevalence among women in the same age group fell from almost 10% in 1987 to 3% in 1996. See UNAIDS/WHO, *Report on the Global HIV/AIDS Epidemic*, June 1998, p. 12.

³² UNAIDS/WHO, *Report on the Global HIV/AIDS Epidemic*, June 1998, *op. cit.*, p. 29.

³³ D. Topouzis, The Implications of HIV/AIDS..., *op. cit.*, p. 3.

the local realities (illiteracy, culture, socio-cultural, gender and age differentiation, etc.). Thus, assumptions that knowledge of HIV/AIDS, which is said to be in the range of 90% of the populations in a number of countries (Kenya, Uganda, Tanzania, etc.) may not be accurate insofar as *rural* men and women are concerned. More importantly, IEC, counseling and condoms alone are unlikely to have an impact in poor, remote areas where survival is the overriding concern. In such areas, young men and women may have little incentive to change their lifestyles and to adopt “safe sex” behaviour.

Responses to HIV in rural areas have largely been based on assumptions made from experience drawn from urban environments. Moreover, “risk behaviour” has not, for the most part, been defined from the perspective of local population sub-groups and thus our understanding of why risk behaviour is practiced and how it is justified by those concerned is limited.

- **The cost of HIV/AIDS is largely borne by rural communities**, given that many HIV infected urban dwellers return to their village of origin when they fall ill. Rural households provide most of the care for AIDS patients. In addition, food costs, medical care costs and funeral expenses are borne by rural families. Yet, this is rarely factored in nation-wide development policies and programmes (which are often urban-biased), or in agricultural and rural development policies and programmes.
- In macro-economic terms, **countries most affected by HIV are also those most heavily reliant on agriculture**, and particularly on agricultural exports for foreign exchange needed to pay for raw materials and essential imports for development. Thus, the impact of HIV/AIDS on rural communities and on rural economies in general (and not just agriculture) is of critical significance to such countries. However, as it is not always visible or measurable with macro-economic indicators (such as GDP or per capita income), it is often all too easily dismissed as a minor factor in development policies and programmes, particularly insofar as rural development is concerned.

2. VULNERABILITY AND RISK TO HIV IN THE RURAL SOCIO-ECONOMIC SETTING

2.1. What is Vulnerability and risk to HIV?

During the 1980s, AIDS responses focused primarily on risk and risk reduction. Risk refers to the probability that a person may acquire HIV infection. Recently, the focus of attention has been shifting as individual risk is perceived to be influenced by societal factors that increase and perpetuate the vulnerability to HIV of certain individuals and sections of society more than others. According to UNAIDS, “this recognition merits an approach to the epidemic that goes beyond the immediate risk-taking act and the immediate environmental factors affecting it, to addressing the underlying factors that create an overall climate in which such risk-taking behaviours are encouraged, maintained and prove difficult to change.”³⁴ In this context, vulnerability to HIV extends beyond risk and risk reduction.

Box 1: The Dynamics of HIV Vulnerability

A person who may not be highly vulnerable to HIV today may become so tomorrow as a result of, for example, the loss of employment causing stress, forced displacement and consequent disintegration of social support systems.

The effect may not be the same for all. For instance, for a member of a large, extended family in rural India, the loss of employment may not necessarily lead to the above consequences to the same extent as a person in more industrialised and urban contexts. Thus, the concept of vulnerability takes into account the personal and external factors, a temporal dimension, and a complex interaction between these factors that may differ across cultures and within societies.

Source: UNAIDS Best Practice Collection, Key Material, “Expanding the Global Response to HIV/AIDS Through Focused Action,” 1998, p. 6.

According to UNAIDS, from a health perspective “vulnerability results from societal factors that affect adversely one’s ability to exert control over one’s health.”³⁵ In the context of HIV/AIDS, **vulnerability is influenced by the interaction of a wide range of factors, including:**³⁶

³⁴ UNAIDS Best Practice Collection, Key Material, Expanding the Global Response to HIV/AIDS Through Focused Action, 1998, p. 5.

³⁵ ibid., p. 6.

³⁶ ibid., p. 5.

- a) **personal factors**, such as sexual history, availability of knowledge and skills required to protect oneself and others, and, in relation to care and social support, knowledge about treatment and social support programmes as well as skills to access and use them;
- b) **factors pertaining to the quality and coverage of services and programmes aimed at prevention, care, social support and impact alleviation** include the cultural appropriateness of HIV/AIDS programmes, the inaccessibility of such services due to distance, cost and other factors and the lack of capacity of health systems to respond to a growing demand for care and support for people with HIV/AIDS and those affected; and
- c) **societal factors** such as cultural norms, laws or social practices and beliefs that act as barriers to essential HIV prevention messages and/or that place individuals at risk, such as the tacit acceptance of multi-partner sexual relationships, widow inheritance, etc.

People discriminated against and/or marginalized for reasons of sex, age, ethnicity, race, sexuality, economic status and cultural, religious or political affiliation are particularly vulnerable to HIV.³⁷ For instance, youths are usually more susceptible to HIV infection than older people and women are physiologically more prone to HIV infection than men.

The concept of vulnerability encompasses two broad categories: vulnerability to the spread of HIV and vulnerability to the impact of the epidemic. Box 2 displays the range of factors that contribute to vulnerability to the spread of HIV and to its impact.

While the concept of **vulnerability to HIV** is a significant improvement over the earlier risk/IEC approach to the response, it has certain limitations: more specifically, it connotes a passive state in which people fall “victims” to the pandemic rather than project people as active agents of social change and transformation. In other words, “vulnerability” may be describing the problem from the perspective of outsiders rather than from the perspective of those whom we perceive as “vulnerable.”³⁸ In this paper, “vulnerability to HIV” is used strictly as an analytical tool with which to scru-

³⁷ *ibid.*, p. 6.

³⁸ See Desmond Cohen and Elizabeth Reid, *The Vulnerability of Women: Is This a Useful Construct for Policy and Programming?*, *UNDP HIV and Development Programme Issues Paper No. 28*, 1996.

tinize the factors and conditions that lead to the spread of the epidemic and that exacerbate the impact of AIDS.

One of the reasons the concept of “vulnerability” has been retained is that it is widely used in agricultural/rural development parlance: vulnerability of farming systems to drought, vulnerability to food insecurity, vulnerability of farming families displaced from their land by conflict, vulnerability of returning refugees, etc. For example, a key component of the sustainable rural livelihoods framework developed by the United Kingdom Department for International Development (DFID) is the “vulnerability context” which addresses trends, shocks and culture (see section 4.2.2). Vulnerability to HIV adds an additional dimension to other vulnerabilities, with significant implications for rural households.

It is hoped that this paper will help stimulate discussion on the validity of the concept of vulnerability to HIV and lead the discourse toward an approach that will encompass not only the constraints to reducing the spread and impact of HIV/AIDS, but also the opportunities and existing capacities for social change already present in affected families and communities.

Box 2: Checklist of Factors Contributing to Vulnerability to HIV

Vulnerability to the Spread of HIV

- Multiple sexual partners
- Migration for wage work
- High alcohol consumption
- Proximity to transport or trading centers
- Frequent interactions with market centers
- Low status and limited economic independence of women
- Physically damaging sexual practices
- Widespread exchange of cash or favours for sexual services

Vulnerability to HIV Impact

- Drought
- Limited range of crops
- Marked labour peaks in the agricultural cycle
- Labour-intensive processes
- Absence of tradition of labour exchange between households
- Existing pressures on the domestic-farm interface
- Limited substitutability between existing labour-intensive and less labour-demanding crops
- Food surpluses already low
- Limited opportunities for off-farm income
- Insecure land tenure

Source: GPA/UNAIDS, AIDS Brief for sectoral planners and managers, *Subsistence Agriculture*, prepared by Tony Barnett, in A. Barnett, E. Blas, A. Whiteside, eds., 1996, 4-5, p. 5.

Box 3: Risk versus Vulnerability to HIV at a Glance

Risk refers to the probability that a person may acquire HIV infection. Individual risk is influenced by societal factors that increase and perpetuate the **vulnerability to HIV** of certain individuals and sections of society more than others. **HIV risk reduction strategies** refer to measures designed to address the immediate risk-taking act and environmental factors affecting it. **HIV vulnerability reduction strategies** refer to measures designed to address the underlying factors that create an overall climate in which such risk-taking behaviours are encouraged, maintained and prove difficult to change.

2.2. How are Rural Households and Communities Vulnerable to HIV?

Rural dwellers, including subsistence farmers, fishermen, nomadic pastoralists, seasonal migrant workers, women heading households, etc. are vulnerable to the epidemic in different ways. For example:

- **Nomadic pastoralists** are at increased risk of contracting HIV due to their mobility, marginalization, culture and limited access to social services (health, education, etc.). In Tanzania, changes in lifestyle among the pastoralists of the Usangu plains in Mbeya rural district are contributing to the spread of the epidemic. In the past, the nomadic Masai were a relatively insular society. Recently, however, they have been mixing freely with other ethnic groups while searching for pastures for their livestock throughout the country.³⁹
- **Artisanal fishing communities** are at increased risk of contracting HIV due to the socio-economic dynamics of their trade, including mobility, prolonged periods of separation from their families and disposable cash incomes. Vulnerability to HIV also extends to their casual or semi-casual sexual partners and to their wives at home.⁴⁰
- **Women heads of households** with seasonal migrant husbands are vulnerable to HIV infection: their spouses may have other sexual

³⁹ FAO, *The Effects of HIV/AIDS on Farming Systems in Eastern Africa*, 1996, pp. 72-73. Little is known about the effects of HIV on the livelihood system of nomadic pastoralists. FAO has recommended that this become a priority area in future research.

⁴⁰ G. Hemrich, *HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation*, *op.cit.*, pp. 24-25.

partners at their place of work or else the women themselves may exchange sex for cash or kind in periods of stress or shock.

- ❑ **AIDS widows** (some of whom are likely to be infected with HIV) may have no legal rights to land and property (due to customary inheritance laws or the difficulties in enforcing existing remedial legislation) after their husbands' death. Impoverishment may force them to send some of their children away, engage in occasional sex for money or earn a living as commercial sex workers.⁴¹ In Kenya, AIDS widows often remain in the settlements linked to commercial agrobusinesses rather than return to their village of origin.⁴²
- ❑ **Youths**, and particularly young women whose parents cannot afford to pay for their primary school education and who live in disadvantaged and remote areas, have less access to social and support services, to information and to employment opportunities. As these people often start bearing children at a relatively young age, they are at a greater risk of contracting and spreading HIV.
- ❑ **A newly emerging vulnerability:** What is the potential impact of the refusal of young married women to use condoms on the pandemic and on its control? Given that fertility levels remain high in rural areas, in countries with high HIV prevalence and high fertility, women's vulnerability to HIV is greatly increased: in order to achieve a family size of 3 or 4 children, women repeatedly expose themselves to a high risk of HIV infection. The larger the family size desired and the greater the number of children borne, the higher the risk of HIV infection will be, particularly as condoms are largely irrelevant in such cases. In a nutshell, if, under certain epidemiological conditions, a woman runs a 25% chance of HIV infection in order to

⁴¹ Sheila Tlou, "Women & AIDS in Southern Africa," Southern African Development Community/ European Union, *Proceedings and Background Papers on Regional Action, Conference on HIV/AIDS*, Malawi, December 1996, p. 9. There is evidence, however, from Bukoba, Tanzania, that this practice may be changing. Widows are no longer sent back to their natal households nor do their in-laws take away the husband's possessions. However, they receive no support from the extended family or kinship systems. It remains to be seen whether they will be pushed out of the land (given that they are legal minors), once their children reach adulthood and establish families of their own. Personal communication, Gabriel Rugalema, 2 May 1998.

⁴² Gabriel Rugalema with S. Weigang and J. Mbwika, *HIV/AIDS and the Commercial Agricultural Sector in Kenya*, FAO/UNDP, 1999.

conceive, it follows that if she wants 4, 5 or 6 children she runs a very high risk of contracting HIV. If this hypothesis is confirmed, it will raise complex new questions on desired family size norms and on the effectiveness of prevention strategies based on condom use.⁴³

Two types of rural areas are particularly vulnerable to HIV: those situated along truck routes and those that are sources of migrant labour to urban areas.⁴⁴ The spread of HIV along trade routes (a factor likely to be of significance in the spread of the epidemic to agricultural surplus regions) is well established. Traditional subsistence regions are perceived to be less vulnerable to HIV. However, the fact that many subsistence agricultural regions are also sources of migrant labour in the agricultural lean season may make them vulnerable to HIV. In many countries, youths migrate from regions with low agricultural potential to urban centers in search of income opportunities. When they do not find work, some return to their place of origin after two or three years of exposure to increased risk of HIV, and some may thus transmit the virus to their families or sexual partners in their villages.⁴⁵

2.3. Sustainable Agriculture/Rural Development and Vulnerability to HIV

According to FAO, **sustainable development** is “the management and conservation of the natural resource base and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.”⁴⁶

⁴³ P. Stevens and J. du Guerny, Discussion at Inter-CST Workshop on HIV/AIDS, Dakar, Senegal, 5-9 July 1999.

⁴⁴ C.M. Becker, “The Demo-Economic Impact of the AIDS Pandemic in sub-Saharan Africa,” 1990, cited in Lynn Brown, *The Potential Impact of AIDS on Population and Economic Growth Rates*, Food, Agriculture and the Environment Discussion Paper, International Food Policy Research Institute, 1996.

⁴⁵ G. Hemrich, HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation, *op. cit.*, p.12.

⁴⁶ As adopted by the 1988 FAO Council, in New Directions for Agriculture, Forestry and Fisheries Strategies for Sustainable Agriculture and Rural Development, Rome, 1994.

HIV/AIDS is a threat to sustainable agriculture and rural development through its systemic impact. For instance, at the household level, the impact of HIV/AIDS manifests itself as follows:

- ❑ A loss of adult on- and/or off-farm labour; labour shortages lead to a decline in productivity;
- ❑ A decline in household income and loss of assets, savings, remittances, etc;
- ❑ An increase in household expenditures (medical treatment and transport, special foods for the infirm, etc.);
- ❑ An increase in the dependency ratio due to the rise in the number of dependents relying on a smaller number of productive family members.

Smallholder agriculture is a vital sector for rural households and national economies in many developing countries. HIV/AIDS is affecting agricultural production through:

- ❑ the decimation of household labour;
- ❑ the disruption of traditional social security mechanisms and the forced disposal of productive assets (e.g. to pay for medical care and funerals);
- ❑ the loss of indigenous farming methods, inter-generational knowledge, and specialized skills, practices and customs;⁴⁷ and
- ❑ morbidity and mortality among the staff of rural institutions and support services.

To give but one example of how HIV/AIDS undermines the sustainability of the agricultural sector: In **Zimbabwe**, communal agricultural output has over the past five years been slashed by a staggering 50%, largely due to HIV/AIDS, according to a recent report.⁴⁸ Maize, cotton and sunflower

⁴⁷ Report of the Regional Conference for Eastern and Southern Africa on Responding to HIV/AIDS Technology Development Needs of African Smallholder Agriculture, Harare, June 8-10 1998, p. 2.

⁴⁸ Survey commissioned by the Zimbabwe Farmers' Union and the Friedrich Ebert Stiftung on the socio-economic impact of HIV/AIDS on communal agricultural production systems. See "Yields Cut by Half due to AIDS," *The Sunday Mail*, Harare, 25 January 1998.

yields have been particularly affected. Maize production, which amounts to over 4 million tons, has been marked by a decline of 54% of harvested quantity and a further drop of 61% in marketed output. The total area under cultivation for this crop has been greatly reduced as well. Cotton hectareage has decreased by about 34%, marketed output by a further 47%, and groundnuts and sunflower have experienced an average decline of 40%.

Just over 50% of all deaths reported in communal areas were AIDS-related, with 78% of those succumbing to the disease being male. This means that the widows of these men (who are also likely to suffer from increased morbidity) will become a key group of agricultural producers. This decline in yields is clearly not only due to HIV/AIDS. Other reasons include shortages of purchased inputs (such as seed, fertilizer and agro-chemicals), labour and draught power.⁴⁹ But given the staggering mortality rates due to AIDS in Zimbabwe, the pandemic has undoubtedly played a catalytic role in this adverse trend.

Decline in livestock production is also on the increase. Loss of livestock is reportedly higher among AIDS-affected households due to insufficient care. The sale of draught power is similarly reported to be higher among families with AIDS patients.

The net result of this marked decline in crop yields and livestock production is an increase in food insecurity. "With increasing HIV infections and subsequent deaths," argues the report, "the threat to national food security cannot be over-emphasized and declines to marketed output will adversely affect the agro-industries which will experience cuts in raw materials supply and force them to operate below full capacity."⁵⁰

This example shows that the agricultural sector in Zimbabwe (subsistence as well as commercial) is becoming increasingly vulnerable to HIV/AIDS and is undermining the sustainability of agricultural and rural development efforts. In fact, the Southern Africa AIDS Information Dissemination Service (SAfAIDS) argues that a food crisis could erupt in Zimbabwe within the next 20 years as the productive age group shrinks in size resulting in reduced areas being cultivated.⁵¹

⁴⁹ *ibid.*

⁵⁰ *ibid.*

⁵¹ Safaids report cited in "AIDS to Reverse Development," *The Herald*, Harare, 14 January 1998.

It has also been argued that as a result of HIV/AIDS, conventional approaches to agriculture and rural development are becoming irrelevant while traditional projects and programmes could well become obsolete (see box 4).⁵²

Box 4: Agricultural extension in Zimbabwe in the face of HIV/AIDS: an NGO View

Conventional agricultural development in Zimbabwe has been largely based on top-down research and extension, which are concerned with the promotion of high input technologies to male smallholder farmers. That is, mainly male researchers who conduct trials intending to raise the yields of commodity crops, using high input technologies, irrespective of financial and other costs. The results of these trials are passed onto predominantly male extension workers who, with help from agro-chemical companies, provide advice on the production of higher yielding cash crops to mainly male farmers. Women farmers, whose skills lie in the production of traditional food crops, have been marginalised by this process.

This conventional approach to agricultural research is fast becoming irrelevant as a result of the AIDS pandemic, as the majority of AIDS survivors in Zimbabwe's rural areas are likely to be middle-aged widows, often caring for six or more children. These women, left destitute after paying funeral expenses, are unable to afford inputs and thus require low-risk survival strategies, which can assure household food security, as well as a cash income to pay for school fees and other basic necessities.

The development of appropriate survival strategies for female smallholder farmers will require a substantial paradigm shift on the part of research and extension. The new paradigm would be concerned with the promotion of low input, labour-extensive sustainable agriculture and involve farmers in both the planning and implementation of the supporting research.

Source: Sam Page, "Towards a New Agricultural Research Agenda: The Need for a Paradigm Shift Toward Farmer Participatory Research and Training in the Interest of Zimbabwe's AIDS Survivors," paper presented at the Inter-national Conference on AIDS, Livelihood and Social Change in Africa, Wageningen Agricultural University, April 1999.

2.4. The Systemic Impact of HIV/AIDS

Much has been learned about the dynamics of the impact of HIV/AIDS over the last 15 years. For instance, it is now recognized that vulnerability to the impact of HIV/AIDS is neither linear nor static. Earlier assumptions that communities could be neatly divided into *pre-impact*, *early impact* and

⁵² Sam L.J. Page, "Towards a New Agricultural Research Agenda: The Need for a Paradigm Shift toward Farmer Participatory Research and Training in the Interest of Zimbabwe's AIDS Survivors," presented at the International Conference: AIDS, Livelihoods and Social change in Africa," Wageningen Agricultural University, 15-16 April 1999.

*full impact*⁵³ and that one stage automatically led to the next are no longer relevant. Rather, vulnerability to HIV should be perceived as a status in perpetual flux, being continuously influenced by the dynamic interaction of factors such as poverty, food and livelihood insecurity, migration, gender relations, culture, etc.

Agriculture and other rural sectors do not merely consist of the total of various isolated sub-sectors (infrastructure, employment, education, health, etc). They are dynamic, integrated and inter-dependent systems of productive and other components, operating through a network of inter-related sub-sectors, institutions and rural households with linkages at every level of activity. The efficiency and effectiveness of each sub-sector, institution, household, etc. depends, to a large extent, on the capacity in other parts of the system. If this capacity is eroded through HIV, then the system's ability to function will be diminished.

Thus, HIV/AIDS does not merely impact on certain agricultural and rural development sub-sectoral components leaving others unaffected. If one component of the system is affected, it is likely that others will also be affected either directly or indirectly. In other words, **the impact of HIV is not only cross-sectoral, but, more importantly, systemic.** If the linkages between sub-sectors, institutions and households are not identified and addressed as such, then the analysis of the impact of HIV/AIDS will be incomplete (given that the full picture is more than just the total of its parts) and programme responses will be inadequate.⁵⁴

The systemic impact of HIV/AIDS occurs within an inter-sectoral environment-agriculture and rural development. However, most agricultural and rural development policies, projects and programmes tend to be formulated and implemented sectorally. Therefore, **the systemic impact of HIV/AIDS necessitates a multi-sectoral approach at all levels (community, district, national and international).**

⁵³ The term *pre-impact* referred to communities where the impact of HIV/AIDS is not yet visible; *early impact* referred to communities where the impact of the epidemic is visible but communities are able to cope; *full impact* referred to communities experiencing the full impact of the epidemic - countries with mature epidemics where communities are not always able to cope. See Tony Barnett, "The Effects of HIV/AIDS on Agricultural Production Systems and Rural Livelihoods in Eastern Africa (Uganda, Zambia, Tanzania): A Summary Analysis," FAO, 1994.

⁵⁴ Personal communication, Desmond Cohen, UNDP, HIV and Development Programme, April 16, 1998. See D. Topouzis, The Implications of HIV/AIDS for Rural Development Policy and Programming, *op. cit.*, section on the systemic impact of HIV/AIDS.

3. CASE STUDIES:

Do Agricultural and Rural Development Projects and Programmes Influence Vulnerability to HIV?

A set of seven case studies on the relevance of agricultural and rural development projects and programmes to vulnerability to HIV are presented below, including:

- two World Bank infrastructure projects in West and Central Africa
- two FAO food security interventions in Southern Africa
- an NGO organic agriculture project in Zimbabwe; and
- the FAO integrated pest management programme (IPM) in Southern Africa and in Cambodia.

An overview of the case studies can be found in Table 1.

The purpose of the case studies is to highlight the linkages between agricultural and rural development projects and programmes and HIV/AIDS and to discern how they may contribute to either increasing vulnerability to HIV or to creating an enabling environment for vulnerability reduction. There is no attempt at geographical balance and the projects that have been selected are not in any way indicative of the status of the pandemic in these countries (some of the projects operate in low HIV prevalence areas within high prevalence countries). One of the projects is not yet operational (case study #2). Another was completed more than 30 years ago (case study #1). Yet another project did not address HIV/AIDS in its first phase because HIV prevalence in the project area was low but will take into account the implications of the epidemic in its second phase during which operations will be extended nationwide. What most of the case studies have in common is that they are considered to be “successful” projects and/or that they have developed or are in the process of developing innovative responses to HIV/AIDS.

The presentation of the case studies may appear uneven. This is largely due to the heterogeneity of available source material. In some cases, direct access to the projects made it possible to engage in dialogue with key

Table 1: Key Facts about the Case Study Projects

	Case Study #1	Case Study #2	Case Study #3	Case Study #4	Case Study #5	Case Study #6	Case Study #7
Project name	Akosombo River Dam	Petroleum Development and Pipeline Project	Special Programme for Food Security (SPFS)	Improving Household Food Security & Nutrition in the Luapula Valley	Organic Cotton Project in Zambezi Valley	Global Integrated Pest Management Facility	
Country	Ghana	Chad and Cameroon	Tanzania	Zambia	Zimbabwe	Zimbabwe, Malawi, Zambia, Mozambique	Cambodia
Project focus	Hydro-electric power	Oil and gas development	Food security	Household food security & nutrition	Agricultural production	Agricultural production and plant protection	
Donor/financing Institution	World Bank, U.S. and U.K. governments	World Bank	FAO	Belgian Survival Fund	Initially SIDA INEC; currently NOVIB is funding the training of FFW's	Co-Sponsors: FAO, UNDP, UNEP, World Bank, Financial support from the Netherlands, Norway, the Swiss Development Cooperation, IFAD, USAID, DFID	
Main Implementing Ministry/Agency		Subsidiaries of Exxon, Shell and Elf and joint venture companies	Ministry of Agriculture and Cooperatives	Ministry of Agriculture, Food and Fisheries.	NGO: African Farmers' Organic Research & Training	Ministries of Agriculture	Ministry of Agriculture, Forestry and Fisheries
HIV adult prevalence rate in country/ project region (unless otherwise stated 1998 figures)	In mid-1990s, HIV adult prevalence rate in project area ranged between 5-10 times higher than the national average	Cameroon: under 5%; Chad: under 3% Project area: Some areas along the proposed pipeline have "extremely high" levels of HIV	In Tanzania: 9.5%. In programme area During Phase I, relatively lower than national average. In Phase II, project will expand nationwide	In Zambia: over 19% In project area: about 20% among adults and 5-6% among children	In Zimbabwe: 26%. In project area: 10%.	In Zimbabwe: 26% In Zambia: 19% In Malawi: 15% In Mozambique: 14%	In Cambodia: 2%
Time Frame	Main construction: 1961-1966	To be appraised in fall 1999	Phase I: July 1995 - June 1998; Phase II: end 1999-2012	March 1997 - February 2002	Project began in 1995	The Global IPM Facility was established in 1995 but the FAO inter-country IPM rice programme in Asia became operational in 1980.	

project/programme staff. In other cases, such dialogue was not possible and the analysis was based on documentation alone.

The case studies were selected on the basis of the following criteria:

- a) to review projects and programmes operating in countries or areas significantly affected by the HIV epidemic where vulnerability to HIV is most visible;
- b) to present a mix of different types of projects, including financial and technical cooperation projects; and
- c) to present different levels of project interventions (national, local, NGO).

The dynamics of vulnerability to HIV and agriculture/rural development projects and programmes stem from a bi-directional paradigm:

- ❑ HIV/AIDS may have a negative, direct or indirect impact on agricultural/rural development projects and programmes. This adverse impact of the epidemic on agricultural projects and programmes has only recently begun to be addressed and “hard” data is very limited and largely anecdotal.⁵⁵
- ❑ Development projects may have a positive or negative effect on HIV/AIDS: they may either enhance vulnerability to HIV and exacerbate AIDS impact or reduce vulnerability and help mitigate the impact of the epidemic.

Given the spatial and temporal specificity of the HIV epidemic, each agricultural/rural development project and programme needs to be examined individually as its impact will depend on a wide range of factors (type of project, target group, area of operation, proximity to main road, food and livelihood insecurity in the project area, out-migration, war/civil conflict, socioeconomic status of women, cultural norms, legal rights of women and

⁵⁵ See G. Hemrich, *HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation: Focus on Agriculture and Rural Development*, *op.cit.*; G. Hemrich and D. Topouzis, “Multi-Sectoral Responses to HIV/AIDS: Constraints & Opportunities for Technical Co-operation,” forthcoming in *the Journal of International Development*. See also See Lieve Fransen and Alan Whiteside, “HIV and Rural Development: An Action Plan,” *Considering HIV/AIDS in Development Assistance: A Toolkit*, The European Community, 1997.

children, etc.). Thus, each project has to consider its potential impact on the epidemic and identify its own strategies for reducing vulnerability to HIV.

3.1. INFRASTRUCTURE PROJECTS in Rural Areas

Below are two case studies of World Bank large-scale infrastructure projects, which, while not rural development projects *per se*, have been selected because of their impact on rural communities and rural development. The first case study focuses on the Akosombo River Dam in Ghana, West Africa, which dates back to the early 1960s. This case study reveals how a development project in a rural area, which was in many ways successful, inadvertently ended up making local people vulnerable to HIV and contributed to the spread of the epidemic. The second case study examines the upcoming Chad-Cameroon oil pipeline project which has been designed with a built-in HIV/AIDS component to prevent the spread of HIV among two groups with high risk behaviours: truckers and construction workers. The contrast between the two projects helps to illustrate how development practice has evolved since the 1960s and how much has been learned from the experience of the Akosombo River Dam project in terms of addressing human development.

Case Study #1: How an Infrastructure Project May Increase HIV Vulnerability: The Akosombo River Dam in Ghana⁵⁶

One of the projects that epitomize the development philosophy of the 1950s and 1960s is the Akosombo River Dam, otherwise known as Volta River Dam, designed to provide hydro-electric power for the Accra-Tema region of Ghana. Financed by the World Bank and the governments of Ghana, the United States and the United Kingdom, the project was intended to usher Ghana into the 20th century. Besides providing hydro-electric power for Accra-Tema, the Volta River Dam reduced malnutrition and

⁵⁶ The case study is largely based on the work of Josef Decosas, "HIV and Development," Special Edition of *AIDS*, No. 10, Supplement 3, 1996, pp. 69-74.

river blindness. However, some diseases, such as schistosomiasis, sleeping sickness and malaria increased in the settled areas around the lake.⁵⁷ More recently, the area surrounding the Akosombo Dam was especially hard hit by the HIV epidemic.

The construction of the Akosombo Dam (1961-1966) necessitated the clearing of some 8,500 square kilometres for the dam's reservoir. This displaced some 80,000 farmers, many of them belonging to the Krobo ethnic group. After the men lost most of their arable land, they found jobs on the construction site and later as fishermen on Lake Volta. But for many women farmers, being displaced essentially meant losing the only means of supporting their families: their land. Many thus ended up working as service workers in the hotels and bars built to cater the construction workers. Pushed by economic necessity, a number of these women resorted to prostitution.

When the dam was completed and the construction workers left, these women migrated to other parts of the country (Accra, Kumasi) and to other countries in West Africa and sent substantial remittances to their families back home. In fact, these remittances became important to some towns in the region. A student working on his dissertation in 1986 in the town of Kodjonya (population 10,000) reported that the town had more than thirty 'decent' houses, as well as three manufacturing businesses (soap and alcohol) which were built by local women working in prostitution abroad.⁵⁸

Patrilineal inheritance among the Krobo meant that children born out of wedlock were not entitled to inherit. For the many illegitimate children born during the construction boom, and particularly for the first cohort of Krobo girls born to young women who were just learning to survive by selling sex to construction workers, survival was desperate. Thus, one

Ghana HIV/AIDS Update

Adult HIV infection in Ghana is estimated at nearly 2.5%, or about 200,000 adults currently living with HIV/AIDS.

Source: UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, Ghana Epidemiological Fact Sheet on HIV/AIDS and STDs

⁵⁷ Akosombo Dam, *Microsoft® Encarta® 97 Encyclopedia*. © 1993-96 Microsoft Corporation.

⁵⁸ Kofi Art, The siting of the Akosombo Dam as a cause of prostitution among Krobo girls at Kodjonya, Dissertation, Sociology Department, University of Ghana, Legon, 1986; cited in Decosas "HIV and Development," *op. cit.*

generation later, female illegitimate children followed on their mothers' footsteps and engaged in prostitution.

A 1995 HIV seroprevalence survey found that in seven of the eight sentinel surveillance sites, HIV prevalence among pregnant women ranged between 1% and 4%. The eighth site, the town of Agomanya, is the administrative centre of the **rural Manya Krobo district which abuts the Akosombo dam. This site had HIV infection rates five to ten times above the level of average HIV prevalence in Ghana.**⁵⁹

By the mid-1990s, almost all the Ghanaian prostitutes in Côte d'Ivoire were infected with HIV and many were returning home sick and destitute. In Manya Krobo district, 13% of pregnant women tested were HIV positive, according to a 1997 sentinel report.⁶⁰ Two projects financed by the Canadian International Development Agency (CIDA) are currently addressing HIV/AIDS in Manya Krobo. The St. Martin's Hospital AIDS project, which began in 1997, and the Manya Krobo District Health Administration, which commenced in 1999, are involved in health education, home-based care, counseling, monitoring and surveillance and income-generating microprojects for young women to discourage rural-urban migration and commercial sex work by providing alternative livelihood options.⁶¹

This case study illustrates the complexity of establishing cause and effect relationships between HIV and development projects as these are separated by many years, and in this case, an entire generation. It has been argued that if those who designed the Akosombo Dam could have anticipated the epidemic and performed the usual cost-benefit analysis, the cost of the epidemic would have disappeared in the discounting procedures employed in such exercises.⁶² To date, the value of the remittances of the Krobo women working abroad is unknown, but the wealth they created may well have been the most important source of development capital in the region for a period of about twenty years. The economic cost of prostitution, on the other hand, is only felt now. The Ghanaian women fall sick in their settlements in Côte d'Ivoire; they return home and spend the

⁵⁹ Josef Decosas, "HIV and Development," *op. cit.*, and *AIDS Analysis Africa*, Vancouver AIDS Conference Special Report, Vol. 6, No. 4, August-September 1996.

⁶⁰ Project proposal for Manya Krobo District Administration, AIDS Control Programme 1999, p. 2.

⁶¹ Project reports provided by Dr. Khonde Nzambi, project coordinator, WAPTCA.

⁶² Decosas, "HIV and Development," *op. cit.*.

rest of their savings on medical care; and then they die. The measurable economic cost of this process is minimal.⁶³ But the incalculable cost is vast.

This case study raises a number of important points:

- ❑ While the project to some extent achieved its main objectives - the provision of hydro-electric power in the region⁶⁴ and the improvement of food security in some households, it did so at considerable human cost: the displacement of vast numbers of people and the subsequent rise in prostitution (even if the latter created considerable wealth in the region).
- ❑ It appears that the socioeconomic and demographic dynamics of displacing farmers to build the dam were not taken into account sufficiently during project planning. This oversight inadvertently contributed to the spread of the HIV epidemic.
- ❑ HIV/AIDS was obviously not an issue in the 1960s when the Akosombo Dam was built and thus the spread of the epidemic in the project area could not have been foreseen as such. In fact, the case study demonstrates that **the indirect and long-term impact of large infrastructure projects on rural areas can remain “invisible” for decades** (see box 5). But the socioeconomic and demographic changes brought about by the construction of the Akosombo Dam *over time* appear to have exacerbated livelihood insecurity and gender inequalities for those farmers who were displaced.
- ❑ This unforeseen development demonstrates the significance of planning for the long-term impact on human development of large-scale projects that necessitate major upheavals - such as the uprooting of 80,000 farmers. The World Bank has since put in place resettlement, environmental and other social safeguard policies and social mitigation plans to address such eventualities. In addition, the Bank is also trying to anticipate the potential effect of HIV/AIDS on some of its projects (see Case Study #2).

⁶³ *ibid.*

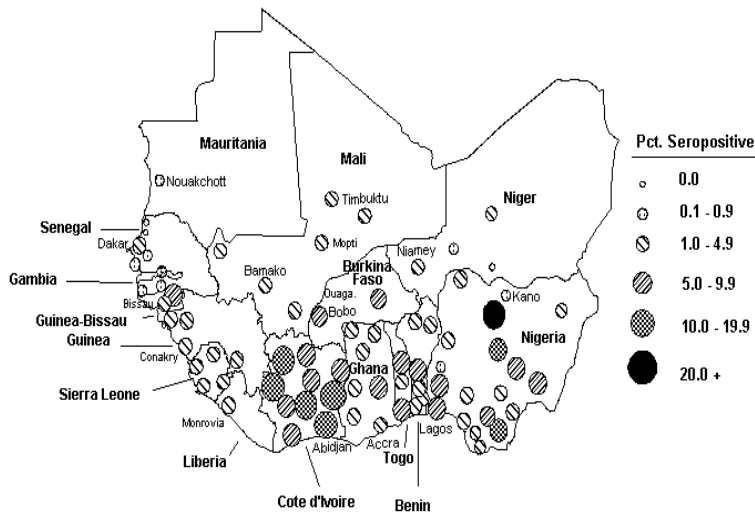
⁶⁴ It should be noted, however, that recently low water levels in the reservoir are affecting the provision of uninterrupted electricity for both industry and domestic consumption, thus precipitating an energy crisis in the country. See Daily Graphic, “Challenges and Opportunities of the Volta Basin,” Accra, 26 August 1999.

Box 5: HIV and Development

The story of the Krobo women of Ghana is an anecdote. But it is an anecdote with a certain resonance. In 1988 Usher toured the resettlement villages of the Sri Nakhairind hydro-electric dam in northern Thailand. She noted the total absence of young people in the settlements. When she asked the villagers where their children were, she received ready answers about the factory the sons were working in. As for the daughters, the answers remained vague: 'They are working in Bangkok, I am not sure where, they never tell me exactly. But they send money home each month to help pay for food.' In South East Asia, just as in West Africa and in many other parts of the world, uneven and sometimes ruthless and predatory industrial development has resulted in massive movements of populations. Young people are on the move, on the one hand driven by environmental destruction and by the inability to cope in an increasingly monetarised environment, on the other hand pulled by the prospects of paying jobs in the cities, mines, or plantations. For young women, the first move is often into prostitution, because it may be the only business with a job opening. The displaced young Thai women working in the Bangkok brothels and the Ghanaian prostitutes dying of AIDS after returning from Abidjan represent the disjunctions and discords in the process of development. They may not appear in national economic statistics, but that does not diminish their importance.

Source: Josef Decosas, "HIV and Development," Special Edition of *AIDS*, No. 10, Supplement 3, 1996.

Seroprevalence of HIV-1 for Low-Risk Populations in West Africa



U.S. Bureau of the Census, Population Division,
International Programs Center,
HIV/AIDS Surveillance Data Base, February 1999.

- Given the difficulties inherent in long-term planning, a “**precautionary principle**”⁶⁵ could be built into large infrastructure projects to allow them the flexibility to respond to unforeseen developments such as HIV/AIDS.

Case Study #2: How an Infrastructure Project May Contribute to Reducing the Risk of HIV Infection: The Chad-Cameroon Oil Pipeline Project⁶⁶

The Chad/Cameroon oil pipeline is the first large-scale infrastructure project supported by the World Bank to assess the potential for an adverse impact on HIV/AIDS and other STDs and to incorporate prevention efforts in the project design.⁶⁷ The 30-year, \$3.5 billion project involves the development of oil fields in southern Chad and the construction of an 1,100 km pipeline to port facilities on the Atlantic coast of Cameroon. A cooperative effort between the World Bank, the governments of Chad and Cameroon, and a consortium of private oil companies, the project promises the two countries substantial economic benefits: increased government expenditures in Chad on poverty alleviation activities (through expenditures in health, education, rural development and infrastructure) and economic growth for both countries through the private sector-led development of Chad’s petroleum reserves and their export through Cameroon. The project will also provide needed additional gov-

Chad/Cameroon HIV/AIDS Update

Estimates of adult HIV infection in Cameroon are just under 5% or about 310,000 people living with HIV/AIDS. Life expectancy had declined by 7 years due to AIDS in 1998 from 58.5 (without AIDS scenario) to 51.5 years. Mortality among children under 5 years was 128 (per 1,000 live births) with AIDS while without AIDS it would have been just under 110. In Chad, adult HIV infection is estimated at just under 3% or 83,000 people living with HIV/AIDS.

Sources: UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, Ghana and Cameroon Epidemiological Fact Sheets on HIV/AIDS and STDs.

⁶⁵ Personal communication, Jacques du Guerny, May 1999.

⁶⁶ The case study is largely based on an article in the World Bank Newsletter, November 7, 1997. The project will be appraised in the fall of 1999.

⁶⁷ World Bank, Confronting AIDS: Public Priorities in a Global Epidemic, Oxford University Press, 1997.

ernment revenues to Cameroon to finance primary expenditures and to support macroeconomic stability.⁶⁸

The oil pipeline project will entail only **limited resettlement** of people at the oil fields of Chad amounting to between 60 and 150 households. During project design, the facilities and pipeline corridor were sited to avoid populated areas. The sponsors have indicated that the pipeline itself can be sited to avoid relocating families.⁶⁹ The project also complies with the World Bank's environmental, natural habitat, indigenous peoples and other environmental and social safeguard policies.

But **the project involves a potential risk of exacerbating the HIV epidemic**. During the peak construction period, the project will draw about 2,000 construction workers from Chad and Cameroon and will employ an additional 400-600 truckers who will travel the length of the pipeline. Most of the workers will be single and/or unaccompanied males. Those working in Chad will commute from their village of origin, while those working along the pipeline in Cameroon will live in temporary barracks. **Some areas along the proposed pipeline already have extremely high levels of HIV**: a 1995 report from an area adjacent to the Chad/Central African Republic border, and directly on the proposed pipeline route, indicated that more than half of the sex workers and one in four truckers were infected with the virus.⁷⁰

Alerted to these problems, the consortium and two governments involved have identified **a package of measures to avoid exacerbating HIV/AIDS in the project area**. Using baseline data and experience gained elsewhere in Africa, the consortium has developed **a layered intervention strategy** that includes:

- monitoring of STDs and HIV status of the workforce;
- vigorous marketing of subsidized condoms;
- information, education, and communication (IEC) activities;
- treatment of classic STDs;

⁶⁸ World Bank, PID for the Chad-Cameroon Oil Pipeline Project, November 1998, p. 3.

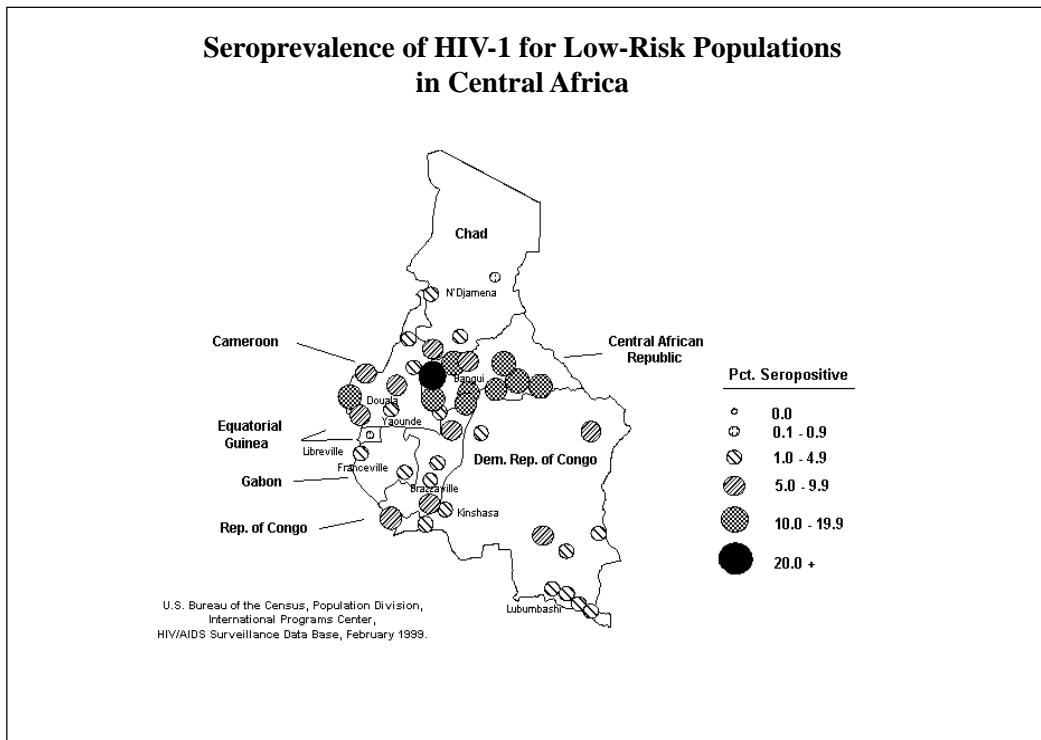
⁶⁹ *ibid.*, p. 9.

⁷⁰ See also Chad-Cameroon oil pipeline project Public Health Report, Volume 6 of the Supporting Documents set.

- interventions to modify high-risk behavior; and
- coordination with existing government and NGO programmes, particularly those directed toward commercial sex workers.

To supplement the work of the consortium in this area, the World Bank is preparing two technical assistance projects that will help the governments of Chad and Cameroon monitor and assess the health impact of the project.

This case study demonstrates how it is possible to design mainstream development projects that take into account the potential impact of the HIV epidemic on populations with high risk behaviours (construction workers and truckers) and to build-in mechanisms that help reduce risk to HIV infection. As the project is not yet operational, the potential impact of these measures *over time* is not yet known. What is also unclear is whether any measures will be taken targeting the communities surrounding the construction sites - including those people working in service centers that will cater to the needs of the construction workers and truckers. Addressing



the communities adjacent to the project site could prove as significant as targeting the construction workers and truckers, given the continuous interaction between the two population subgroups.

3.2. FOOD SECURITY INTERVENTIONS

More than 800 million people in developing countries are chronically undernourished, lacking sufficient food to lead healthy and active lives. Millions more live in conditions of vulnerability and risk. Addressing food insecurity is at the core of FAO's mandate. The Special Programme for Food Security (SPFS), launched in 1994 to focus on low-income, food-deficit countries (LIFDCs), is one of FAO's key instruments in promoting food security.⁷¹ Other areas of FAO activity include: food insecurity and vulnerability information and mapping systems (FIVIMS), food security policy analysis and formulation, support to the ACC network for rural development and food security, and the implementation of integrated food security programmes.

The SPFS, which is operational in 39 LIFDCs and under formulation in 34 other countries, aims at supporting LIFDCs in their efforts to:

- ❑ improve their national food security through rapid increases in productivity and food production on an economically and environmentally sustainable basis;
- ❑ reduce year-to-year variability in agricultural production; and
- ❑ improve people's access to food.

The SPFS is a multidisciplinary programme with a strong emphasis on meeting people's needs directly by raising farmers' net income, generating rural employment, increasing social equity and promoting gender sensitivity. The Programme is implemented in two phases:

- ❑ Phase I emphasizes proven technologies for strategic crops, grassroots participation at all stages and south-south cooperation, draw-

⁷¹ The LIFDCs category is based on two criteria: low income and food deficit. To be included in the low income criterion, a country should have a per caput income below the level used by the World Bank to determine eligibility for IDA and IBRD assistance (which in 1996 was US\$ 1,505 per annum). The food deficit criterion is based on the net food trade position of a country averaged over the preceding 3 years.

ing on the experience and expertise of those developing countries which can assist others facing similar challenges and conditions.

- Phase II comprises three components: a) a food security and agricultural sector policy programme; b) an agricultural investment component; and c) the preparation of feasibility studies of bankable projects.

The first case study below explores the relevance of HIV/AIDS to the Special Programme for Food Security in Tanzania and relies primarily on inputs from the FAO Representation in this country and the FAO headquarters Technical Backstopping Officer (TBO) for the project. The second case study examines the relevance of HIV/AIDS to an FAO-executed integrated household food security and nutrition project in Zambia and is based on inputs from the FAO headquarters Technical Backstopping Officer for the project and the National Project Coordinator (NPC).

Case Study #3: The Relevance of HIV/AIDS Vulnerability to Agricultural Production Programmes: The Special Programme for Food Security in Tanzania

Tanzania was one of the first countries to implement the SPFS in mid-1995 and has among the most successful programmes to date. Phase I (1995-1998) of the programme was recently completed and preparations for the extension of the programme country-wide are underway. The SPFS is being implemented within the overall framework of Tanzania's National Comprehensive Food Security Pro-

Tanzania HIV/AIDS Update

Estimates of adult HIV prevalence rates in Tanzania were 9.5% in end-1997, or about 1.4 million adults living with HIV/AIDS. Early 1999 HIV prevalence estimates outside major cities were as high as 16% (this figure is based on best available data but not necessarily reliable due to small sample size) for low risk groups (pregnant women, blood donors, or other persons with no known risk factors) and 34% for groups with high risk behaviours (prostitutes and clients, STD patients, or other persons with known risk factors). Life expectancy has declined by nearly 9 years due to the pandemic while mortality among children under 5 years has risen to 160 per 1,000 live births from just under 138 (in a without AIDS scenario).

Sources: U.S. Bureau of the Census, [Recent HIV Sero-prevalence Levels by Country](#), February 1999; UNAIDS, Report on the Global HIV/AIDS Epidemic, June 1998.

gramme adopted by the Government as a planning tool and blueprint for all food security and food management-related initiatives and interventions in the country.

The main objective of Phase I was to rapidly increase the production of two major staple crops⁷², rice and maize, through participatory transfer of improved farming technologies for crop intensification.⁷³ During this phase, demonstrations of improved technologies for crops and livestock were organized in the Dodoma and Morogoro regions. Some 78 participatory farmers' groups (PFGs) with 1,116 members were set up to address local constraints by forming savings associations, transacting input supply arrangements with local distributors, lobbying for the vaccination of chicken against Newcastle disease, and studying options for marketing farm produce.

The main achievements accomplished in Phase I of the SPFS include the following:

- ❑ **Crop production intensified:** participating maize and rice farmers consistently doubled their yields using locally available know-how and technology. Training and farm demonstrations on improving rice production were carried out in 84 farms of 0.5 hectares in the two regions. Rice yields in demonstration plots for 1995-1996 and 1996-1997 showed a robust 98% increase. Demonstration plot maize yields for 1995-1996 and 1996-1997 showed an impressive 138% increase. About 86% of maize farm demonstrators repeated and/or adopted what had been demonstrated in the previous year.⁷⁴
- ❑ **Food security at household level became diversified:** Meat and egg production increased substantially. About 14,500 chicken were vaccinated against the prevalent Newcastle disease while 146 improved chicken and goat shelters were constructed. The resulting rise in the survival rates of the local chicken and the increase in meat and egg production prompted PFG and non-PFG community members alike to contribute money for the purchase of vaccines

⁷² The term "staple crops" refers to basic food crops.

⁷³ Proceedings of the National Workshop on Results and Constraints Analysis on the Special Programme on Food Production in Support of Food Security, Morogoro 24-26 November 1997, Dar es Salaam, February 1998, Executive Summary, p. iv.

⁷⁴ SPFS, Framework Plan for the Expansion Phase of the SPFS/FS in Tanzania, September 1998, pp. 6-7.

and drugs to treat their animals.⁷⁵

- ❑ **Water Control and Management:** After identifying limiting factors to increased rice production such as floods, poor drainage and water logging, several technological packages for rice production were demonstrated with promising yield results, such as bunding of fields,⁷⁶ water harvesting using seasonal floods and shallow wells for growing rice seedlings.
- ❑ **Savings Associations:** The 78 groups' gross savings have exceeded the Tanzania Shilling 2 million mark, which the PFG/SCA members deposited in their bank accounts. With these savings and through group guarantees, members have been able to obtain their production inputs, leading to significant increases in maize and rice yields.

A **constraints analysis** component carried out in all SPFS sites identified the following factors limiting food production: a) the lack of agricultural production credit; b) inadequate animal and mechanical farm power for hire; c) the lack of or late supplies of production inputs; d) inefficient marketing channels; and e) poor grain quality and high post-harvest losses.⁷⁷

Against this background of substantial progress in food security self-reliance, Tanzania is one of the countries most affected by HIV/AIDS on the African continent.⁷⁸ The Tanzanian **Ministry of Agriculture and Cooperatives** (MoAC) is addressing the spread and impact of HIV/AIDS in three ways:

⁷⁵ *ibid.*, p. 7.

⁷⁶ Bunding refers to a soil wall built across a slope to hold back water.

⁷⁷ SPFS Tanzania Information Sheet, FAQ, 26.11.1998, prepared by A.N. Mero and Proceedings of the National Workshop on Results and Constraints Analysis on the Special Programme on Food Production in Support of Food Security, *op. cit.*

⁷⁸ For the impact of HIV/AIDS on agriculture and rural livelihoods in Tanzania see: Tony Barnett, "The Consequences of HIV/AIDS for Production Systems and Rural Livelihoods in Tanzania," 1994; The World Bank, *The Magnitude and Duration of the Impact of Adult Mortality on the per Capita Income, Consumption and Savings of Households in Kagera, Tanzania*, 1995; Gabriel Rugalema, "Consequences of loss of labour due to HIV/AIDS in smallholder households in a Buhaya village, Bukoba District, Tanzania," paper presented at the East and Southern Africa Regional Conference on: Responding to HIV/AIDS: Development Needs of African Smallholder Agriculture, Harare, June 8-12, 1998; G. Rugalema, "The Consequences of HIV/AIDS on Household Livelihoods in a Buhaya Village, Bukoba District, Tanzania," PhD thesis, Institute of Social Studies, The Hague, 1998, M.T. Leshabari, S.F. Kaaya, J. Nguma and S. Kapiga, "Household and Community Responses to HIV/AIDS in Kyela District," 1996; and "The Impact of AIDS on Food Security: Workshop Report," Bukoba Tanzania, June 1999.

- ❑ by identifying areas likely to be hard hit by the pandemic through the use of an Early Warning System;
- ❑ by sensitizing Ministry leadership and extension workers; and
- ❑ by planning programmes to assist families affected by the epidemic, in collaboration with donors and other Ministries.

This MoAC strategy was preceded by a number of related initiatives facilitated by FAO. In 1993-1994, a FAO study explored the *Effects of HIV/AIDS on Agricultural Production Systems and Rural Livelihoods in Tanzania*. The findings of this study were presented in a national workshop that brought together various Ministries, donors, NGOs and bilateral development agencies.⁷⁹ Subsequent consultations between the FAO Representation in Tanzania and the MoAC led to the preparation in early 1995 of a ministerial **position paper on Agriculture and HIV/AIDS** aimed at incorporating HIV/AIDS in the policy, strategy framework and programmes of the ministry. This paper formed the basis of the three-pronged strategy outlined above.

Phase I of the SPFS operated in areas of relatively low HIV prevalence (Dodoma and Morogoro). The FAO Representation in Dar-es-Salaam has indicated that HIV was not cited by farmers as a constraint to agricultural production in informal discussions with individuals and local leaders in the two areas. However, as the SPFS will be expanding countrywide, the FAO representation has recognized that **“the problem of HIV will need serious attention and monitoring by the constraints analysis component.”**

Phase II of the SPFS, where preparations are now underway, will be extended to the entire country (covering 20 regions and up to 120 districts) and will reach 2.4 million farm households. Programme activities will focus on water control and management; soil fertility and plant nutrition; crop intensification and diversification; and management of agricultural support services and institutions (rural financial institutions, agencies trading in agricultural inputs, crop purchasing agencies, etc).⁸⁰

⁷⁹ Similar studies and workshops were undertaken in Uganda and Zambia; see summary analysis on “The Effects of HIV/AIDS on Agricultural Production Systems and Rural Livelihoods in Eastern Africa (Tanzania, Zambia, Uganda),” FAO, 1995.

⁸⁰ SPFS Tanzania Information Sheet, FAO, 26.11.1998, compiled by A.N. Mero.

In the context of HIV/AIDS, the FAO representation in Tanzania has indicated that as part of the constraints analysis component, **“it will be necessary to assess the impact of HIV/AIDS on labour productivity, levels of savings, health care expenditures and family readiness to invest in agricultural production.”**⁸¹

HIV/AIDS is also likely to feature in the analysis and targeting of groups vulnerable to food insecurity. The following household types/household members were identified as vulnerable to food insecurity in a National Workshop on Results and Constraints Analysis on the SPFS, held in Morogoro in November 1997:

- rural households with holdings too small to provide subsistence food;
- rural households with income below the poverty line;
- rural minimum wage earners on estates;
- urban low-income earners engaged mostly in informal activities;
- food growers living in “drought/flood prone pockets” that face regular transitory food insecurity;
- pregnant women (estimated at around 1.5 million);
- infants from 6 months to 3 years who are already weaned but are not old enough to secure access to enough food; and
- elders who are dependent on children and relatives for their food and economic survival.⁸²

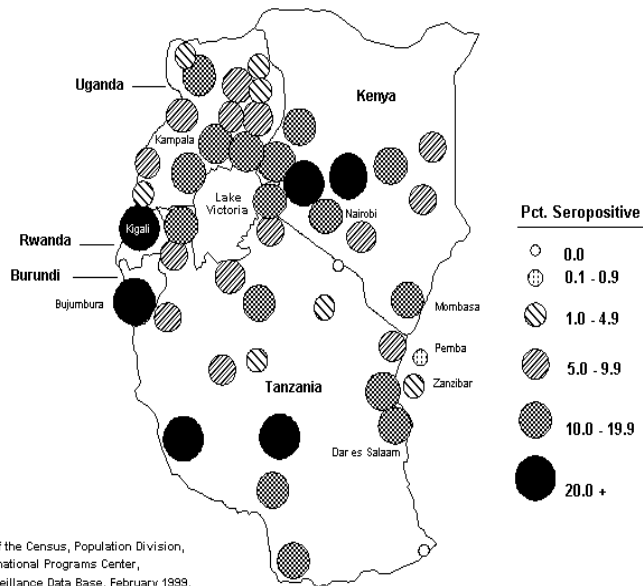
Given the magnitude of the pandemic and the severity of its impact, a substantial proportion of the above-mentioned groups will include individuals and households affected by HIV/AIDS. Such households are not only affected by HIV-related illness of one or several of their members, but also by impoverishment following AIDS death(s), due to the depletion of household resources and to changes in land tenure and labour availability. As a result, over time, **the HIV pandemic is likely to change, amplify, and deepen the way poverty and food insecurity manifest themselves** among the various categories mentioned above.

⁸¹ FAO, Office Memorandum dated 26 April 1999 from Mr. Soulayman B'oob, FAO Resident Representative in Tanzania to Yeb Hiemstra, SPFS, FAO Rome.

⁸² Proceedings of the Workshop on Results and Constraints Analysis on the SPFS, *op. cit.*, p. 20.

In addition, most of the groups listed above are also among those most at risk of HIV infection (the first five groups) or AIDS impact (the last three groups). In other words, **vulnerability to food insecurity may exacerbate their vulnerability to HIV infection as well as AIDS impact.** For example, food growers living in “drought or flood prone pockets” that face regular transitory food insecurity traditionally have certain coping mechanisms, one of which is migration. However, as migration is accompanied by a high risk lifestyle (separation from spouse leading to casual partners, alcohol and/or drug abuse, etc.), it often contributes to the spread of HIV. Thus, alternative household coping mechanisms that do not exacerbate the spread and impact of HIV/AIDS may need to be promoted. Another example is that of elders who are dependent on their children for survival: in the face of HIV/AIDS, this traditional social safety net for the elderly is being eroded, as a significant proportion of the productive population is now living with HIV/AIDS or has already died from the disease. In such cases, elders often find themselves in a situation where they have to

Seroprevalence of HIV-1 for Low-Risk Populations in East Africa



assume the role of sole caretakers, food producers and providers for their grandchildren. Low-risk, low-input and labour-extensive agricultural production systems may be necessary to strengthen the productive capacity of such households and prevent them from becoming impoverished.

To conclude, the SPFS Tanzania case study shows that in countries or areas heavily affected by the HIV pandemic, agricultural production programmes need to address both the spread and impact of HIV/AIDS. It is also shown that vulnerability to food insecurity may trigger or exacerbate vulnerability to HIV. Agricultural/rural development programmes like the SPFS can have a catalytic effect in reducing vulnerability to HIV and in mitigating the impact of HIV/AIDS in rural areas. How to best utilize the potential of agricultural production programmes in the response to the HIV pandemic remains to be explored.

Case Study #4: Household Food Security & Nutrition in the Luapula Valley, Zambia, in the Face of HIV/AIDS

Many households in Luapula Province, Zambia, are chronically food insecure and suffer from *xerophthalmia* (an eye disease that leads to blindness due to Vitamin A deficiency). The objective of the FAO-executed project IMPROVING HOUSEHOLD FOOD SECURITY IN THE LUA-PULA VALLEY, which commenced in 1997, is the sustainable and long-term improvement of household food security and nutrition, including year-round access to a balanced diet adequate in energy, vitamin A, iron and other macro- and micronutrients.

Approximately **20% of the adult population and 5-6% of the children in the project area are estimated to be HIV positive**. HIV/AIDS is among the main threats to sustainable food security in the project area, according to the FAO headquarters Technical Backstopping Officer (TBO) for the project.

The Luapula Valley project seeks to improve the nutritional status of vulnerable groups through activities aimed at: increasing food production and improving access to nutritious foods; decreasing people's (and in particular women's) workload through labour-saving technologies; raising awareness of the nutritional needs of vulnerable groups; empowering communities to ensure better care for the vulnerable; and improving access to labour and to resources through gender sensitization and the promotion of more gender-balanced extension approaches.⁸³

Zambia HIV/AIDS Update

Zambia's adult HIV prevalence rate is estimated at more than 19% (or 730,000 people living with HIV/AIDS). Demographic projections indicate that AIDS may increase child mortality rates nearly threefold by the year 2010. Life expectancy is expected to decline by about 17 years.

Sources: UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, UNAIDS/WHO, The Status and Trends of the Global HIV/AIDS Pandemic, 1996.

⁸³ Mukelabai Ndiyoi, Lewis M. Bangwe and Mutinta N. Hambayi, "Beneficiary Assessment of Programme Services and Outputs: a Pre- Mid-Term Evaluation PRA of the Project Improving Household Food Security in the Luapula Valley, March 1999," FAO/Farming Systems Association of Zambia, p. 1.

The Impact of HIV/AIDS

HIV/AIDS impacts on the project in two ways:

- ❑ **It affects the progress of the project through losses in human resources.** This refers to both project and counterpart staff as well as to project target groups. Recently, the loss of highly qualified counterpart staff adversely affected project operations and capacity-building efforts.
- ❑ **It compromises project outputs and interventions.**⁸⁴ Adult morbidity and mortality are likely to arrest the gains achieved in household food security and improved nutrition. With one in five adults living with HIV or AIDS, the livelihood systems of affected households are likely to become increasingly insecure as incomes decline and dependency ratios increase.

Given that no assessment of the impact of the pandemic in the project area has been carried out one can only find evidence of its effects on agricultural production and household food security indirectly. The case of Jane (see Box 6) has many of the characteristics of a household headed by an AIDS widow. Yet, there is no mention of HIV/AIDS. Is it because of the stigma attached to the pandemic? Is it that the interviewer did not know how to address the underlying problems of this widow? Jane mentions that she has not reaped any benefits from the project although she is group member. Is this because her felt needs are not being met? Is it because she does not have

Box 6: Food Insecurity, Gender and Vulnerability to HIV

Jane*, a 47-year-old widow, lives with her three children and two grandchildren. She grows maize, cassava and groundnuts from "FAO" this year. Her other crops are sweet potatoes and pumpkin leaves. **The past two seasons she grew nothing, because she was nursing a husband who eventually passed away.**

She does piecework for her food and ate only cobs of maize for lunch yesterday and nothing by interview time.

She is a group member but has seen no benefits yet. She was involved in the planning process. The grandchildren, she said, were sickly and even though they were immunized, had weights below the line and a falling growth pattern.

**The name has been changed*

Source: Beneficiary Assessment of Programme Services and Outputs, *op. cit.*, Annex.

⁸⁴ Personal communication, Elizabeth C. Phiri, NPC, 27 April 1999.

the time to participate in project activities? Is she also sick? Clearly, there is a plethora of questions that need to be answered before a full picture of a household affected by HIV/AIDS can emerge. It is also clearly possible that this particular household is not affected by HIV/AIDS. However, with an adult HIV prevalence rate of 20% in the project area, cases such as the household described in Box 6 are bound to be quite common. By addressing such households, the project will be able to respond more effectively to the felt needs of a substantial proportion of its intended target group.

The Relevance of HIV/AIDS to Project Activities

Many of the people who are chronically food insecure and nutritionally vulnerable - the main target group of the project - are also likely to be among those most vulnerable to HIV/AIDS. Thus, project activities targeting nutritionally vulnerable groups are well suited for households vulnerable to the spread and impact of HIV/AIDS as well. For instance, **gender sensitization** to relieve the labour burden of women and to shift labour distribution can free women for productive or income-generating activities or else for childcare and household activities. Changes in perceptions of traditionally “male” versus “female” roles, tasks and division of labour can also lead to a transformation in perceptions of social and sexual roles and to more open communication between the sexes.⁸⁵ Such communication is, in turn, likely to discourage behaviour that increases vulnerability to HIV infection. Further, gender sensitization could be extended to include HIV prevention and ways of assisting affected families (widows, orphans, etc.). **Empowering communities to ensure better care for the vulnerable**, when inclusive of PLWAs, will also help to mitigate the impact of AIDS.

Project achievements, as identified by the beneficiaries, include the following:

- The promotion of community self-help groups and training in mobilization, management, diagnostic skills and planning (community action plans).

⁸⁵ Jacques du Guerny and Elisabeth Sjöberg, “The Interrelationship between Gender Relations and the HIV/AIDS Epidemic: Some Possible Considerations for Policies and Programmes,” in *Health and Human Rights*, edited by Jonathan M. Mann, Sofia Gruskin et al. Routledge, 1999, pp. 202-215.

- ❑ Improved access to financial resources, credit and technology through the establishment of a community development fund for microprojects.
- ❑ Improved efficiency of community support services for vulnerable households.
- ❑ Training and acquisition of new skills in crop production, seedling management, seed multiplication, post-harvest processing and utilization, nutrition and irrigation.
- ❑ Technological innovations, including the treadle pump⁸⁶ and new planting methods for oil palm, cassava and other crops; seed technology; labour-saving and post-harvest technologies.
- ❑ Changes in attitudes toward gender roles: Following gender sensitization, men reported that the project had influenced the way they related to activities that are traditionally perceived as “female” tasks, such as crop processing and food preparation, and are more adept in detecting child growth problems.⁸⁷

These achievements are relevant strategies to reducing vulnerability to AIDS impact. For instance, improved access to credit may help families affected by HIV/AIDS evade destitution by surviving the shock of food and livelihood insecurity; technological innovations, and especially labour-saving technologies are of critical significance to HIV/AIDS-affected households suffering from labour shortages; and improving the efficiency of community support services for vulnerable households will help strengthen safety nets for households affected by the pandemic.

Addressing HIV/AIDS in Project Operations

According to the FAO Technical Backstopping Officer for the project, at present, **the project does not have the resources and know-how to respond to HIV/AIDS in a systematic manner.** The project addresses HIV/AIDS in two ways, according to the National Project Coordinator (NPC):

- ❑ **It sensitizes project staff and communities on how to live posi-**

⁸⁶ A treadle pump is one worked by the foot.

⁸⁷ *ibid.*, Executive Summary, p. vii.

tively with HIV/AIDS and how to care for persons living with AIDS (PLWAs); and

- ❑ It recognizes **AIDS orphans as a group vulnerable to food insecurity and malnutrition.**

Some areas and issues that may need to be further explored include the following:

- ❑ **The impact of HIV/AIDS on existing farming systems and on household coping strategies.** A recent finding of a participatory rural appraisal beneficiary assessment of project services and outputs attributes the declining trend in food production and changes in farming systems in pilot areas to climatic influences.⁸⁸ A wider approach to constraints, including natural as well as socioeconomic determinants (including HIV/AIDS) can contribute to a more comprehensive assessment of food insecurity.
- ❑ **Households affected by HIV/AIDS.** Apart from orphans, households affected by the pandemic are not being reached by the project as such.⁸⁹ According to the FAO Headquarters TBO, this is possibly due to the fact that members of households affected by HIV/AIDS do not have the time to join in project activities.
- ❑ **Migration and rural-urban linkages as contributing factors to the vulnerability to HIV in Luapula Valley.** There is extensive permanent as well as seasonal urban-to-rural migration in the region from the nearby copper belt to the rural areas as a result of the economic crisis and, more specifically, the sharp decline in world demand for copper and in copper prices. Luapula Valley has traditionally been a labour reserve for the copper belt with a high proportion of female-headed households. Today, the proportion of female-headed households is declining substantially as a result of **reverse migration.**⁹⁰

⁸⁸ *ibid.*, Executive Summary, p. ix.

⁸⁹ According to the mid-term evaluation report, “the PRA enabled the identification of groups in the community that are nutritionally vulnerable and food-insecure, and facilitated an analysis of the immediate, underlying and root causes of people’s vulnerability,” p. 53. HIV/AIDS is not listed among these vulnerabilities.

⁹⁰ Personal communication, Ellen Muehlhoff, April 1999.

In addition, there is extensive mobility within Luapula Province from agricultural areas to fishing camps around the lakes. Traditionally, the men in the area were fishermen and the women engaged in farming. Male seasonal migration to fishing camps has been strongly associated with casual sex. In recent years, however, there has been a shift in livelihood patterns among men from fishing to farming.⁹¹ The ramifications of such shifts in household livelihood strategies on HIV vulnerability are not known. More generally, labour migration patterns and the strong urban-rural linkages are likely to influence considerably the vulnerability to the epidemic, and, for this reason, merit consideration.

According to the NPC, what is needed first and foremost to begin addressing HIV/AIDS in a systematic manner is open information-sharing about HIV/AIDS among project staff; access to the facts regarding the pandemic; and leading by example on the part of the staff.⁹² Sensitization on HIV prevention, mitigation and caring for PLWAs as well as training on the technical implications of HIV/AIDS for food security and nutrition would help initiate such a process. Suitable **entry points** for addressing vulnerability to HIV are Community Action Planning exercises and Knowledge-Attitude-Practice (KAP) assessments.⁹³

An important step to addressing issues related to the pandemic in ongoing project activities is to record and monitor them in project documentation. This has not been the case to date. For example, the recent beneficiary assessment of programme services and outputs evaluation of the project, which features a comprehensive analysis of constraints, does not mention HIV/AIDS. In fact, HIV is even absent from the section on health and disease incidence (section 4.3.7) of this assessment. Exploring the reasons behind this lacuna is likely to lead to a better understanding of how to tackle the pandemic as a development issue in general and as a food security issue in particular.

The following points emerge from this case study:

⁹¹ According to the NPC, this is because: a) the fish ban imposed by the government at certain times of the year encourages men to go into farming; and b) the number of fishermen competing for fish is increasing. Personal communication, Elizabeth C. Phiri, 27 April 1999.

⁹² Personal communication, Elizabeth C. Phiri, 27 April 1999.

⁹³ *ibid.*

- ❑ In areas of high HIV prevalence, **household food security efforts may be severely undermined as morbidity and mortality exacerbate food and livelihood insecurity.**
- ❑ **Changes in demographic patterns**, including shifting migration trends, rural-urban linkages and changes in livelihood strategies need to be reviewed in order to assess how these may be affecting vulnerability to HIV and more generally, food security and nutrition.
- ❑ Despite the fact that Zambia has a mature pandemic, there is **continued need for information on HIV prevention and training** on how to address the developmental implications of the pandemic.
- ❑ By **including HIV/AIDS in the range of factors contributing to food insecurity** and malnutrition and by understanding the corresponding household coping mechanisms, food security projects will be able to respond more effectively to the felt needs of a growing number of rural households.

3.3. AGRICULTURAL PRODUCTION & PLANT PROTECTION PROJECTS

Case Study #5: The Zambezi Valley Organic Cotton Project in Support of HIV/AIDS Vulnerability Reduction⁹⁴

Zimbabwe's first organic⁹⁵ cotton project was set up in the Zambezi Valley in 1995 at the request of some 40 women farmers (including widows) who could not afford to buy pesticides. This initiative has since grown

⁹⁴ This case study is based on two papers and on personal communication with Sam L.J. Page, AFFOREST Coordinator. See Sam L.J. Page and Meg Davies, "Farmer Field Schools as Support Groups for AIDS Widows and Other Marginalised Smallholder Farmers in Zimbabwe," paper presented at the East and Southern Africa Regional Conference on: Responding to HIV/AIDS: Development Needs of African Smallholder Agriculture, Harare, Zimbabwe, June 8-12, 1998; Sam Page, "Towards a New Agricultural Research Agenda: The Need for a Paradigm Shift Toward Farmer Participatory Research and Training in the Interest of Zimbabwe's AIDS Survivors," paper presented at the International Conference on AIDS, Livelihood and Social Change in Africa, Wageningen Agricultural University, 15-16 April 1999; and personal communication, 14 May 1999 and 20 May 1999.

⁹⁵ Produced or involving production without the use of chemical fertilizers or pesticides.

into a larger project, supported by the NGO African Farmers' Organic Research and Training (AFFOREST), where organic cotton and groundnuts are being produced for sale (including a 20% premium) for the local and overseas markets. **"Many AIDS widows have joined the project because organic cotton has no [external] input costs and a lower labour requirement than conventional cotton farming,"** according to the Coordinator of AFFOREST.

FAO-supported Farmer Field Schools (FFSs) were introduced in smallholder communal agricultural areas (see Box 7) in 1997-1998 as a means of improving agricultural management practices (see section 3.4), including the reduction or elimination of costly external inputs. These

Zimbabwe HIV/AIDS Update

Zimbabwe has the highest rate of HIV prevalence in Africa, with an adult infection rate estimated at nearly 26%, or 1.4 million people living with HIV/AIDS. About 80,000 people die every year from AIDS. An estimated 600,000 children are projected to become orphans by the year 2000. Without AIDS, life expectancy would have been 69.5 years; today it is less than 31 years. The population could decline by 4.4 million by 2010. Zimbabwe expects that AIDS will consume 60% of its health budget by 2005.

Sources: UNAIDS/WHO, [Report on the Global HIV/AIDS Epidemic](#), June 1998; UNAIDS, [AIDS Epidemic Update](#), December 1998; U.S. Bureau of the Census, [World Population Profile: 1998](#); UNAIDS, "AIDS is single greatest threat to continued global development," 8 February 1999.

Box 7: The Smallholder Communal Agricultural Sector in Zimbabwe

Communal farming systems are low-input, low-output farming systems. Cultivation is by hand hoes and animal-drawn ploughs using family labour. Average cropped areas are small, ranging from 0.5 hectares to 2 hectares per family, depending on population density, and production is mainly for subsistence purposes. Households with no access to animals and farm implements are limited in their ability to engage in extensive production. Soils are a constraint, being largely sandy and shallow. Drought is a common phenomenon in the drier regions and knowledge on drought coping strategies is limited. Agricultural extension is limited to the top 20% of the farmers who are mainly master farmers at the expense of the resource-poor and female-headed households. The use of inputs such as fertiliser is risky and liberalisation of input prices and the removal of subsidies have adversely affected agricultural production. Productivity and incomes in the smallholder communal agricultural sector are 10 times lower than in the commercial farming sector. As a result, poverty is much more prevalent in the communal areas.

Source: FAO Investment Centre, Zimbabwe Poverty Alleviation Project, Draft Main Report, 14 June 1999, pp. 6-7.

FFSs were adapted by AFFOREST to promote organic agricultural production in Zimbabwe.

The Impact of HIV/AIDS in the Zambezi Valley

About 10% of the population in the Zambezi Valley is HIV positive. The Zambezi Valley Organic Cotton project is addressing a group of farmers which have up until now been largely marginalized as a result of traditional law and successive research and extension policies (pre- as well as post-independence): widows. **Women (many of them AIDS widows), head more than one-third of rural households in some areas of Zimbabwe and this figure is likely to rise to over 50%.**⁹⁶ Although many of these widows may be HIV positive, it is the older women - women over 40 years, who are likely to be safe from HIV infection. This is because, traditionally, a Shona woman ceases sexual activity when she approaches menopause. Her husband continues to have relations with his younger wives who face the task of caring for their sick husbands and for all the children from his various liaisons as, one by one, their mothers also fall sick and die. The older children of a senior wife may also succumb to AIDS, leaving her, as the grandmother, to fend for her grandchildren. As a result, some AIDS widows are responsible for six or more children, ranging from toddlers to teenagers. Many such widows are struggling to survive as small-holder farmers. While in the past widows constituted a relatively small group of farmers, today, **AIDS widows free of HIV over the age of 40 are likely to become among the most productive groups of farmers in Zimbabwe.**⁹⁷

The Zambezi Valley Organic Cotton Project in Zimbabwe has conducted an initial HIV/AIDS impact assessment and has found that AIDS widows in particular suffer the effects of increased poverty, reduced availability of labour and the inability to make important management decisions during the cropping cycle. In recent interviews with 11 AIDS widows from the project area, the following key problems were identified: **shortage of labour and cash, and a lack of financial and farm management skills.**

⁹⁶ Lower Guruve Development Association, "Report on the Impact of HIV in the Lower Guruve Area," 1997, unpublished, cited in Sam Page, "Toward a New Agricultural Agenda," *op. cit.*, p. 3.

⁹⁷ Sam Page, "Towards a New Agricultural Agenda," *op. cit.*, p. 3.

Three in-depth case studies were conducted with AIDS widows who were also members of the Zambezi Valley Organic Cotton Project. A staff member from AFFOREST interviewed the women in their homes.⁹⁸ The most elderly widow, Dorothy, aged 61, was the sole carer of her 66-year-old husband, who was, at the time of the interview, completely incapacitated, due to full-blown AIDS. Dorothy still had three children living at home. The two other widows were both aged 42. Catherine's husband died in September 1995, aged 41, leaving her with three children. Angelina's husband died in August 1996, aged 48, leaving her with three preschool and four school-age children.

The impact assessment revealed the following adverse effects of HIV/AIDS:

❑ Shortage of Labour

Dorothy said: "It's impossible for me to go to the field, and won't be possible next season either, or until the illness goes. No one has relieved me since he got ill."

Catherine argued: "There's only me and my 12-year-old son and my mother-in-law (who only helps for a short time) that work on the land now." When her husband was alive, they would plough one acre in a day, but now she and her son can only manage to plough half an acre per day.

All three women found weeding to be the activity that suffered most from labour shortage, and this will probably result in lower yields. Dorothy said: "The farm activity most affected is weeding and we were delayed in picking cotton." Angelina said: "I was used to stay with the children, but now it's a problem. There's a demand for labour in the field and the children need someone to look after them." Angelina's yields of cotton, maize and groundnuts were reduced this season compared to last, due to late planting, smaller areas planted and poor management.

⁹⁸ All the names of the women interviewed have been changed.

□ Shortage of Cash

This is usually the consequence of the loss of income from either full-time employment in town or sources supplementary to farming, such as ploughing, thatching, carpentry, building or mechanical work.

Catherine said: “When my husband was alive, I had to do some projects making doilies (crocheted place mats), but now I can’t afford the money to buy the threads. When I returned to the valley it was only a problem of (cotton) seeds, and I had difficulty in finding the money to buy seed and pesticides. So, I milked my cattle and sold the milk to buy seeds.” In the 1997-1998 season, Catherine planted five acres of cotton, whereas in 1994-1995 - the last season she farmed in the Valley — she and her husband grew seven acres of conventional cotton.

Angelina has suffered increasingly from a lack of money to hire labour: “Last season (1996-1997), I had more money to hire labour, so the crops got weeded more often, whereas this season I had to do more myself.” She had to sell an ox worth Z\$4,000 to buy cotton seeds, but mostly to pay for her children’s school fees and to buy food.

Dorothy had paid Z\$1,007.50 for five visits to two spirit mediums for the ritual and for traditional medicine.

□ Lack of Financial and Management Skills

This is a particularly acute problem in households where the deceased husband traditionally made all the important financial and farm management decisions.

Dorothy was sitting on her veranda, sorting through a plastic carrier bag full of her husband’s bills and receipts prior to the interview. She was looking for a receipt which would prove that they were owed the Z\$1,080 deposit for 18 cotton packs they had never received but for which they had been charged. A cheque they had received from the Cotton Company of Zimbabwe was made payable to her husband, who was unable to travel in order to cash it.

Catherine said: “It was a problem making decisions, but I did it by myself. There was nothing to do about it. Me and my eldest son worked very hard because we had to plant in time for the rains. I think Farmer

Field Schools would help. I have little know-how of time and money management.”

FFSs as Support Mechanisms for AIDS Widows and Other Marginalized Farmers

AFFOREST-supported Farmer Field Schools in the Zambezi Valley are acting as “support groups” for AIDS widows and other marginalized smallholder farmers in three ways:

- By providing widows and other marginalized farmers with a regular opportunity to **gain knowledge, support and confidence** from their peers. AFFOREST-led FFSs facilitate the exchange of traditional farming methods and build confidence in women who are not used to making technical decisions.
- **By serving as a learning forum in which important financial and farm management decisions are made as a group activity through regular interaction with more experienced farmers.** In the case of cotton, for example, widows learn about the main management decisions concerning the planting date, spacing, intercropping, picking, grading and marketing.
- **By promoting labour extensive and low-input production technology.** According to the AFFOREST Coordinator, organic production is appropriate for families affected by HIV/AIDS as production costs less in terms of inputs and labour. An analysis of input costs during the 1997-1998 season in the Zambezi Valley indicated that organic cotton farmers could save more than Z\$200 per acre, compared to conventional cotton growers. And while conventional cotton farmers spend more than 15 hours per week on operations connected with pesticide use, including purchase from the supplier, carting of water for dilution and subsequent spray applications, organic farmers spend 1-2 hours per week scouting for pests and predators.

Thus, according to AFFOREST, organic farming systems that do not require the purchase of external inputs, that have reduced labour costs and offer the farmers a premium for some crops are particularly appropriate for households affected by the pandemic.

Catherine indicated: “ I will grow six acres of organic cotton next year because there is less labour involved in growing organic cotton. I spend less time in my organic cotton than in my conventional cotton. There was less labour on weeding because some portions of the field are covered by cowpeas intercropped with the cotton. Less labour was used on spraying too because the chemicals used, herbal sprays made from plants in the bush, are very nearby. I will not do any parallel [conventional] production because I have no money to buy inputs.”

Angelina argued: “When growing organic cotton, you don’t have to use more money on chemicals.”

Dorothy said: “I need help on everything, but I think the project could help me. As my husband was willing to join the project, we (me and my children) could also follow the project whether he is alive or not, in order to lessen the amount of inputs and labour involved in growing cotton.”

At present, the number of women who have joined the project is on the rise. One of the widows was even selected as the best organic cotton grower for 1999. The main reason for this rise in the number of participating widows is the introduction of groundnuts (a woman’s crop) during the last season. Another reason is that many of the AFFOREST FFS facilitators are women. However, men are finding it difficult to accept women as Farmer Field Workers (FFWs).⁹⁹

The project has incorporated in its FFW training courses a component on women’s vulnerability to HIV infection and prevention. A four-week

Southern Africa HIV/AIDS Update

Southern Africa is the most affected part of the world. By end-1997, estimates of HIV prevalence rates among adults were:

Zimbabwe:	25.8%
Botswana:	25.10%
Zambia:	19.07%
Namibia:	19.94%
Swaziland:	18.50%
Malawi:	14.92%
Mozambique:	14.17%
South Africa:	12.91%
Lesotho:	8.35%
Angola:	2.12%

Source: UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998.

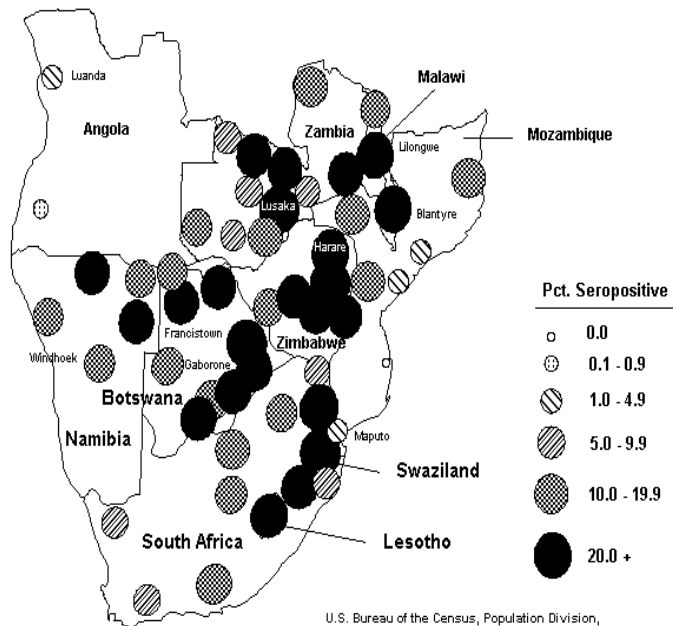
⁹⁹ Personal communication, Sam Page, AFFOREST Coordinator, 20 May 1999.

¹⁰⁰ *ibid.*

training of male and female FFWs in May 1999 included two AIDS prevention sessions for men and women, led by two consultants from a local NGO. During these sessions, male and female condoms were promoted (condoms are heavily subsidized) and AFFOREST FFWs were invited to take batches with them to the Zambezi Valley to sell them at a profit of Z\$ 1 to their friends and families as an income-generating activity.¹⁰⁰ The project is also sensitizing communities on HIV prevention with the support of a consultant from the NGO Population Services International, who raises awareness on HIV and STDs and promotes condoms.

In addition, representatives from institutions operating under the umbrella of AFFOREST met in mid-May 1999 to deliberate on strategies related to mainstreaming sustainable, low-risk, low-input agriculture in order to cope with the AIDS crisis. One of the outcomes of this meeting was the

Seroprevalence of HIV-1 for Low-Risk Populations in Southern Africa



U.S. Bureau of the Census, Population Division,
International Programs Center,
HIV/AIDS Surveillance Data Base, February 1999.

compilation of a report on sustainable forms of agriculture that utilize renewable natural resources for the production of food crops.¹⁰¹

To conclude, the Zambezi Valley Organic Cotton Project addresses vulnerability to HIV infection and to the impact of the pandemic by promoting low-input and low-risk agricultural production systems that enable resource-poor, food-insecure and nutritionally vulnerable households (inclusive of widow-headed households) to strengthen their coping strategies. The project is also sensitizing its staff and the local communities on HIV prevention while also promoting condoms (male and female) as an income-generating activity. Lastly, the project is seeking to expand farmers' livelihood options and choices in the face of AIDS by exploring a variety of strategies for sustainable, low-risk, low-input agriculture in the smallholder communal agricultural sector, including organic farming.

3.4. FAO'S GLOBAL INTEGRATED PEST MANAGEMENT FACILITY¹⁰²

Excessive and costly pesticide use poses a threat to both human health and the environment. Integrated Pest Management (IPM) is a combination of management strategies that farmers use to minimize the impact of pests and diseases on their crops. The emphasis of the IPM farmer approach is on sustainable production through growing healthy crops and the conservation of the natural ecological diversity of their fields. Through participatory experiments in the agro-ecosystem and other problem-based learning activities related to crop production, IPM training promotes the sustainable management of all aspects of crop production.

The main IPM training tool used with farmer groups is the Farmer Field School (FFS) - a school without walls, usually attended by 25-30 farmers. This training, conducted over the full length of a cropping season, utilizes the actual crop as a learning tool. IPM training helps farmers to recognize the different elements of the ecosystem in their fields and to understand the dynamic relationships between them. It also develops analytical and decision-making skills in individuals and groups and raises both conscious-

¹⁰¹ *ibid.*

¹⁰² The IPM Facility operates in 15 countries in Africa, 9 countries in Asia/Central Asia, 4 countries in Latin America and the Caribbean, and 4 countries in the Near East. See Global IPM Facility, First Progress Report, Rome, March 1999.

ness and confidence. Non-formal education “problem-based” and “discovery” learning techniques are used while trainers act as facilitators rather than lecturers. Trainers include both extension experts and FFS graduate farmers. The basic ideas for this approach grew out of village-level literacy and primary health care schemes as a method of avoiding top-down development. The first FFSs were established by FAO in 1989 to promote IPM amongst Indonesian rice farmers.

The importance of IPM for the development of ecologically sound and sustainable agricultural practices and for strengthening farming communities’ participation in that development is widely acknowledged. *The United Nations Conference on Environment and Development* (UNCED) assigned a central role to IPM in the agricultural programmes and policies envisaged as part of its Agenda 21 in 1992 and the *World Food Summit* of 1996 has reinforced this message. Moreover, in a wide range of countries and cropping systems, projects have been identified that have the potential to generate substantial benefits for farmers, rural communities, consumers and national economies. FAO’s Special Programme for Food Security is increasingly providing such focus to which the Facility can provide assistance.

Case Study #6: The Relevance of HIV/AIDS to IPM National Programmes in Southern Africa¹⁰³

The focal point for IPM development in Southern Africa is the Zimbabwe cotton-based Integrated Production and Pest Management (IPPM) programme. Initial project results indicate that small-scale farmers apply more pesticides than necessary without paying sufficient attention to agronomic and soil fertility issues. Farmers found that with IPM, higher profits and yields were possible with less inputs. During the 1998-1999 season, some 40 pilot Field School Groups on cotton, maize and vegetables were being implemented by the programme. Two trainers collaborate with Field Schools on organic cotton supported by the NGO African Farmers’ Organic Research and Training (see case study #5).¹⁰⁴

¹⁰³ Zimbabwe, Zambia, Malawi and Mozambique.

¹⁰⁴ FAO Global IPM Facility, *First Progress Report*, Rome, March 1999, p. 8.

Zimbabwean Core IPPM Trainers have assisted with the development of IPM programmes in neighbouring countries. In Zambia, three facilitators are facilitating the establishment of pilot IPPM Field Schools on maize, livestock and irrigated vegetables. In Mozambique, two facilitators led month-long FFS workshops with the NGO World Vision International and the Ministry of Agriculture to prepare their staff to run pilot IPPM Field Schools. IPPM facilitators from Malawi who attended Training of Trainers in Zimbabwe and Ghana are implementing pilot programmes in that country as well.¹⁰⁵

The Global IPM Facility and the national programmes with which it works in sub-Saharan Africa recognize the human crisis being generated by the HIV/AIDS pandemics in these countries. **The Facility believes that HIV/AIDS is everyone's problem and deserves an immediate response.** IPM programmes in the subregion are directly affected by the pandemic in a number of ways:¹⁰⁶

- ❑ **IPM trainers are confronted with PLWAs and with households affected by HIV/AIDS on a daily basis.** Farmers miss roughly two out of 12 training sessions due to reasons related to HIV/AIDS (attending funerals, caring for sick family members, etc.);
- ❑ **training programmes are compromised through loss of staff or time lost to attending funerals.** For instance, in a recent training of trainers, one out of four trainees from Malawi died of AIDS; and
- ❑ **administrative expertise is being lost.**¹⁰⁷

The IPM Facility is working with the national programmes to develop an approach to HIV/AIDS that is compatible with farmer education programmes focusing on community-based learning about IPM. Current strategies to focus more attention on this crisis include the following:

- ❑ **During training of core IPM trainers, one to two days (out of 100 days) are dedicated: a) to the study of the impact of HIV/AIDS on agriculture and to technical issues related to HIV (e.g. transmission, epidemic dynamics, preventive measures, etc.),**

¹⁰⁵ *ibid.*, p. 7.

¹⁰⁶ This section is based on written and oral contributions from Kevin Gallagher, Senior IPM Officer, FAO, 20 April and 26 June 1999.

¹⁰⁷ Personal communication, Kevin Gallagher, Senior IPM Officer, FAO, April 1999.

and b) to group discussions with participants on how they, as future IPM trainers, could bring HIV/AIDS topics into the IPM training programme. This step is especially critical given that it is these trainees who eventually lead discussions in the farmer groups. Thus, if they are not comfortable with the issues, then it can be expected that they will not carry out discussions with farmers. Improved materials, communication skills and culturally appropriate methods to facilitate acceptance of AIDS-related issues are needed to enhance this training.

- **During IPM Field Schools, it has been suggested to hand out information sheets on HIV/AIDS, provide access to condoms as a prevention method and as a discussion starter, and to hold a special discussion session on HIV/AIDS with farmers.** So far, few trainers have actually carried out these activities, largely because they feel uneasy discussing issues related to HIV/AIDS due to their religious beliefs (discussing sexual conduct in general and condoms in particular is at best awkward, if not embarrassing) or they still believe that health workers should cover this topic.

In **Zambia**, an FAO technical cooperation project (TCP) is about to be launched on Training in Integrated Production and Pest Management. HIV has been fully integrated in this project, as can be seen in the project document, in the following ways:

- **HIV/AIDS is identified as a contributing factor to food insecurity**, having contributed to an increasing number of women being alone in charge of agricultural production. This development, coupled with the fact that draught animals have in many parts of Zambia virtually disappeared due to tick borne East Coast fever, is resulting in a marked decline in women's agricultural productivity and in health problems.¹⁰⁸
- **HIV/AIDS** has been identified as one among **ten topics for training at the season-long residential course for core IPPM trainers.** Other topics include entomology, pathology, virology, weeds,

¹⁰⁸ FAO, TCP/ZAM/8924, Zambia Training in Integrated Production and Pest Management, 1999.

soil and water management, plant nutrition, biometrics, livestock and community organization-building. The course is structured around the growth cycle of the maize crop. The core IPPM facilitators will graduate with a broad range of skills and unique experiences needed for running local IPPM facilitator training programmes in their areas. One of the areas they will receive training in is key social issues, such as the health impact of pesticide use, malaria and HIV/AIDS.¹⁰⁹

- ❑ A national resource person is envisaged **to integrate HIV/AIDS in the curriculum development workshop and season-long TOT** over a 10-day period.
- ❑ As part of the FFS training, **farmers will discuss the importance of community action on topics relevant to agricultural production, including HIV/AIDS.**¹¹⁰
- ❑ **HIV/AIDS is included in the Terms of Reference of a national consultant/resource person on HIV/AIDS** for the season-long learning courses in FFSs for Camp Officers.¹¹¹

One of the issues which is likely to become of particular significance for IPM is the need to adjust its target group and methodologies, given the changing population structures in heavily affected countries as a result of HIV/AIDS. “We are preparing ourselves to deal with the **changes in demographics** as [they] influence plant production and protection,” argued the Senior Officer of the Global IPM Facility. **“How many “new” widow or young, inexperienced orphan farmers will we see in the near future? And what type of learning will be appropriate for them?”**¹¹²

The development of HIV/AIDS training materials for trainers working with at-risk men and women farmers is a priority. This material needs to cater to semi-literate or illiterate audiences and be culturally acceptable. Key issues that need to be addressed in this material:

- ❑ What is HIV/AIDS, how does HIV infection happen and how can it be prevented?

¹⁰⁹ *ibid.*, p. 12.

¹¹⁰ *ibid.*, p. 14.

¹¹¹ *ibid.*, p. 20.

¹¹² Personal communication, Kevin Gallagher, Senior IPM Officer, April 1999.

- Why is HIV/AIDS important to discuss? What is its impact on agriculture?
- What are the main health dangers when working with HIV positive farmers?
- How should a Christian/Moslem/Buddhist/Hindu respond to farmer clients with HIV/AIDS?
- How should a discussion session on HIV/AIDS be led?
- What are the key “take-home” messages on HIV/AIDS?

To conclude, the Facility is actively pursuing appropriate methods for integrating HIV/AIDS in its field activities using the Training of Trainers and the Farmer Field Schools as entry points. The incorporation of HIV/AIDS in the project design of national IPM programmes is likely to have a significant impact in reducing the vulnerability to the epidemic of project staff as well as target groups. However, religious and sociocultural constraints (such as land inheritance practices for widows and their children, widow inheritance, etc.) are slowing down the pace of activities. The Facility believes that it will take some time to generate sufficient support for widespread AIDS discussion in conservative farming communities. Nevertheless, given the magnitude of the pandemic in Southern Africa, the Facility deems it essential to continue seeking methods for community action on HIV/AIDS in IPM community activities.

Case Study #7: HIV Prevention through Agricultural Development: Reducing Vulnerability to HIV in IPM Programmes in South East Asia

Levels of HIV prevalence in South East Asia are comparatively low compared to levels in sub-Saharan Africa but are becoming significant in Cambodia, Laos, Myanmar and Vietnam - the least developed countries in the region. Similarly, while the impact of the HIV pandemic on South East Asia is not yet as severe, visible and publicized (with the exception of Thailand) as the impact on sub-Saharan Africa, countries such as Cambodia and Myanmar are now beginning to feel the adverse effects of the epidemic. Parts of India and China also have potentially explosive HIV pandemics and epidemiologists project that the epicentre of the epidemic

will soon shift from sub-Saharan Africa to Asia. In this light, the Cambodia case study presented below is relevant to other South/South East Asian countries.

Cambodia's Community IPM Programme¹¹³

The National Integrated Pest Management Programme of the Ministry of Agriculture, Forestry and Fisheries (MAFF) is conducting training with farmer groups reaching more than 6,000 farmers in the country. The thrust of the national IPM farmer training programme has been to target resource-poor farmers in rice-based farming systems with a propensity for ineffective use of inputs, specifically chemical pesticides.

Vegetables are a major cash and food crop in the programme area. Each season, farmers spray a cocktail of chemicals on these crops in an attempt to control insect pests and diseases.

Crops are sprayed up to 30 times per season and pesticide costs can rise to over 50% of the entire production costs of the crop. Chemical pesticides are applied heedlessly, with no regard to crop ecology and the occurrence of natural enemies of the insect pests. This adversely affects the environment as well as the health of the community and of individual farmers.

The IPM training programme has significantly improved farmers' decision-making capacity and reduced the need for external inputs, especially pesticides. In the case of vegetable growing, the adoption of clean sustainable management options can reduce pesticide dependency to less than 15% of input costs and provide clean sustainable alternatives to the chemical pesticides currently used. IPM is presently expanding its activities from

Cambodia HIV/AIDS Update

Cambodia had an adult HIV/AIDS prevalence rate of about 2% in 1994. It also has the highest proportion of AIDS orphans in Asia. About 1 in 20 pregnant women, 1 in 16 soldiers and policemen, and nearly 1 in 2 sex workers are HIV positive. Life expectancy with AIDS was 48 years in 1998 while it would have been almost 51 years without AIDS.

Sources: UNAIDS/WHO, [Report on the Global HIV/AIDS Epidemic](#), June 1998; World Bank, [HIV/AIDS in Asia: Without Further Action, a Looming Public Health Crisis](#), 1998.

¹¹³ This case study is based on the contribution of Robert Nugent, Cambodia IPM Country Officer, 7 May 1999, and on the Terms of Agreement between Community IPM and Handicap International for the Project with Vulnerable Groups.

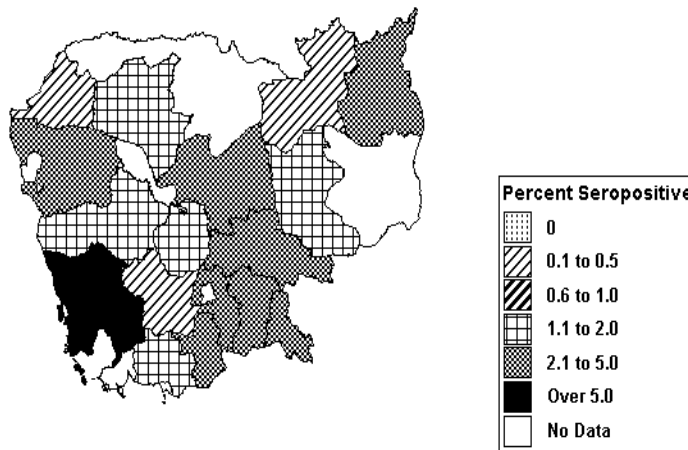
plant production and protection to include community development initiatives using Farmer Field Schools (FFSs).

According to the IPM Country Officer for Cambodia, given that the country has one of the highest rates of new HIV infections in South East Asia, HIV/AIDS is an issue that cannot be overlooked. Information on the impact of HIV/AIDS on rural Cambodia is scanty but, according to the IPM Country Officer, HIV/AIDS can be incorporated in ongoing and upcoming IPM activities by:

i. Using FFSs as a Medium to Address Broad Community Issues, including HIV/AIDS

The **Farmer Field School** is well suited as an entry point to a wide range of community development activities, including those relating to **HIV/AIDS**. For instance, there is a network of farmers who are serving

HIV Seroprevalence among Married Women of Reproductive Age of Cambodia: 1998



U.S. Bureau of the Census, Population Division,
International Programs Center,
HIV/AIDS Surveillance Data Base, February 1999.

as IPM trainers in the main rice growing areas of Cambodia. Ongoing training with these grass roots trainers could potentially include HIV education. To this effect, IPM is currently putting together a proposal for including HIV awareness/education in FFSs, in collaboration with UNAIDS in Cambodia. The proposal addresses the need to prioritize, target and develop appropriate training materials on HIV/AIDS for Farmer Field Schools.

Another potential entry point for HIV/AIDS activities is the IPM Student Field Schools (SFS) for children in rural areas. The IPM SFS, which is being run by the NGO *World Education*, is exploring the possibility of using FFSs for literacy training. The IPM Country Officer indicated that health education (inclusive of activities on pesticide awareness) would be a logical progression from literacy training. HIV could be included alongside other health issues. This would place the training within the broader context of what it means to have a healthy way of life.

Another component that could be linked to FFSs in Cambodia, especially the Kids FFS, is vaccination campaigns. These could also serve as a means to disseminate information on HIV/AIDS to both parents and children.

ii. Introducing HIV Prevention Education in the Training of Trainers (ToT)

The Training of Trainers is an appropriate medium for information dissemination on HIV/AIDS, given that much of the training methodology comes from ideas developed in the health sector, and specifically from “problem-based learning” approaches developed to educate health professionals. The health of farmers affects their productivity and their capacity to become involved in IPM activities, particularly in Cambodia where there is a large number of vulnerable people (see point iii below). As HIV is inextricably linked with rural poverty and poor education, vulnerable groups are among the first to become affected by the impact of the pandemic.

iii. Incorporating AIDS-Affected Households in a Training Project for Vulnerable Groups

After decades of war and civil strife, a relatively high percentage of rural people face physical disabilities, social dislocation and family trauma. However, vulnerable groups, such as amputees, female-headed households, farming families displaced from their land by conflict or land mines

and returning refugees have not been specifically targeted by IPM. By not explicitly identifying and targeting the specific needs of these groups, IPM training could inadvertently bypass them.

IPM is now developing a project with the NGO *Handicap International* (HI) to include vulnerable groups in IPM training. The activities of the project will establish IPM trainers from vulnerable groups in rural areas within the IPM farmer training programme in two provinces.¹¹⁴ This is intended to involve primarily amputee farmers who will acquire the necessary skills to become IPM trainers in their communities. **Families affected by HIV/AIDS can also be targeted as a vulnerable group by IPM along with amputees, female-headed households, returning refugees, etc.**

To conclude, given that levels of HIV prevalence are becoming significant in Cambodia, agricultural programmes such as IPM could play a catalytic role in arresting the spread of the epidemic and in minimizing its adverse effects in rural areas by using ongoing agricultural development activities to reduce vulnerability to HIV. Farmer Field Schools, which are in the process of expanding their scope to address a wide range of community development activities (including health and literacy) can play an important role in reducing vulnerability to HIV. In fact, FFSs are an appropriate medium for the introduction of HIV prevention education in ongoing IPM activities. Similarly, incorporating HIV in the Training of Trainers component can have broad impact at relatively little cost. Finally, vulnerability to the impact of the pandemic can be mitigated in part through the upcoming training project for vulnerable groups.

¹¹⁴ Terms of Agreement, Community Integrated Pest Management with Vulnerable Groups, p. 2.

4. AGRICULTURAL/RURAL DEVELOPMENT PROJECTS AS CATALYSTS FOR REDUCING VULNERABILITY TO HIV

This section addresses the following questions: How do the projects reviewed in the case studies address vulnerability to HIV? What are the linkages between agricultural/rural development projects and vulnerability to HIV? How can agricultural/rural development projects and programmes incorporate HIV/AIDS? What type of institutional collaboration mechanisms can create an enabling environment for HIV/AIDS vulnerability reduction?

While this section uses material from the case studies, it is not limited to the findings of the case study projects alone. This is because most of the agricultural/rural development projects reviewed above are still in the initial stages of response to HIV/AIDS and do not all address vulnerability to the epidemic as such. Thus, the analysis in section 4.2 goes beyond the findings in section 4.1.

Before examining how the case studies address HIV/AIDS, a brief overview of the level of awareness of the case study projects with regard to the magnitude and impact of HIV/AIDS on project target groups and operations will provide some valuable insight.

Out of the seven case studies examined, three projects had investigated the **magnitude of the HIV epidemic** in the project area. While not always essential, awareness of the scale of HIV/AIDS in a particular area/district may be important given the specificity of the spatial distribution of the epidemic. HIV prevalence data can also be a powerful tool with which to convince policy-makers and planners of the need to address the HIV epidemic cross-sectorally as well as to determine what type of response is necessary: HIV prevention efforts versus mitigation activities, relief assistance or a combination of these measures.

Only one project from the case studies had carried out an **assessment of the impact of HIV/AIDS** on the target group and of household coping strategies. Not all projects will need to undertake impact evaluations: for some, such an assessment will be more relevant than for others. **What is perhaps more important to reducing vulnerability to HIV than**

a general HIV/AIDS impact assessment is an analysis of the factors contributing to vulnerability to the spread of HIV. Only one of the projects examined in the case studies had assessed the factors that contribute to vulnerability to HIV. Thus, little is known, for instance, about how migration affects the spread of HIV and how it shapes the impact of the epidemic in the context of agricultural and rural development projects and programmes. Similarly, there is only anecdotal information on how food insecurity affects the spread of HIV in areas with ongoing agricultural projects. In other words, there is limited empirical knowledge to date on how agricultural and rural development projects can effectively address such factors of vulnerability to HIV.

4.1. How the Case Studies Address Vulnerability and risk to HIV

Agricultural and rural development programmes may either contribute to increasing vulnerability to HIV or they may help reduce vulnerability to the spread of the epidemic and to its impact. The three response categories identified below on the basis of the case studies are in many ways simplistic: projects and programmes tend to set in motion highly complex processes where one component, for instance, may reduce vulnerability to HIV while another may increase it. There are trade-offs that need to be considered by decision-makers who, in any case, should be aware of the potential implications of HIV/AIDS on their decisions. The purpose of the response categories is not meant to rate project performance as such nor the quality of project responses to the pandemic. They are rather intended to roughly illustrate the mechanisms and processes in place for reducing vulnerability to HIV and to delineate how these can contribute to vulnerability reduction. To some extent, however, the response categories do indicate the level of conceptual maturity inherent in the responses of the various projects in terms of mainstreaming HIV/AIDS in project operations.

Response Category 1: Unplanned Reduction of Vulnerability to HIV

Agricultural and rural development projects address one or several types of vulnerability (vulnerability to poverty, food insecurity, gender disparities, etc.) For example, by increasing food production, by enhancing

access to food and/or by diversifying food security at household level, agricultural production projects reduce vulnerability to food insecurity and alleviate poverty. In principle, addressing such vulnerabilities should also lead to a reduction in vulnerability to HIV. In practice, however, it is unlikely that agricultural and rural development projects will reduce the spread of the epidemic and mitigate its impact unless there is an **awareness of the dynamics of vulnerability to HIV per se and of the interrelationships between vulnerability to poverty, food and livelihood insecurity, etc. and vulnerability to HIV**. This is partly because the spread and impact of the pandemic tend to be largely invisible as they occur over time. The stigma attached to the epidemic also contributes to its invisibility. Under these circumstances, in the rare event that **a reduction in vulnerability to HIV** does take place as a result of food security or poverty alleviation efforts without any attention having been paid to HIV/AIDS, **it is likely to happen by chance rather than by design**.

Response Category 2: Addressing Risk to HIV Infection

Some projects address the HIV epidemic through **HIV/AIDS-specific components targeting groups at high risk of HIV infection**, such as construction workers, truck drivers, (seasonal agricultural workers, agricultural estate workers, fishermen, etc are some of the other groups with high risk behaviours). These components may include IEC activities, marketing of condoms, monitoring and treatment of sexually transmitted infections and interventions to modify high risk behavior. Such measures can significantly contribute to reducing the risk of HIV infection among specific population subgroups who are known to adopt unsafe sexual behaviours.

Other projects address risk to HIV infection by **improving access to information on HIV prevention for project staff and target groups**. By incorporating IEC in ongoing project activities (such as training), agricultural and rural development projects can make an important contribution to HIV risk reduction, given the relative disadvantage rural inhabitants have vis-à-vis access to information on HIV/AIDS compared to urban dwellers. IEC activities can be particularly effective if they are part of a long-term process, as one-off exercises are unlikely to have a lasting impact (see box 8).

Addressing risk to HIV infection alone, however, has certain limitations as it frequently leaves the underlying factors that render such groups “high risk” intact. In fact, **risk reduction tends to deal primarily with the proximate determinants of the HIV epidemic rather than with its causes.** For example, the underlying causes of vulnerability and risk to HIV among migrant/mobile groups (truck drivers, construction workers, fishermen, etc.) include separation from the spouse, the living conditions in the place of work, etc.¹¹⁵ These causes may not always be addressed through risk reduction strategies. It is these conditions and underlying factors that create an overall climate in which risk-taking behaviours are encouraged and maintained and which are difficult to change.

Box 8: IEC as a Process

Information-education and communication activities for communities and project staff are not a one-off exercise but a continuous process. As argued by a leading communications expert, “Too often we hear: ‘We had an AIDS communication campaign last year; we don’t need to do it this year. Maybe we should try to do it every three years.’ If Coca Cola does not advertise in the next three years, they may likely be out of the market by then. I am not comparing Coca-Cola with a serious public health issue as AIDS. Rather, in providing health services, we do not have the luxury to say we provided health services last year and therefore we do not need to provide them this year.”

Source: Jose G. Rimón II, “HIV/AIDS and Behaviour Change Communication,” 1999.

Similarly, while improving access to information on HIV prevention is important in itself, if it is not accompanied by other initiatives aimed at addressing socioeconomic factors (unemployment, shocks and stresses, etc.) and sociocultural norms and practices (gender relations within specific cultural contexts, wife inheritance, early marriage, etc.) that contribute to the spread of HIV, it is unlikely that the risk of HIV infection will be reduced.

Yet another limitation of the risk reduction approach is that it is not sufficient to address “high risk” group behaviour in isolation, as groups with high risk behaviours engage in casual sex with partners from the community. Thus, the socioeconomic conditions prevalent in the communities in which “high risk” groups live are as significant as the risk behaviour of these groups. For these reasons, it is important to go beyond risk and risk reduction (which address the proximate determinants of risk behaviour and

¹¹⁵ G. Rugalema with S. Weigang and J. Mbwika, HIV/AIDS and the Commercial Agricultural Sector of Kenya, *op. cit.*

are usually limited to specific population subgroups) to vulnerability and vulnerability reduction. Nevertheless, addressing risk is often a prerequisite to addressing vulnerability.

One difficulty in addressing vulnerability and risk to HIV reduction strategies is that the sense of urgency, the need to show results, and perceived or actual pressure to take immediate action encourage the search for simple, quick solutions (besides a vaccine). Several decades of experience in family planning programmes shows that quick solutions only rarely succeed. Addressing vulnerability to HIV (as well as other socioeconomic vulnerabilities) rather than risk alone may be less appealing and popular an approach as it is time-consuming and produces few tangible and quickly visible results. Nevertheless, it is necessary to achieve sustainable changes. In conclusion, **responses to HIV/AIDS should address both risk and vulnerability to HIV.**

Response Category 3: Addressing Vulnerability to the Spread and Impact of HIV/AIDS

Some projects among the case studies address vulnerability to HIV by **facilitating access to information on the causes and consequences of HIV/AIDS (including the effects of HIV/AIDS on agriculture, how to live positively with AIDS, etc.) and by influencing the factors that make people adopt risk behaviours.** This is an important first step to addressing vulnerability to the epidemic provided that the information imparted does not merely consist in IEC (such as abstinence, condom use, etc.). Rather, if it encompasses a **participatory assessment of the factors that lead people to adopt risk behaviours and an attempt is made to address and influence these factors rather than the risk behaviour *per se*,** then these projects will be addressing vulnerability to HIV. Thus, if changes result from these awareness exercises in terms of enhancing the resilience of rural livelihood systems, then it can be argued that vulnerability to HIV is being reduced.¹¹⁶ In other words, depending on what kind of information is being imparted and how it is presented, raising people's awareness of the causes and consequences of HIV/AIDS can either be a risk reduction or a vulnerability reduction strategy.

¹¹⁶ This is of course very difficult to monitor and direct causality may not be possible to establish.

Other **projects target households or household members affected by the impact of the epidemic, including AIDS widows and orphans.** Support to groups vulnerable to the impact of the epidemic can take many forms: it can consist in paying school fees for orphans and providing relief assistance and measures designed to alleviate the adverse effects of HIV/AIDS. Such initiatives, however, while necessary, are rarely sustainable and do not address vulnerability to the impact of HIV/AIDS as such.

A third category of projects addresses vulnerability to the impact of HIV/AIDS by **strengthening household and community coping mechanisms to various shocks and stresses (such as food shortages, drought, flooding, asset loss and HIV/AIDS) and/or by expanding rural people's options and choices in terms of livelihood strategies** (see also section 4.2.2). By enhancing the capacity of rural households to respond to different types of shocks and stresses, rural development projects contribute to making rural livelihoods more sustainable while also reducing vulnerability to HIV and mitigating the impact of the epidemic.

Addressing vulnerability to HIV entails the improvement of the socio-economic and living/working conditions and circumstances of rural men and women (and their children) so as to ensure that during periods of stress, household coping strategies and social safety net mechanisms are resilient enough to withstand the crisis. Therefore, **HIV/AIDS vulnerability reduction strategies do not address the specific high risk behaviour but the underlying factors that are responsible for this behaviour - taking into account the interrelationships between these factors and HIV/AIDS.** This understanding of vulnerability reduction strategies is in tune with the mandate of agricultural and rural development programmes, as the factors underlying risk behaviour (poverty, food insecurity, migration, etc.) are integral concerns of such projects. For instance, vulnerability reduction strategies for construction workers and agricultural estate workers would include: improving living conditions for workers living away from their families; making provisions for migrant and seasonal workers to regularly visit their families; facilitating and securing the sending of remittances, etc. Strategies to reduce the vulnerability to the impact of AIDS among subsistence farmers would include the promotion of low-risk, low-input and labour-extensive sustainable agricultural production systems (see Section 4.3).

Incorporating vulnerability reduction strategies in ongoing development activities entails some degree of integration of HIV/AIDS into the project cycle (workplan, budget and project activities) and particularly in project design. It may also entail developing special learning/training materials or imparting special skills (for instance life skills, negotiation skills, etc.).

Projects and programmes operating in low HIV prevalence areas may choose to focus primarily on risk reduction strategies complemented with selected vulnerability reduction strategies. Projects operating in areas of high HIV prevalence may have to rely more heavily on vulnerability reduction strategies. In both cases, **local communities should have a central role in developing an understanding of the causes of HIV/AIDS and in contributing to strategies to reduce risk and vulnerability to the epidemic.**

Finally, there is one last category of **projects which may inadvertently and indirectly increase vulnerability to HIV**. It is possible, for instance, that a seemingly straightforward programme objective, such as increasing the economic potential of a particular area, can, if pursued in isolation from sociocultural and socioeconomic and demographic variables, end up contributing to the spread of HIV. Factors that come into play include the following:

- ❑ displacing farmers and stimulating labour migration through, for instance, the construction of large scale infrastructure projects (roads, irrigation schemes, dams, etc.). In India, for example, there are more than 3,000 large dams. These dam projects have displaced an estimated 40 million people.¹¹⁷ The potential implications of this massive uprooting of people in terms of spreading the HIV epidemic could be significant, given what we know about the Akosombo River Dam reviewed above.
- ❑ increasing the disposable incomes of male workers, part of which may then be spent on alcohol, casual sex, drugs, etc.
- ❑ exacerbating gender disparities (i.e. by displacing women farmers through, for instance, the promotion of cash crops, etc.¹¹⁸).

¹¹⁷ Arundhati Roy cited in *Newsweek*, August 9, 1999, p. 28.

¹¹⁸ *Ibid.*, pp. 36-37.

- inadvertently stimulating migration, for example, by increasing the economic potential of a particular area.
- overlooking demographic changes over time, e.g. trends in sex ratios, fertility levels, etc.
- socioeconomic differentiation between households/communities/areas, men and women, adults and youth, youth and children and the search for income, goods, etc. rather than poverty *per se*. Development activities and processes often initially exacerbate such disparities thus potentially increasing risk and vulnerability to HIV.

4.2. The Relevance of Agricultural/Rural Development Projects/Programmes to Vulnerability to HIV

Agricultural and rural development projects, including those reviewed in the case studies, aim at improving socioeconomic conditions in rural areas by addressing poverty, food and livelihood insecurity, gender inequalities, rural exodus, etc. These cross-sectoral issues also play a critical role in determining vulnerability to the spread and impact of the pandemic as they are often both a cause and consequence of HIV/AIDS. In other words, poverty, food/livelihood insecurity, gender inequality, and other such cross-sectoral issues determine, in part, the **vulnerability context** of households and communities.

Vulnerability to HIV is partly determined by the vulnerability to other factors such as climatic disasters (drought/flooding), food shortages, war and civil conflict, etc. For instance, nutritionally vulnerable groups are also likely to be vulnerable to HIV and AIDS. Farming systems vulnerable to drought, flooding, etc. are likely to be vulnerable to the impact of AIDS. Therefore, **vulnerability to poverty, food/livelihood insecurity, gender disparities, etc. can have a catalytic effect on vulnerability to HIV.** Agricultural and rural development projects indirectly influence the vulnerability context of the livelihood systems of rural households, and, by extension, vulnerability to HIV.

The linkages between key cross-sectoral issues in agriculture and rural development and HIV are bi-directional:

For example, in the case of poverty, the following need to be considered:

- ❑ the relationship between poverty and HIV/AIDS - which includes the spatial and socioeconomic distribution of HIV infection, and consideration of poverty-related factors which affect household and community coping strategies; and
- ❑ the relationship between HIV/AIDS and poverty - understanding the processes through which the experience of HIV and AIDS by households and communities leads to an intensification of poverty.¹¹⁹

Understanding and addressing the systemic implications of these linkages is central to reducing vulnerability to HIV. The section below briefly examines four cross-sectoral issues which feature on the agendas of many agricultural/rural development projects: poverty, food/livelihood insecurity, gender inequality and migration.

4.2.1. Poverty

A number of agricultural/rural development projects and programmes have poverty alleviation as one of their main objectives. HIV/AIDS introduces a new dimension of vulnerability to poverty as poor households are more likely to be vulnerable to HIV/AIDS. Agricultural projects and programmes with poverty alleviation objectives or components may therefore need to consider how the HIV epidemic affects their target groups (impact on household economy, coping mechanisms, etc.), how poverty alleviation components may need to be adapted to the challenges posed by HIV/AIDS and how targeting criteria may need to be adjusted.

Why and how does poverty make people vulnerable to HIV/AIDS? Poor households with few financial or other assets are often politically and socially marginalized and thus adopt behaviours which expose them to HIV infection. According to the UNDP 1997 Human Development Report, poverty “offers a fertile breeding ground for the epidemic’s spread and infection sets off a cascade of economic and social disintegration and impoverishment.”

¹¹⁹ Desmond Cohen, Poverty and HIV/AIDS in Sub-Saharan Africa, UNDP Issues Paper #27, New York, 1998, p. 1.

It has been argued that possibly those rural people whose activities are not counted by standard measurements of economic performance and productivity are most vulnerable to the impact of HIV/AIDS. Thus, the resources, time and labour of those working in the informal sector, in subsistence agriculture and in rural households (particularly women) are for the most part invisible in quantitative terms.¹²⁰

The following observations can be made on poverty and HIV:¹²¹

- ❑ **Most people with HIV/AIDS are poor.** Poor people, for example, are often unable to seek treatment for sexually transmitted infections; poor women may need to resort to casual sex to provide for their families (see Box 9).

Box 9: How Poverty Increases Vulnerability to HIV

Poverty indirectly exacerbates HIV transmission by increasing migrant labour, family break up, landlessness, overcrowding and homelessness. This places people at greater risk of having multiple casual partners.

Poor people are less likely to be able to take seriously an infection that is fatal years hence, if they are struggling with daily survival.

The incubation period of HIV is likely to be shortened by poor standards of nutrition and repeated infections, but access to medical care is least among the poor. Poor people with AIDS are likely to die faster than rich people.

Poverty tends to affect women most, with girls the first to be withdrawn from school and women increasingly marginalized from formal employment. Their economic dependence on men in marriage or in informal commercial sexual relations is thereby increased. Educating and empowering women is strongly linked with effective family planning and improved primary health care. There is evidence linking lower rates of HIV transmission and the education/empowerment of women.

Poverty makes AIDS education difficult, as there are high levels of illiteracy and little access to the mass media and health and education services.

Poorly educated women are not likely to be able to protect themselves from infected husbands. They tend to be poorly informed on health matters and have little power to control any aspect of sexual relations. Even if they know they are at risk from their husbands, economic necessity may force them to acquiesce in an unsafe sexual relationship.

Source: Adapted from Helen Jackson, *AIDS Action Now: Information, Prevention & Support in Zimbabwe*, 1992, p. 206.

¹²⁰ SADC, Conference on HIV/AIDS, *op. cit.*, p. 7.

¹²¹ World Bank, *Confronting AIDS*, *op. cit.*

- ❑ **The economic impact of HIV/AIDS is greater on poor households.** Given that households which experience adult mortality draw on their assets (human and financial) to cushion the shock, households with fewer assets are likely to have more difficulty coping and are more vulnerable than households with more assets.
- ❑ **Coping mechanisms are less effective in poor households.** This is evident in the deterioration of the nutritional status of children and in the decline in school enrolment among poor households.

One group of poor households vulnerable to HIV/AIDS appears to have been overlooked with regard to HIV/AIDS: **landless farmers**. However, vulnerability related to landlessness may be more relevant in rural Asia rather than in Africa where land tenure systems are such that landlessness is relatively rare.¹²²

To reduce vulnerability to HIV of the rural poor, their economic and sociocultural conditions and status need to be improved. Easing their economic constraints will allow them to pay for essential HIV prevention services (such as treatment of STIs) and to adopt livelihood coping strategies that will not be conducive to HIV infection.¹²³ Improving women's access to and control over land and to other productive resources will help to ensure that they have enough to provide for their families without resorting to casual sex at times of seasonal food insecurity. Education, which gives men and women access to information and makes women in particular more confident, facilitates access to HIV/AIDS prevention.

This dynamic interface between vulnerability to poverty and vulnerability to HIV needs to be analyzed in depth in countries heavily affected by the HIV epidemic. Poverty alleviation strategies may also need to specifically address the coping mechanisms adopted by households affected by the epidemic and adjust targeting criteria to include young adult death (see Box 10).

¹²² Gérard Ciparisse, "Access to Land for All in Sub-Saharan Africa: A Utopia?," in Land Reform - Land Settlement and Cooperatives, FAO, 1998/2, pp. 44-54.

¹²³ World Bank, Confronting AIDS, op.cit.

Box 10: Using Adult Death as a Targeting Criterion for Poverty Alleviation Programmes

Prior to the AIDS epidemic, prime-age adult death was rare, perhaps too rare to warrant including it as a targeting criterion. Sadly, it is now common enough that countries with targeted poverty reduction programs should consider whether and how to include it as a targeting criterion.

Using prime-age adult death as a targeting criterion is likely to have several advantages. Compared with providing help to families with a death from AIDS, it is fairer, since it will include families with prime-age adult deaths from other causes. Combining this criterion with others that identify the household as poor may help identify the neediest families. Since the death of a prime-age adult is usually well known to everyone in the community, using this as a targeting criterion may help program administrators identify destitute families that might otherwise be missed. For the same reason, such a criterion may be effective in minimizing opportunistic responses.

Finally, including prime-age adult death as a targeting criterion may help to increase the political acceptability of safety net programs among those who do not benefit, since many people readily understand that poor households suffering such a death - and especially the children in such households - are likely to face severe hardship.

Source: The World Bank, *Confronting AIDS*, op. cit., p. 234.

4.2.2. Food/Livelihood Insecurity

Food security is dependent on five factors: availability, stability and accessibility of food as well as utilization and conversion of food. Households must have sufficient income to purchase the food they are unable to grow for themselves. Food-insecure adult household members are vulnerable to HIV/AIDS as poor nutrition contributes to a poor health status, and by extension, to low labour productivity, low income and livelihood insecurity. These factors can induce behaviour conducive to HIV infection. In terms of the significance of HIV/AIDS to vulnerability to AIDS impact, persons living with AIDS (PLWAs) are vulnerable given that without a good diet, they cannot prolong good health and live a longer life to provide for their children. Food security and nutrition projects can contribute to reducing vulnerability to HIV by addressing the underlying factors of food insecurity, bearing in mind the systemic impact of HIV/AIDS on these factors.

Figure 1 below illustrates in detail the interrelationships between HIV and household food security and nutrition, highlighting the direct and indirect impact of HIV/AIDS.

To arrive at a systematic analysis of how HIV/AIDS affects the food system in rural households, the impact of HIV/AIDS on three types of food insecurity must be examined:

- a) **chronic food insecurity** which refers to households (as well as regions) with inadequate access to food on a day-to-day basis, regardless of the season or time of year. This type of food insecurity is almost always associated with poverty, requiring targeted programmes at household level;

Figure 1: The Inter-relationships between HIV and Household Food Security and Nutrition



Source: Florence Egal, "What has HIV/AIDS to do with Nutrition?" FAO, 1995.

- b) **seasonal and cyclical food insecurity**: transitory food insecurity which appears at regular and broadly predictable times of the year, or on a year-to-year basis. Ways to alleviate seasonal/cyclical food insecurity at household level include the promotion of better storage, crop diversification to stagger harvest periods and mixed farming; and
- c) **transitory or temporary food insecurity** resulting from shocks, such as drought, flooding or pest attacks.¹²⁴

Such an analysis has not been undertaken to date. Thus, it is not known how each of the three types of food insecurity influences vulnerability to HIV and vice versa. It is unlikely that these interrelationships are simple and straightforward. For example, chronic food insecurity may not necessarily render rural men and women more vulnerable to HIV/AIDS than seasonal or temporary food insecurity. It is also possible that the impact of HIV/AIDS may not be most acute amongst households suffering from chronic food insecurity. While these interrelationships merit investigation, what is perhaps even more significant is that given the considerable body of extant knowledge and experience on responses to food insecurity, strategies for reducing vulnerability to HIV must be sought within these existing frameworks. In other words, **the response to HIV/AIDS vulnerability needs to be integrated into the broader response to food and livelihood insecurity.**

A **livelihood** comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. According to the UK Department for International Development (DFID) “**a livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base**”.¹²⁵

¹²⁴ Anne Thomson and Manfred Metz, *Implications of Economic Policy for Food Security: A Training Manual*, FAO Training Materials for Agricultural Planning #40, 1997, pp. 91-96.

¹²⁵ This is a slightly modified version of the definition originally developed by Robert Chambers and Gordon Conway; see DFID, *Sustainable Rural Livelihoods: What Contribution Can we Make?* Diana Carney (ed.), Papers presented at the DFID's Natural Resources Advisers' Conference, July 1998, p. 4.

Shocks and stresses can be divided into two categories: sudden shocks which lead to food insecurity can be transitory in the sense that the household survives the shock and eventually recovers. Sudden shocks include drought, flooding and pest attacks causing crop failure, loss of employment and the illness of a wage-earner. There is another type of shock, however, which may initially lead to similar responses as drought. But, in this case, the situation does not revert to normal and the household rapidly descends into chronic food insecurity. This type of shock includes asset loss, war, theft and civil conflict and HIV/AIDS.¹²⁶ The impact of HIV/AIDS on rural livelihoods is manifested through morbidity and mortality, time taken off to care for the sick, long periods of mourning and the high costs of medicine and funerals.

The framework on sustainable rural livelihoods elaborated by DFID in Figure 2 is a useful conceptual tool with which to assess the impact of HIV on rural livelihoods but also to evaluate how rural livelihoods may influence vulnerability, including vulnerability to HIV.

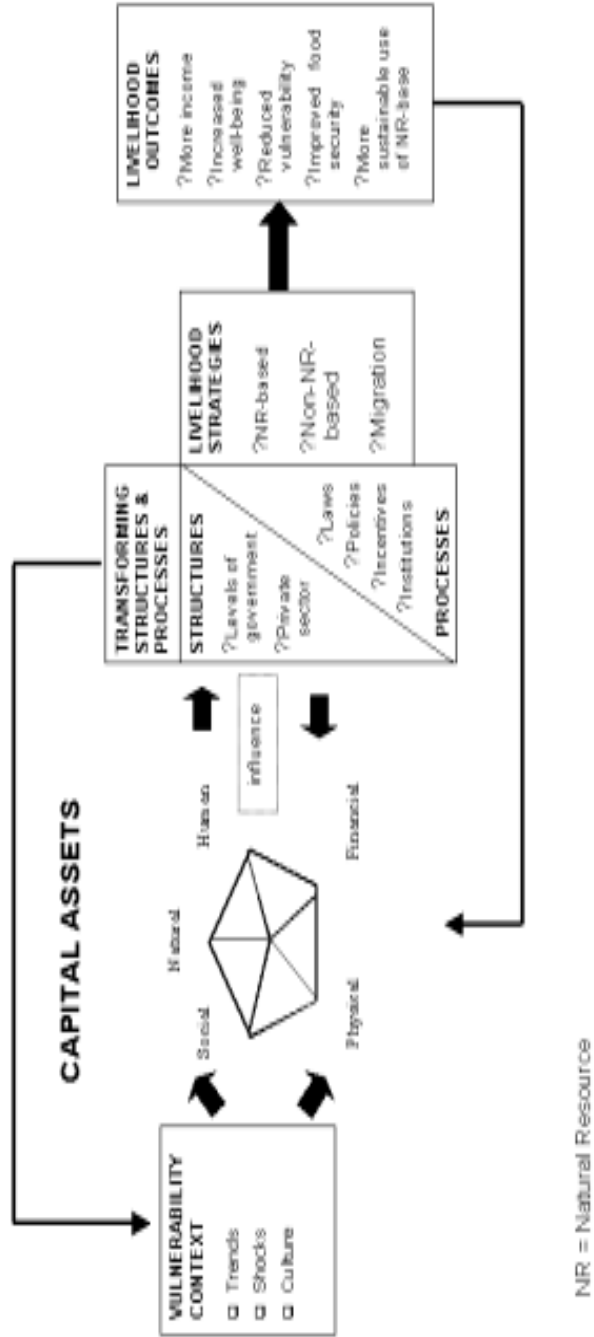
HIV/AIDS impacts systemically on all factors of the framework of sustainable rural livelihoods (SRL) in Figure 2. More specifically, HIV/AIDS features prominently in the **vulnerability context** of this framework as one among several shocks and trends affecting rural livelihoods. As argued above, it is also often the case that HIV/AIDS compounds other shocks and stresses and exacerbates vulnerabilities.

The SRL framework shows the various capital assets that comprise a rural livelihood and underscores how important social networks are in sustaining them. Vulnerability varies according to the composition of a rural livelihood. In the context of HIV/AIDS, a livelihood heavily dependent on social assets will break down more easily than one primarily composed of financial assets that are under the control of the household.

What could be further added to the SRL framework is the **bi-directionality between vulnerability (including vulnerability to HIV) and capital assets**. Thus, while the vulnerability context undoubtedly has an impact on the capital assets of rural livelihoods, the reverse is also the case: capital assets influence the vulnerability context of rural livelihoods.

¹²⁶ Thomson and Metz, *Implications of Economic Policy for Food Security: A Training Manual*, op.cit., pp. 95-96.

Figure 2: Sustainable Rural Livelihoods: Framework



Source: DFID, Sustainable Rural Livelihoods: What Contribution Can we Make?, Diana Carney (ed.), Papers presented at the DFID's Natural Resources Advisers' Conference, July 1998.

This is especially important in the context of HIV/AIDS. A second element that can be added to the SRL framework is **the interrelationships between livelihood strategies and the vulnerability context**. The livelihood strategies of a household or community are closely linked to vulnerability to HIV. For instance, in many developing countries, rural men in particular work as seasonal migrants in commercial farms, mines, etc. This kind of labour migration is in effect a livelihood strategy adopted by households that cannot survive on farm and off-farm income alone. As a livelihood strategy, it may be successful in boosting household income through remittances, but it also exposes the migrants, their families and communities to HIV/AIDS.

According to the World Bank, households respond to the impact of AIDS (and other shocks) using three main coping strategies: **Altering household composition** (for example, by sending one or more children to live with relatives, or inviting a relative to join the household in exchange for assistance with farming, household and childrearing tasks); **drawing down savings or selling assets** (durable goods, livestock, etc.); and **utilizing assistance from other households and from informal rural institutions**.¹²⁷

Figure 3 illustrates the full range of coping strategies households adopt to respond to the shocks to the household economy inflicted by HIV/AIDS. It also indicates the degree of reversibility of each coping mechanism. It should be noted here that the term “coping strategies” can be misleading as it implies that households are, in fact, coping, whereas it is often the case that the strategies employed are not sustainable.¹²⁸

The first eight responses indicate reversible mechanisms and disposal of insurance assets. The next three responses refer to the disposal of productive assets while the final three indicate destitution.¹²⁹

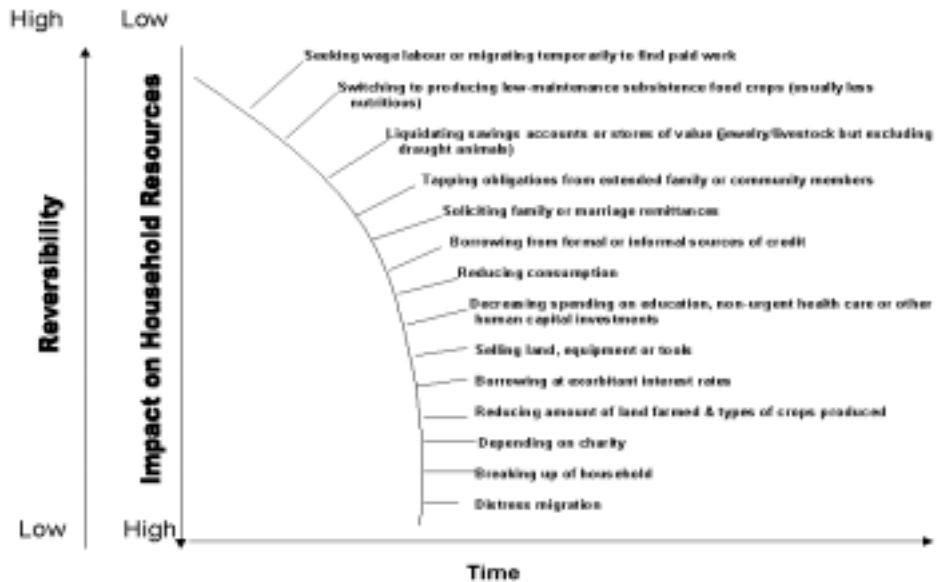
Figure 4 illustrates the sequence of responses to food shock based on a study undertaken amongst the Hausa in Nigeria. A comparison of responses to HIV/AIDS and to food shortages shows that the two are, to a

¹²⁷ World Bank, *Confronting AIDS*, *op.cit.*

¹²⁸ Thomson and Metz, *Implications of Economic Policy for Food Security*, *op. cit.*, p. 96.

¹²⁹ Jill Donahue, *Community-based Economic Support for Households Affected by HIV/AIDS*, *USAID Discussion Paper on HIV/AIDS Care and Support #6*, June 1998, pp. 6-7.

**Figure 3:
Household Coping Strategies to HIV/AIDS**



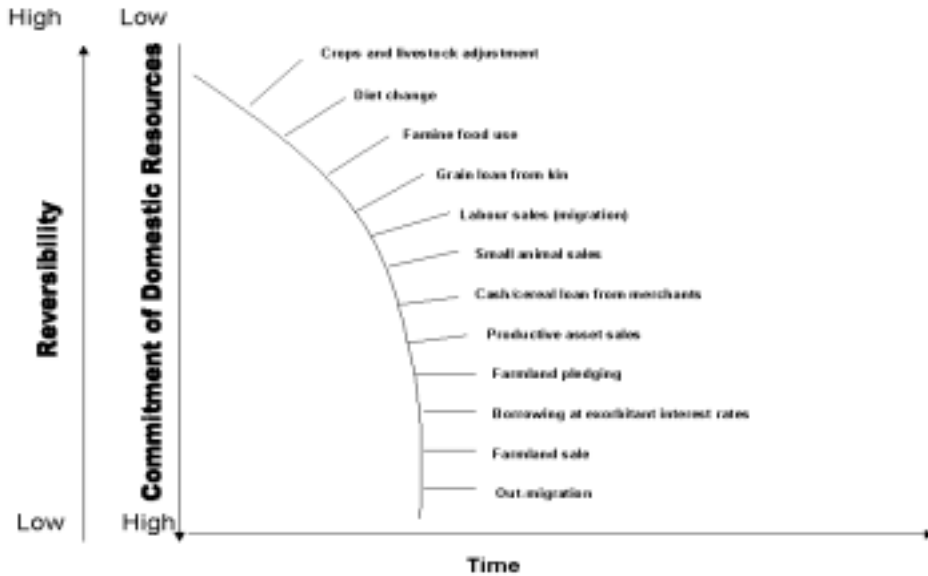
Source: D. Topouzis, 1999, based on Jill Donahue, Community-based Economic Support for Households Affected by HIV/AIDS, Discussion Paper on HIV/AIDS Care and Support #6, USAID, June 1998, pp. 6-7; and Thomson and Metz, Implications of Economic Policy for Food Security, FAO, 1997, Figure 3.4: Responses to Household Food Shortage, *op. cit.*, p. 97.

great extent, quite similar. In other words, HIV/AIDS is in large part a problem of food insecurity. This juxtaposition of coping mechanisms also shows that, as argued above, the response of agricultural/rural development policies and programmes to HIV/AIDS must be sought within existing frameworks of response to food insecurity.

One coping mechanism in response to food insecurity (irrespective of whether this is a consequence of HIV/AIDS, drought, etc.) which is rarely acknowledged is sex.

Many poor rural women whose main preoccupation is the day-to-day survival of their children may engage in sexual services to support their

**Figure 4:
Responses to Household Food Shortages**



Source: Anne Thompson and Manfred Metz, Implications of Economic Policy for Food Security, FAO Training Materials for Agricultural Planning No. 40, 1997, p. 97.

families either temporarily (i.e. during transient food insecurity) or long-term. For these women, HIV is hardly a pressing issue, as AIDS remains asymptomatic for many years. In Mwingi District in Kenya, one district government official argued: “When there is drought, you can have a girl for a loaf of bread.”¹³⁰

However, it should be underscored that what is being referred to here is not “commercial sex work” as such. In the rural context in particular, the boundaries of sex work are usually blurred:¹³¹ intimacy may be rewarded in money, kind (food, clothing, school fees, toiletries, jewelry, etc.) or favours, and the relationship can be informal, casual or long-standing.

¹³⁰ Personal communication, Guenter Hemrich, 10 August 1999.

¹³¹ *Ibid.*, p. 13.

Sexual services may be a coping mechanism of the last resort for food insecurity in some cases or it may be among the first coping mechanisms adopted by some households in others. The fact is, very little is known about this type of exchange as a coping mechanism for food insecurity. Undoubtedly, it may be prevalent in some societies and not at all prevalent in others, depending on cultural norms and a host of other socioeconomic factors and personal circumstances. Nevertheless, it is an important area to investigate as it is central to vulnerability to HIV as well as to food insecurity.

Households affected by HIV/AIDS receive assistance primarily from the extended family and clan, neighbours, community groups, such as savings clubs and burial societies and local informal organizations. Community coping responses take the form of different organizational groups, such as social support groups, informal associations, self-help groups, community-based organizations supported by external development agencies and AIDS-specific organizations. The first three groups tend to be indigenous, grassroots responses by the community; the last two are more formal grassroots organizations which tend to rely on some support from NGOs or other agencies.

Community support and mitigation activities include:

- communal fields for agricultural production for income or food;
- community-based child care: cooperative day care and nutrition centres to free women to work in or outside the home;
- orphan support in the form of nutritional and educational support;
- repair of deteriorating houses;
- home-based care and visiting to HIV/AIDS patients and orphans;
- preparation and distribution of school uniforms;
- apprenticeship and training in marketable skills for orphaned adolescents;
- agricultural projects at various levels to increase output;
- labour-sharing arrangements; and

- community-run micro-enterprises and income-generating projects to produce food and cash.¹³²

Attempts to devise indicators in order to assess vulnerability to HIV have not been successful to date. One study of household coping strategies in rural south-west Uganda¹³³ suggested the following indicators: household size and composition; land size; household possessions, and the presence or absence of a familial support network. However, the study pointed out that indicators on vulnerability to HIV are extremely difficult to establish and caution should be exercised as these are likely to change over time.

Households most able to cope with HIV/AIDS were those which were wealthy and which exhibited the following characteristics (Table 2):

Households least able to cope with shocks, including HIV, had the following characteristics (Table 3):

Table 2: Households most able to cope with HIV/AIDS

Households most able to cope/wealthiest Indicator	Number of Responses		
	Women	Men	Total
Householders who own and cultivate a lot of land	25	26	51
Householders who sell matooke/mbidde (plantain)	26	20	46
Householders who sell coffee	18	15	33
Householders who own cows from which they get milk (to consume and to sell)	18	12	30
Householders with many friends and relatives (who help them)	22	5	27
Householders with more than one source of income (traders, taxi drivers, builders)	8	9	17
Householders who own goats, pigs, hens (which can be sold in an emergency)	5	2	7
Householders who own houses which they rent out	5	0	5
Householders who brew/sell beer	4	1	5
Householders who are well-educated	3	0	3
Householders with few dependants	1	0	1

¹³² Draft report by SafAids to UNAIDS, "A review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa," February 1999.

¹³³ Janet Seeley, "Searching for Indicators of Vulnerability: A Study of Household Coping Strategies in Rural South West Uganda," Medical Research Council and the Overseas Development Administration, 1993.

Table 3: Households least able to cope with HIV/AIDS

Households least able to cope Indicator	Number of Responses		
	Women	Men	Total
People who do not have permanent jobs (casual labourers)	21	21	42
Householders who own no land/infertile land	17	9	26
Squatters who have no house of their own (or have very small, poor huts to stay in)	20	5	25
People with no relatives and friends in the area	15	3	18
People who are sick, old or disabled	10	6	16
Youth who are setting up their households	6	6	12
People who are drunkards	0	8	8
Widows with many dependants	5	2	7
People with no possessions (which they could sell in a crisis)	1	3	4
People who live alone	1	2	3

To conclude, in high HIV prevalence countries, agricultural projects and programmes can play a critical role in assisting households to respond to the epidemic by **integrating the response to HIV/AIDS vulnerability into the broader response to food and livelihood insecurity and by strengthening household and community coping strategies**. Enhancing the resilience of rural households to withstand shocks will contribute to reducing household vulnerability to a number of different factors, including HIV/AIDS.

4.2.3. Gender Inequality

Gender is a key concern of most agricultural/rural development projects given the central role that rural women play in agricultural production and food security in developing countries. For instance, as seen in case study #4, the *Zambia Household Food Security and Nutrition Project* has a special focus on gender vulnerability to food insecurity and malnutrition. Addressing gender inequality is critical to addressing vulnerability to HIV as will be seen below.

Women's increased physiological risk of HIV infection is compounded by economic need, lack of employment opportunities, poor access to edu-

cation, training and information, and local traditions. In rural areas, women tend to be even more disadvantaged due to reduced access to resources and services. A combination of these factors prevent women from having choices and from making decisions about their lives, and especially about sexual risk and family health.¹³⁴ “Low income, income inequality, and low status of women are all fairly highly associated with high levels of HIV infection,” according to Martha Ainsworth of the World Bank.¹³⁵

The economic vulnerability and sexual services nexus is clearly demonstrated in the example of Box 11. A rural woman in Nepal migrates to the capital and then to a foreign country in search of work, only to be sold by a relative to prostitution. Her ordeal continues after she tests HIV positive, as she is ostracized from her own home and eventually from her village.

Clearly, only a minority of poor women end up as commercial sex workers, even though in Asia it is not rare for daughters to be sold to the sex industry by their own families who need the income. At the workplace, sex may be demanded or bartered to gain a job, promotion or trade permit.¹³⁶ While this may not be considered as sex work, it is related to economic need.

In addition, **culture** renders women and their families more vulnerable to HIV infection. For exam-

Box 11: Gender, Migration and Vulnerability to HIV

When life became difficult in her native village of Melamchi in the Nepali hills, Geeta moved to Kathmandu where she worked as a housemaid. When her cousin proposed her a better job in a carpet factory in India, she jumped at the opportunity: “I didn’t realise that I was sold to a Nepali brothel keeper in India until the lady told me to engage in business... I wept and wept. I was shocked to be sold by my own relative. I went mad. They admitted me into a mental hospital. After a year, I was ultimately forced into prostitution. I never liked it - that was not what I had wanted. But you can’t fight against luck and fate.

Geeta was sent home with 200 Indian rupees (US\$ 6.50) for her transport after she tested HIV positive. Back in Melamchi, she found her mother had died and her father refused to take her back. Determined to begin a new life, she rented a liquor shop with her savings. The shop was successful until her HIV status became known in the village - then the business collapsed and she was forced to close down.

Source: J. Sharma, *Fighting Against Fate*, World-AIDS, March 1994, p. 11.

¹³⁴ *Facing the Challenges of HIV/AIDS/STDs: A Gender-based Response*, Royal Tropical Institute/Southern Africa AIDS Information Dissemination Service/WHO, 1995, p. 10.

¹³⁵ World Bank Newsletter, November 6, 1997.

¹³⁶ *Ibid.*, p. 13.

ple, among the Shona people in Zimbabwe, as in many other parts of sub-Saharan Africa, a woman is considered a "minor." As long as she is unmarried, her father has full rights over her. When she marries, these rights are transferred to her husband through the bride price. This payment is meant to compensate for the loss of labour the woman's father sustains when she marries. What is critical about the bride price is that it also gives the husband full rights over all the children from his marriage. In the age of HIV/AIDS, this translates into a devastating scenario: once a woman becomes a wife and mother, she is reluctant to divorce her husband - even if he is unfaithful to her and she runs the risk of contracting HIV - as this could mean losing her children.¹³⁷

In addition to being disproportionately vulnerable to HIV infection, rural women bear most of the burden of caring for their husbands, fathers and other sick male relatives. This diverts time from agricultural production, childcare and other off-farm income-generating activities and contributes to food insecurity, poor nutrition and health and even the withdrawal from school of girl children.

Agricultural and rural development projects can help reduce women's vulnerability context (including their vulnerability to HIV): (a) by addressing their disadvantaged legal, socioeconomic and sociocultural status in society; (b) by improving their access to and control over productive resources and social and support services; (c) by introducing labour-saving technologies for agricultural production and domestic labour; and (d) by addressing the new challenges that are being added on to existing vulnerabilities by HIV/AIDS.

4.2.4. Migration

Mobility is an important factor in the spread of HIV, as evidenced in several countries in sub-Saharan Africa, including South Africa, Zimbabwe, Angola and Uganda. For example, in one town in Zimbabwe near the South African border with a large population of migrant workers, 7 out of 10 women attending antenatal clinics tested HIV positive in 1995.¹³⁸ Yet, until

¹³⁷ Sam L.J. Page, "Towards a New Agricultural Research Agenda," *op. cit.*, p. 3.

¹³⁸ UNAIDS/WHO, Report on the Global HIV/AIDS Epidemic, June 1998, *op. cit.*, p. 11.

recently, mobility and migration had received little attention,¹³⁹ with research focusing on certain highly mobile populations (truck drivers and itinerant traders). Only a few studies have generated reliable data on the specific factors that facilitate transmission of HIV in the context of migration. Thus, **the role of migration in the spread of HIV remains largely unknown** and corresponding HIV/AIDS prevention and mitigation strategies are deficient.¹⁴⁰

Even though mobility is an important factor in the spread of HIV, this is not meant to imply that migrants as a group are in any way to blame for the propagation of the epidemic. About 100 million people worldwide move voluntarily within or between nations each year, while almost 40 million are either internally displaced or refugees outside their own countries.¹⁴¹ The term migrant refers to individuals whose decision to migrate is taken freely, for reasons of “personal convenience” and “without intervention of an external compelling factor”. This definition includes migrant workers, economic mi-

Box 12: Migration, Mining and HIV in Carltonville, South Africa

Carltonville, at the heart of South Africa’s gold mining industry, is home to 88,000 mine workers, 60% of them migrants from other parts of South Africa or from neighbouring Lesotho, Malawi and Mozambique. Around 22% of adults in Carltonville are infected with HIV, a rate over two-thirds higher than the national average. One mineworker in five is thought to be infected but this is probably an underestimate as it does not include the men who have dropped out of the mines because they are too sick to work.

Why are infection rates so high in miners? Most men live lonely lives in single-sex dormitories, often hundreds of miles from their families. They also have a dangerous job: a gold miner has a one in 40 chance of being killed by a rock-fall underground and a one in three chance of serious injury. Compared with that, the dangers associated with a long, slow infection like HIV might seem remote.

The HIV dangers are not just to the mine-workers themselves, or to their sex partners around the mining sites. Most migrants return home periodically. Increasingly, they are carrying infection back to their wives and their home communities.

Source: UNAIDS, AIDS Epidemic Update, December 1998, pp. 11-12.

¹³⁹ Jacques du Guerny, “Migrations et SIDA en Afrique,” La Chronique du CEPED, No. 15, Fall 1994. See also section 4.4 and Annex II on how the issue was introduced into the UNAIDS agenda.

¹⁴⁰ UNAIDS/WHO, The Status and Trends of the HIV/AIDS Epidemics in the World, *op. cit.*, p. 10.

¹⁴¹ “Migration and AIDS,” Special Issue on Migration and HIV/AIDS, International Migration Quarterly Review, Vol. 36, No. 4, 1998, p. 445.

grants, seasonal workers, etc. but excludes groups such as refugees and displaced persons.¹⁴²

While agricultural and rural development projects may not address migration directly, migration is of prime concern to these projects for two reasons: (a) stemming rural exodus and enhancing the economic potential of rural areas is an objective of many agricultural/rural development projects; and (b) migration is among the most frequently adopted household coping mechanisms to shock and stress while remittances can be a vital supplement to the rural household economy.

Migration is usually accompanied by a disruption of family life (separation from family and sociocultural norms, isolation and loneliness, and a sense of anonymity that offers more sexual freedom), which partly promotes the demand for and supply of sexual services, and more generally, makes migrants more vulnerable to adopting high risk sexual behaviour. Migration does not only render the migrants vulnerable to HIV/AIDS but their families as well, as households that resort to migration do so because of dire need (see Box 12). Caution should be exercised, however, in drawing such generalizations, as recent evidence from Dakar, Senegal, shows that high levels of mobility and migration do not necessarily lead to rapid and extensive spread of HIV infection.¹⁴³

Coping mechanisms with respect to HIV/AIDS include two types of migration (as seen in Figure 3): (a) **temporary migration** to find paid work; and (b) **distress migration**, a last resort mechanism to cope with impoverishment. A third type of migration specifically related to the HIV epidemic can be added to these two types of migration: **reverse migration** of HIV infected individuals from the urban centers back to the rural areas. This last type of migration, which is relatively widespread, places a heavy burden on rural households in terms of time, money and labour.

Besides focusing on the movements of individuals, **it is also important to examine migratory models between regions**. For example, Figure 5 illustrates the relationships and links between interdependent groups

¹⁴² *ibid.*, p. 447.

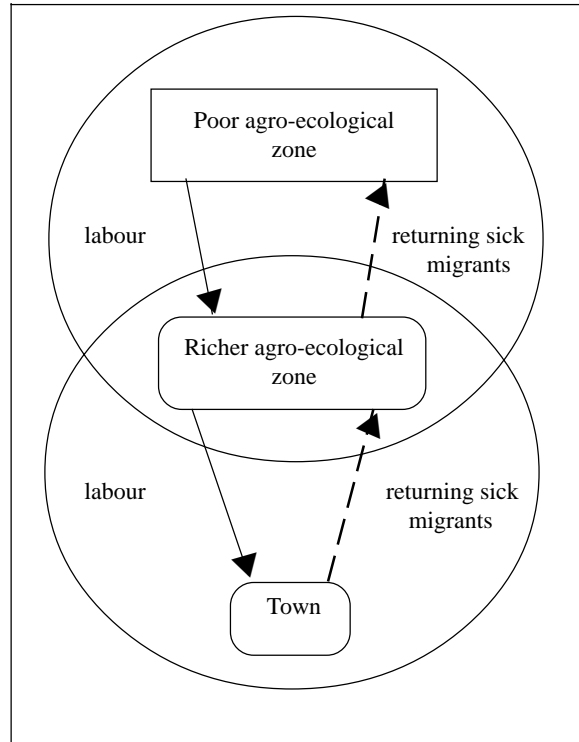
¹⁴³ *ibid.*, p. 470. HIV prevalence rates in Dakar among pregnant women appear to have stabilised at less than 1.5% in a context marked by extensive population movements.

in Burkina Faso and Côte d'Ivoire:¹⁴⁴ richer areas benefit from the money spent on AIDS-related medical treatment and can thus replace the labour they lose. Intermediate areas also have coping mechanisms, and, in some cases fare better than richer areas. It is the poorer areas that are originally depleted of labour which bear the costs of the epidemic.

FAO research on the interdependence of the central region of Burkina Faso and the mid-west of Côte d'Ivoire illustrates the survival dynamics of the farm settlements and their medium-term repercussions.¹⁴⁵ Almost all of the Burkinabè AIDS patients examined in the FAO study involved immigrants who fell sick in Côte d'Ivoire and returned, during the terminal stage of the disease, to die

in their village of origin. Their sickness thus only indirectly deprived the host production unit of labour, as the care given to them temporarily kept some of their relatives from their normal occupations. The most noticeable negative consequence of the return of the AIDS patients related to the decrease in the number of small animals in the production units caring for them and meeting the demand in sacrifices required by traditional healers. On falling sick in Côte d'Ivoire, the Burkinabè preferred to go to health centres where care is relatively expensive. They then returned destitute to

Figure 5: The Relationship Between Inter-Dependent Groups & Their Links



Source: Jacques du Guemy, "The Rural People of Africa Confronted with AIDS," Summary of FAO Studies on AIDS. 1997.

¹⁴⁴ Jacques du Guerny, "The Rural People of Africa Confronted with AIDS: A Challenge to Development," Summary of FAO Studies on AIDS, 1997.

¹⁴⁵ Andrée Black-Michaud, "Impact du VIH/SIDA sur les syst?mes de production agricole et l'environnement rural au Burkina Faso et en Côte d'Ivoire," FAO, 1997.

their country of origin and had difficulty contributing to the cost of treatment demanded by traditional healers.

Some settlements, especially the smaller ones, did not have anything to fall back on in times of food shortages. This appears to have been a more serious problem than the temporary reduction in labour. It is, however, expected that a second wave of HIV infection may occur, this time from within, bringing about a permanent decrease in labour within the farm settlement and, most likely, more fundamental modifications in the production systems.

At the other end of the spectrum, for example in the mid-west of Côte d'Ivoire, the death of an AIDS patient within a farm settlement of average or large size resulted in two adjustment measures. The production unit either employed paid labour, or it gave away part of its land for "crop-sharing". In both cases, the production unit itself no longer had the same agricultural resources. This did not, however, bring about modifications in the agricultural production system, as other persons took over and ensured production. The main consequence of AIDS in this case was the redistribution of resources among a larger number of farmers. For such a situation to occur, a number of conditions have to be met: (i) cash crops must be part of the farming system and support services, especially trade, need to function efficiently; (ii) it is necessary to have an almost unlimited pool of labour nearby that can easily be mobilized (in times of war or excessive bureaucratic intervention, such mobility is not possible); and (iii) the fact that land could be used for commercial transactions and that the form of crop sharing contracts are strictly defined by law provides an extra guarantee to the system.¹⁴⁶

Understanding how the different types of migration may affect vulnerability to HIV and how vulnerability to HIV stimulates migration will help agricultural and rural development projects and programmes to: (i) address existing household coping mechanisms more effectively; (ii) put in place measures aimed at reducing the vulnerability to HIV of migrants and their families, and (iii) diversify the various livelihood strategy options open to

¹⁴⁶ *Ibid.* See also Andrée Black-Michaud, "Impact du VIH/SIDA sur les systèmes de production agricole et l'environnement rural au Burkina Faso et en Côte d'Ivoire," FAO, 1997.

rural households.

4.3. Integrating HIV/AIDS in Agricultural/Rural Development Projects Design and Operations

A host of conceptual/methodological tools for integrating HIV/AIDS in project work have been developed and can be utilized to address risk and vulnerability to HIV as needed. For example, a **conceptual framework on the relevance of HIV/AIDS for agricultural and rural development projects and programmes** developed by the German Technical Cooperation (GTZ) is particularly useful for identifying: the vulnerability of the target group to HIV infection and AIDS impact; issues relating to the personal safety and professional competence of project staff; the linkages between HIV/AIDS and project objectives, strategies and activities; and management/personnel issues related to HIV/AIDS.¹⁴⁷

GTZ and the Swiss Development Cooperation are supporting the development of an integrated approach to HIV prevention for projects outside the health sector based on peer education.¹⁴⁸ To this effect, they are in the process of preparing guidelines on the various steps and conditions for integrating HIV prevention in non-health projects and on how to formulate HIV/AIDS action plans.

The European Union has developed a **tool kit for integrating HIV/AIDS in development projects and programmes** containing the following:

- A flow chart for assessing the national importance of the HIV epidemic
- A sectoral checklist to address the susceptibility and vulnerability of a sector or sub-sector to HIV/AIDS and to identify areas in which HIV/AIDS may impact on a sector or project/programme.
- A specific analysis of HIV/AIDS and rural development.

¹⁴⁷ G. Hemrich. "HIV/AIDS as a Cross-Sectoral Issue for Technical Cooperation," *op. cit.*

¹⁴⁸ Raphael Baltes, Report of the Mission to Mali and Ghana for the development of an integrated approach of HIV prevention in projects outside the health sector for GTZ and SDC, July 1999.

- Guidelines for including HIV/AIDS in project cycle management.
- Including HIV/AIDS in Consultant Terms of Reference.¹⁴⁹

Methodologies to identify and address vulnerability to HIV exist although they remain scattered. For instance, the Participatory Learning and Action Notes (PLA Notes) of the International Institute for Environment and Development has devoted a semi-special issue on **Participatory Approaches to HIV/AIDS Programmes**.¹⁵⁰ This issue explores how participatory rural appraisal (PRA) tools such as mapping, the seasonal calendar, the 24-hour activity clock and the flow diagram showing the effects of increased income, can be useful in getting community members and programme staff to identify, analyze and address HIV/AIDS.

The FAO Nutrition Division has developed a two-page brief on “**Nutrition and HIV/AIDS: What Can FAO do?**” The brief summarizes the linkages between nutrition education and HIV/AIDS and their implications for the design of local strategies to improve household food security and nutrition in the face of HIV/AIDS and to help cope with the institutional impact of the epidemic. The accompanying model on the impact of HIV/AIDS on household food security and nutrition (Figure 2) is a particularly useful tool for project staff, counterpart staff and consultants: at a glance, the reader is alerted to the key developmental implications of HIV for household food security and nutrition and is guided to the areas that need to be taken into account in project design and implementation.

Several FAO projects, including the above-mentioned IPM national programme in Zambia and the World Bank Chad-Cameroon oil pipeline project, are integrating HIV/AIDS in the project cycle. More recently, a **community-based poverty alleviation project in Zimbabwe** is being prepared by the FAO Investment Centre that has incorporated HIV/AIDS in project design as follows:

- The impact of HIV/AIDS features prominently in the analysis of the poverty situation in the country.
- HIV/AIDS is incorporated in the analysis of community-based survival strategies and particularly of community-based safety nets.

¹⁴⁹ Lieve Fransen and Alan Whiteside. Considering HIV/AIDS in Development Assistance: A Toolkit, EEC, 1997.

¹⁵⁰ PLA Notes, No. 23, June 1995.

- The project components (microenterprise and entrepreneurship development, community self-help schemes, community safety nets and capacity-building) are intricately linked and designed to strengthen household coping mechanisms to shocks and stresses, including HIV/AIDS.
- Community safety nets, to be partially funded by the local communities, are to be set up to help the poorest households cope with, among other things, the increased mortality and morbidity caused by the pandemic. Safety net components could include cash payments to destitute individuals or families; food payments; and the provision of services to the destitute.

Such examples of HIV/AIDS integration in project design and the conceptual/research tools and methodologies outlined above need to be systematically assembled, adapted to the needs of the different types of agricultural/rural development projects and programmes and made widely available to interested rural institutions and to projects and programmes.

4.4. Institutional Collaboration to Enhance HIV/AIDS Vulnerability Reduction

The magnitude of the HIV epidemic and its cross-sectoral, systemic impact render institutional collaboration imperative for effective responses. This is to some extent facilitated by the fact that UNAIDS itself is a collaborative programme between seven UN agency co-sponsors (WHO, UNDP, UNICEF, UNFPA, UNDCP, UNESCO and the World Bank). The joint co-sponsored programme on HIV/AIDS has the potential to lever significant resources and action through the creation of strategic partnerships.

As seen above, many rural institutions and agricultural and rural development projects and programmes in developing countries, whose mandate is to enhance food security and sustainable agriculture/rural development do not have the capacity (know-how and/or financial resources and/or supporting materials) to address vulnerability to the epidemic. Thus, strategic partnerships with UNAIDS, government AIDS control programmes and HIV/AIDS organizations are essential. In other words, interagency collaboration can enhance the capacity of agricultural/rural development institutions to design and implement expanded, multisectoral responses to HIV/AIDS.

For example, the Ministry of Agriculture or Rural Development in a heavily affected country in sub-Saharan Africa may not know how to address the impact of HIV/AIDS on its agricultural extension service and on farm households. **Agricultural/rural development projects in countries with mature HIV epidemics in particular would benefit substantially from close liaison and networking with UNAIDS country offices.** The latter can, in collaboration with national AIDS control programmes and AIDS organizations, provide policy-makers and programme planners with information and data that can help incorporate HIV/AIDS in project formulation, appraisal, backstopping and evaluation, including:

- a general overview of the status of HIV/AIDS in specific regions in a given country;
- information on the main variables contributing to vulnerability to HIV (labour migration patterns, trade routes, etc.);
- existing data, research and information on HIV/AIDS in rural areas and on the dynamics of the particular epidemic;
- an analysis of the socioeconomic impact of HIV/AIDS and of the impact on agricultural production systems and rural livelihoods (where available);
- existing ongoing HIV/AIDS-related initiatives and their effectiveness; and
- available information and training materials on HIV/AIDS (prevention education, living positively with AIDS; etc).

In countries with low HIV prevalence rates, institutional collaboration will be instrumental in dispelling the stigma and shame surrounding HIV and in facilitating multisectoral HIV prevention efforts.

An important institutional collaboration issue that needs to be addressed at the country level is the choice of strategic partnerships with stakeholders. In other words, **which institutional partners are better placed to address vulnerability to HIV?** Is it organizations dealing specifically with HIV/AIDS? (This option has the disadvantage of promoting an AIDS-specific focus.) Or is it training institutions or NGOs that promote sustainable human development approaches that are participatory, multisectoral and gender-sensitive - all essential elements of a multisectoral response to the epidemic? In the case of HIV/AIDS-specific organizations, the key issue is

how these can assist non-health projects to reduce vulnerability to HIV. The NGO Kenya AIDS consortium has been quite successful in mobilizing prominent individuals to act as catalysts in urging different organizations to address HIV. In the case of NGOs implementing agricultural/rural development projects, the main constraint could be that these organizations may not be familiar with the dynamics, systemic impact and developmental implications of HIV/AIDS. Clearly, the answer to these questions will vary from case to case.

A second key issue to enhancing institutional collaboration at the country level is related to **mandate**. Most government ministries do not have the mandate to address HIV/AIDS. For example, if a Ministry of Commerce does not have the mandate to address HIV/AIDS, how can it support and collaborate with agencies involved in HIV/AIDS activities or with agricultural/rural development projects which find it necessary to address vulnerability to the epidemic? While the answer to this question lies in multisectoral policies, governments and donor organizations continue to be organized and to operate largely along sectoral lines. The modalities of operationalising multisectoral approaches to HIV are still being worked out with institutional collaboration being a key element of this process.

One example of institutional collaboration on gender and HIV/AIDS within the UN system has been elaborated for drug demand reduction.¹⁵¹ Another example of institutional collaboration at the level of the InterAgency Advisory Group (IAAG) led to the inclusion of migration as an item of the UNAIDS agenda in April 1997. This initiated a process leading to the involvement of the International Organization on Migration (IOM) and to the issue of HIV/AIDS and migration being placed on the agenda of the Programme Coordinating Board (PCB) of UNAIDS in New Delhi in December 1998.

Last but not least, at district level, agricultural and rural development projects and programmes can help promote institutional collaboration for HIV/AIDS vulnerability reduction by enhancing cooperation and coordination of activities related to HIV/AIDS between local government departments, such as agriculture and health, education, women, community development, etc. In addition, projects can place HIV/AIDS on the agenda of interdepartmental meetings at the district level in the context of health, education, employment conditions, and income-generation activities.

¹⁵¹ L-N. Hsu and J. du Guerny, "Towards a gender-sensitive approach to drug demand reduction: A process within the United Nations System, *Bulletin on Narcotics*, Vol. XLVII, Nos. 1 and 2, 1995, pp. 1-14.

5. DEVELOPING STRATEGIES

The following conclusions can be drawn from the information presented in the earlier chapters:

1. Vulnerability to HIV is inextricably linked to socioeconomic, demographic and sociocultural factors that may enhance or discourage risk behaviour. Further, **vulnerability to poverty, food/livelihood insecurity, gender inequality, migration, war and civil conflict, etc. has a catalytic effect on vulnerability to HIV.** For example, vulnerability to food and/or livelihood insecurity tends to reinforce vulnerability to HIV; gender vulnerability is likely to exacerbate HIV vulnerability; and so on.
2. **The impact of HIV/AIDS is systemic.** HIV/AIDS does not merely impact on certain agricultural and rural development subsectoral components leaving others unaffected. If one component of the system is affected, it is likely that others will also be affected either directly or indirectly. If the linkages between subsectors, institutions and households are not identified and addressed as such, then the analysis of the impact of HIV/AIDS will be incomplete and programme responses will be inadequate.
3. **In high HIV prevalence countries, it is unlikely that the effect of agricultural/rural development projects on the pandemic will be neutral.** In fact, agricultural/rural development projects may either facilitate the spread of HIV and aggravate its impact (by not addressing the epidemic *per se* or by overlooking demographic and socioeconomic/sociocultural variables *over time*) or they may have a catalytic effect in curtailing HIV transmission and mitigating the impact of AIDS (by addressing the underlying factors of vulnerability from an HIV/AIDS perspective).
4. In low HIV prevalence areas and/or countries where the impact of the epidemic may not yet be visible or severe, it is equally important to address vulnerability to HIV so as to help reduce the spread of the epidemic and minimize its adverse effects. HIV prevention through agricultural/rural development is a long-term response to the epidemic that is not only appropriate for Africa but also for South/

South East Asia, and Central/South America and the Caribbean.

5. Agricultural and rural development projects and programmes do not automatically address the challenges brought about by the HIV epidemic. Three categories of response to HIV/AIDS are identified in the case studies:
 - **In response category 1**, projects do not address HIV/AIDS as such. In the absence of **awareness of the dynamics of vulnerability to HIV per se and of the interrelationships between vulnerability to poverty, food and livelihood insecurity, etc. and vulnerability to HIV**, a reduction in vulnerability to the epidemic is unlikely. If it does occur, it is likely to be by chance rather than by design.
 - **Response category 2** refers to projects which address risk to HIV infection through HIV/AIDS-specific components targeting groups with high risk behaviours or which aim at improving access to information on HIV prevention for project staff and target groups in order to reduce risk of HIV infection. **Risk reduction tends to deal primarily with the proximate determinants of the HIV epidemic rather than with its causes.**
 - **Response category 3** refers to projects which address vulnerability to the spread of HIV and to AIDS impact by: (i) influencing the factors that lead people to adopt certain risk behaviours; (ii) targeting households or household members affected by the impact of the epidemic (including AIDS widows and orphans); and (iii) strengthening the resilience of rural households and of community coping mechanisms.
6. **HIV/AIDS vulnerability reduction strategies should not address high risk behaviour but the underlying factors that are responsible for this behaviour.** This understanding of vulnerability reduction strategies is in line with the mandate of agricultural and rural development programmes, as the factors underlying risk behaviour (poverty, food insecurity, migration, etc.) are integral concerns of such projects.
7. **Many agricultural/rural development projects may not have the know-how or the resources to develop and implement vulner-**

ability reduction strategies. Thus, even though project staff may be aware of the adverse effects of the epidemic on target groups and project operations and a few isolated initiatives related to HIV/AIDS may be underway, there is no systematic effort to address vulnerability to HIV. Technical assistance and seed money for the development of specific learning or training materials can help overcome these obstacles and facilitate the formulation and implementation of strategies to reduce vulnerability to HIV.

8. **HIV/AIDS information-education and communication activities for project staff and communities should not be perceived as a one off exercise but as an process.** Emphasis should be placed on **using IEC not as an end in itself but as a means through which to address and influence the underlying factors of vulnerability to HIV.**
9. **The impact of HIV/AIDS on chronic, seasonal/cyclical, and transitory or temporary food insecurity needs to be investigated and the response to HIV/AIDS vulnerability integrated into the broader framework of response to food and livelihood insecurity.**
10. **Addressing household and/or community coping mechanisms to shocks and stresses** (drought, flooding, pest attacks, loss of employment, asset loss, war, etc.) **is critical to addressing vulnerability to HIV.** Thus, **vulnerability to HIV needs to be dealt with in the overall vulnerability context of rural livelihoods, alongside other shocks and stresses.** Strategies aimed at enhancing the resilience of household and community coping mechanisms for vulnerable groups, inclusive of those affected by HIV/AIDS, are key elements of HIV/AIDS vulnerability reduction.
11. **Liaison, networking and collaboration** between formal rural institutions, agricultural and rural development projects and programmes, UNAIDS country programme advisers and focal points and AIDS organizations is essential to enhancing the capacity of each party to address vulnerability to HIV in rural areas.

5.1 Strategies to Reduce HIV/AIDS Vulnerability for Agricultural/Rural Development Projects

The section below provides some key elements for the elaboration of HIV/AIDS vulnerability reduction strategies. It is aimed at formal agricultural and rural development institutions, NGOs working in rural areas, and rural projects and programmes supported by international organizations and bilateral agencies. FAO and UNAIDS have an important facilitating and supportive role to play in such strategies.

Not much is known about addressing vulnerability to HIV in agricultural/rural development projects, and there is very little empirical knowledge to date on how agricultural and rural development projects can effectively address vulnerability. As seen above, the initiatives adopted by the case study projects are still at the design or early implementation stage. However, urgency should not lead to precipitation and should not preclude medium and long-term strategies that aim to tackle the underlying causes of the epidemic.

Strategies to reduce vulnerability to HIV will vary considerably depending on a wide range of factors, including:

- i. Project intervention level: for example, in an integrated food security programme, factors of vulnerability among the target group may be of critical importance while in a policy advice project, institutional responses to the epidemic will be of greater concern.
- ii. Project structure: If a project has its own staffing structure, it will be easier for project management to take direct action with regard to HIV/AIDS-related issues than it will be for a project operating in an existing institutional setting. In the case of the latter, responses will have to be coordinated and agreed upon with a variety of institutions, some of which may not be willing to get involved (see issue of mandate in section 4.4).

In other words, food security programmes will have different strategies for reducing vulnerability to HIV than policy advice projects or agricultural research projects. For these reasons, a comprehensive operational plan on how different types of agricultural and rural development projects and programmes can reduce vulnerability to HIV is beyond the scope of this paper.

In the same vein, each subsector of agriculture/rural development may need to redefine its goals, target group, methodologies, etc. in order to take into account the developmental impact of HIV/AIDS. Only then will agricultural/rural development projects be in a position to address vulnerability to the pandemic. Let us take the case of **agricultural research and extension**. Some HIV/AIDS impact analysts have argued that more loans should be made available to farmers for inputs and more emphasis should be placed on less labour-intensive cash crops as the way to reduce vulnerability to the impact of the pandemic.¹⁵² Others have argued that such minor modifications to existing agricultural research policy are inadequate given the scale of the problem in countries heavily affected by the pandemic. What is needed instead, they argue, is a paradigm shift on the part of government research and extension in order to meet the felt needs of farm households.¹⁵³ The goals within the new paradigm have been defined as follows:

- a) household food security, with emphasis on the interrelationships between the different types of food/livelihood insecurity and HIV/AIDS and on the multiple forms and dynamics of household coping mechanisms. Part of the output of such a focus would be a broader base of economic, social and cultural indicators which take into account not just material needs, but also the impact on values (individual and group) and a deeper understanding of why some communities are better able to “cope” than others;¹⁵⁴
- b) poverty alleviation; and
- c) the rehabilitation of the environment, including soil, water and woodlands.

¹⁵² P. Kwaramba, “The Socio-Economic Impact of HIV/AIDS on Communal Agricultural Systems in Zimbabwe,” Economic Advisory Project Working Paper No. 19, Friedrich Ebert Stiftung, Harare, 1998, and G. Mutangadura, “The Economic Impact of HIV/AIDS on Smallholder Agriculture in Zimbabwe and Suggested Strategies to Mitigate the Impact, paper presented at the first regional Conference for East and Southern Africa “Responding to HIV/AIDS: Technology Development Needs of African Smallholder Agriculture,” Harare, 1998, cited in Sam Page, “Towards a New Agricultural Research Agenda,” *op. cit.*, p. 8.

¹⁵³ Sam Page, “Towards a New Agricultural Research Agenda,” *op. cit.*, p. 8.

¹⁵⁴ Desmond Cohen and Elizabeth Reid, *The Vulnerability of Women: Is this a Useful Construct?*, *op. cit.*

Such an approach would not only be sustainable and have lasting benefits for farm households but would also accommodate the needs of the poorest rural inhabitants and particularly AIDS survivors.¹⁵⁵ Improved linkages between national and local research centers and field projects and programmes would greatly enhance such research.

Central to formulating strategies to reduce the spread of HIV infection and the impact of HIV/AIDS are three principles:

- ❑ Ensuring that **communities have a central role in developing an understanding of the mechanisms fueling HIV epidemics and of the role of the direct and indirect causes of HIV/AIDS**. Such an understanding is necessary for the mobilization of rural communities and for their effective contribution to responses to the epidemic. Rural men *and* women of all age groups, starting with adolescents and youths, should participate in the design and implementation of HIV-related activities or components.
- ❑ “Vulnerability” needs to be defined and analyzed from the perspective of those who are perceived to be vulnerable rather than from the perspective of outsiders (i.e. development practitioners).
- ❑ **Taking into account how projects and programmes can support those forces within society which are demanding change and recognizing the capacities which are present for bringing these about**. In practical terms, emphasis needs to be placed on fostering change; on maximizing the capacities already present in families and communities which can bring these changes about; and on how to support these processes most effectively.¹⁵⁶

Projects and programmes which improve the socioeconomic conditions and well-being of rural communities are necessary but not always sufficient to prevent HIV infection or mitigate the impact of the epidemic. This is because changing the “contextual factors” of HIV/AIDS may not necessarily alter the position that rural people find themselves in. Let us

¹⁵⁵ Sam Page, “Towards a New Agricultural Research Agenda,” *op. cit.*, p. 8.

¹⁵⁶ Desmond Cohen and Elizabeth Reid, *The Vulnerability of Women: Is this a Useful Construct?*, UNDP HIV and Development Issues Paper, No. 28, 1996.

take the case of the **vulnerability of rural women**: education and economic independence may leave largely unchanged the relationship within a marriage and many of the external factors which affect the functioning of it. People are culturally conditioned and in the age of HIV many aspects of culture are life-threatening. Relationships are often characterised by behaviours which, to some degree, are independent of objective factors, including assessment of risks. Thus, valuation of women's lives is at the core of women's "vulnerability" to HIV/AIDS.¹⁵⁷

However, as culture changes over time, the object of policies, projects and programmes should be to understand culture (in other words, the framework of norms, values and behaviours of a society) and to try to work with the forces which are changing it. This entails a fundamental shift in approach from perceiving women as "vulnerable" and designing policies, projects and programmes based on this assumption to recognizing them as "dynamic promoters of social transformation that can alter the lives of both women and men". This second approach is likely to have a marked impact on policies and programmes, given that women-only strategies tend to be partial and unsustainable solutions. Women *and* men therefore need to be recognized as active agents of social change.¹⁵⁸

This approach transcends vulnerability¹⁵⁹ and necessitates a shift in institutional and donor perceptions of development discourse and practice.

In low HIV prevalence areas, **HIV prevention education for youths and young adults** in particular will constitute an integral component of any strategy to reduce vulnerability to the spread of HIV/AIDS. Such prevention education should not consist of messages aimed at discouraging risk behaviour *per se*. Rather it should focus on: information and dialogue on the factors and conditions (food insecurity, migration, poverty, culture, etc.) that contribute to such behaviour (unprotected casual sex; sexual services in return for food, school fees; prostitution, etc.); and on positive examples of the accomplishments of young rural men and women that can serve to boost their self-esteem and aspirations of the future as farmers or rural entrepreneurs. HIV prevention education for youths and young adults can be introduced in training, in health components of agricultural/rural devel-

¹⁵⁷ *ibid.*

¹⁵⁸ *ibid.*

¹⁵⁹ See discussion of vulnerability in section 2.1.

opment projects, and in extension activities.

While in low HIV prevalence countries/areas HIV prevention education (particularly when accompanied by human capital development) may suffice, this will not be the case in regions heavily affected by the HIV epidemic. In such areas, one or more of the measures outlined below may be needed:

- 1. Capacity-building for rural institutions and agricultural projects and programmes on the linkages between HIV/AIDS and agriculture/rural development and their implications for rural households and communities.** The objective of capacity-building would be to incorporate HIV/AIDS in the agricultural/rural development agenda along with poverty, food/livelihood insecurity, environmental degradation, gender inequality, etc. To initiate capacity-building on HIV/AIDS, the following IEC activities are proposed:
 - a) HIV/AIDS education and advocacy**, particularly within Ministries of Agriculture and/or Rural Development (inclusive of agricultural extension services). As seen from the case studies, even in countries with generalized HIV epidemics, there continues to be stigma, secrecy and shame shrouding HIV/AIDS. This fear of stigmatization is a fundamental obstacle to addressing vulnerability to HIV across sectors and results in paralysis upon which the pandemic thrives.
 - b) HIV prevention education for youth** (as elaborated above).
 - c) Medium-term (e.g. year 2010) high and low HIV prevalence analyses of the potential implications of HIV/AIDS for food security and agricultural production in future policies and programmes; and position papers on Agriculture/RD and HIV/AIDS** at country level for Ministries of Agriculture and/or Rural Development to incorporate HIV/AIDS in ministerial policy, strategy framework and programmes. Sensitizing Ministry leadership and extension workers and planning programmes to assist families affected by the epidemic should be part of this process, which needs to be designed and carried out in collaboration with other Ministries.

2. Elements of a strategy to reduce vulnerability to the impact of AIDS at the household level can include any one or more of the following:

a) Promoting low-risk, low-input and labour-extensive sustainable agricultural production systems (see Box 13).

b) Enhancing the capacity of rural institutions to identify households and communities in stress. This will entail:

- addressing the **vulnerability context of rural livelihood systems**, and particularly shocks and stresses (drought/flooding, asset loss, loss of employment, HIV/AIDS) and strengthening household coping mechanisms in order to reduce vulnerability to HIV. Responses to vulnerability to HIV need to be sought within existing frameworks of responses to food insecurity, livelihood insecurity, poverty, gender inequality, etc. They also need to be culturally acceptable;

Box 13: Survival Strategies for AIDS Survivors in Zimbabwe

Survival strategies for household food security can be improved through the reclamation of traditional food crops, such as cassava, sweet potato, cowpea, sorghum, finger and pearl millet in addition to open-pollinated maize varieties which have a lower input requirement, and improved storage qualities. Inter-cropping cereals with legumes and cucurbits should be encouraged to fix nitrogen and smother weeds. The setting up of community seed banks would facilitate the conservation of traditional genetic resources. Soil fertility could be enhanced and the need for ploughing eliminated through the planting of live fences to protect mulched and zero-tilled fields. Live fences can also provide firewood, fodder, fruit, oil and a refuge for the natural enemies of many crop pests. Improved availability and planting of fruit trees would supplement the local diet and provide an opportunity to gain additional income, with only limited extra labour.

In order to reduce the labour requirement and risk associated with the keeping of cattle, widows should be encouraged to raise small livestock, such as chickens and rabbits as a protein source and for manure. Zero-grazed dairy cows, which eliminate the need for herding and produce biogas for household use could be a more manageable option for these women. Low-input cash crops should be promoted amongst resource-poor farmers in order to reduce production costs. This would depend on natural methods of soil amelioration and pest management. However, much more needs to be done to improve the opportunities for marketing, both within and outside of the rural areas, to ensure that the farmers receive a fair price for their produce.

Source: Sam L.J. Page, "Towards a New Agricultural Research Agenda, *op cit.*, p. 8.

- reviewing existing methodologies and tools from food security, poverty alleviation, gender analysis, etc. and adapting them to the HIV/AIDS context; investigating whether new tools need to be developed; working out how can these tools can be used and by whom; and resolving key constraints to multisectoral collaboration;
- **conducting a Training Needs Assessment** in Ministries of Agriculture and/or Rural Development; organizing **joint training for rural institutions (agriculture, education, community development, health, etc.) on the systemic and cross-sectoral impact of HIV/AIDS at the district level.**

c) **Reviewing targeting mechanisms** to ensure that **households affected by the pandemic (including those headed by widows, young and elderly farmers) are given priority** and that their access to and control over resources and support services (agricultural extension, research, credit, etc.) is facilitated. One way to achieve this is by considering the use of **young adult death as a targeting criterion for poverty reduction and food security programmes.**¹⁶⁰ Such a criterion has several advantages: it is fairer to providing help to families with a death from AIDS, as it includes families with young adult deaths from other causes (tuberculosis, malaria, etc.). This criterion, in combination with others that identify certain households as poor may help to distinguish the neediest families. Given that the death of a young adult is usually well known to the community, using this as a targeting criterion may help programme planners identify destitute families that may otherwise be missed. For the same reason, using young adult death as a criterion may help minimize opportunistic responses. It may also help to increase the political acceptability of safety net programmes among those who do not benefit: many people readily understand that poor households suffering young adult death - and especially the children in such households - are likely to face severe hardship.¹⁶¹

d) **Terms of reference of consultancies and consultants** in high as well as low HIV prevalence countries and areas may need to in-

¹⁶⁰ World Bank. *Confronting AIDS*, *op. cit.*, p. 234.

¹⁶¹ *ibid.*

clude HIV/AIDS.

e) Training materials on HIV/AIDS and agriculture/rural development for rural areas may need to be developed. The content of such material should be demand-driven, gender-responsive, culturally acceptable and geared to semi-literate and/or illiterate audiences. Participatory tools and methodologies should be used to promote open discussion and dialogue and to impart life skills differentiated by gender. The content of such training materials will vary according to the needs of the various rural institutions, projects or programmes. More generally, however, the objective of the materials should be to:

- Provide staff with an understanding of the linkages between HIV/AIDS and agriculture as well as the mechanisms at play and the causal role of factors.
- Advise staff on how to deal with at-risk farmers as well as with households affected by the HIV epidemic.
- Advise personnel how to introduce and lead discussions on HIV/AIDS for male and female farmer groups individually.
- Indicate what type of technical assistance they can provide to widows and to young and elderly farmers as well as to affected households.
- Inform staff of the main health risks when working with HIV positive farmers.

3. In order to assist in the formulation and operationalization of strategies to reduce vulnerability to HIV, country workshops for agricultural and rural development projects and programmes and/or for formal rural institutions can be organized with FAO/UNAIDS support.

The objective of these workshops would be to develop strategies for reducing vulnerability to HIV for specific types of agricultural and rural development projects (i.e. for the Special Programme on Food Security, for agricultural research projects, for livestock projects, and so on), inclusive of monitoring and evaluation methodologies that will allow for an assessment of the proposed strategy components.

The German Technical Cooperation (GTZ) has conducted one such workshop on *the Relevance of HIV/AIDS Concerns to GTZ-Supported Projects* in Kenya. The workshop used the Kenya Agricultural Research Institute as one of its case studies and identified AIDS education and peer counselling at the work place as a key priority. Steps to operationalise this strategy were identified in detail, including: consulting with and getting high-level support; holding a 5-day staff seminar on HIV/AIDS; training volunteers on AIDS education and counseling; continuing education and peer counseling; providing IEC materials; promoting condom use; and including HIV in a monthly newsletter covering institutional activities. Required support for the operationalization of this strategy included resource persons; IEC material and equipment; and a grant to facilitate the training and purchase of equipment. The workshop served both as an awareness raising exercise on HIV/AIDS for non-health projects but also as a catalyst to addressing vulnerability to HIV in the conceptual and operational framework of a wide range of projects. It is possible to build on this experience and adjust it to the felt needs of other types of agricultural and rural development projects and programmes.¹⁶²

There are several ways that such workshops can be designed. For example, an agricultural or rural development project could host the workshop and invite projects from the rest of the country (or even the region) to participate. The host project could then be used as a case study for an HIV/AIDS vulnerability reduction strategy, which would be the main outcome of the workshop. A suitable country to initiate this process of formulation of HIV/AIDS vulnerability reduction strategies through workshops would be Zimbabwe as it is among the most affected countries in Africa and is also the seat of the FAO subregional office. If this proves to be a useful exercise, similar workshops can be held in other countries in Southern and Eastern Africa for different project types. UNAIDS can play a key role in such a workshop by bringing together country expertise on rural HIV/AIDS and relaying experiences from other countries and regions. It can also assist formal rural institutions to gain a better understanding of the multisectoral dimensions of rural HIV and of the need for an expanded response, using concrete examples from the country where the workshop is held.

¹⁶² See Guenter Hemrich, *The Relevance of HIV/AIDS to GTZ-Supported Projects in Kenya*, Workshop Report, GTZ-Kenya, Nairobi, March 1998.

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ANNEX

**Cooperation Framework between
the Joint United Nations Programme on HIV/AIDS
(UNAIDS) and the Food and Agriculture Organization
of the United Nations (FAO)**

ANNEX

Cooperation Framework between the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the Food and Agriculture Organization of the United Nations (FAO)

Whereas it is FAO's constitutional mandate to improve food production and distribution as well as the conditions of rural population and to promote international action for the implementation of the Plan of Action adopted by the World Food Summit;

Whereas UNAIDS has been given the primary task of mobilizing a broad-based response to the global health and development challenges posed by HIV/AIDS, in view of the fact that the HIV epidemic has reached every country in the world, and more than 95 percent of all HIV-infected people live in the rural and urban areas of developing countries;

Whereas FAO and UNAIDS recognize that it is in their mutual interest to intensify cooperation between themselves and to establish appropriate working procedures to that effect;

Now, therefore, FAO and UNAIDS have agreed as follows:

1. The purpose of this Cooperation Framework is to strengthen cooperation between the Food and Agriculture Organization of the United Nations (FAO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS). This Cooperation Framework recognizes the expertise of each institution and seeks to establish operational and practical modalities of cooperation in order to alleviate the impact of the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) on food security and to reduce vulnerability to HIV/AIDS through sustainable rural development.
2. FAO and UNAIDS recognize the need to take advantage of their respective comparative advantages in order to develop cooperation un-

der the terms of this Cooperation Framework. In this regard, the two institutions are committed to mobilizing and carrying out a broad-based response to the problem of HIV/AIDS in relation to agricultural development and food security.

3. In the interest of promoting smooth and productive collaboration between UNAIDS and FAO, the following principles will govern their relationship in order to define specific mechanisms that will facilitate collaboration and cooperation. Since UNAIDS and FAO constitute centers of expertise for the United Nations (UN) system in their respective fields of endeavor, specialists of the two institutions will collaborate directly, both at Headquarters and in the field.
4. At the country level, UNAIDS works through UN Theme Groups on HIV/AIDS, Country Programme Advisers, and Inter-country Teams. In its effort to lead the expanded response to the HIV/AIDS epidemic, UNAIDS works in partnership with governments, non-governmental organizations (NGOs) and the business sector as well as its seven co-sponsors (UNICEF, UNDP, UNDCP, UNFPA, UNESCO, WHO, and the World Bank), and other regional and international bodies. In its efforts to increase agricultural production and improve food security, FAO works in partnership with governments, regional organizations, international organizations, NGOs and, where appropriate, with the private sector. All these partners constitute vital links for the facilitation, and development of an effective cooperation network.
5. UNAIDS and FAO will formally inform their respective teams of field staff of this Cooperation Framework and will provide appropriate additional guidance for cooperation at the field level. Both FAO and UNAIDS are fully committed to collaborating and working with the UN Country Teams, which offer opportunities to conduct in a systematic manner exchange of expertise and to develop joint initiatives and strategic planning where possible.
6. FAO and UNAIDS will undertake a series of joint activities such as:
 - The identification and promotion of best practices addressing the relationship between HIV/AIDS and sustainable rural development in the areas of HIV vulnerability, risk behaviour reduction and im-

pact alleviation. These will be disseminated through discussion fora, integrated prevention programmes targeted in particular at youth, or in the form of technical materials and case studies.

- The identification of technical resource networks at the regional and country levels and increase of the level of local technical expertise on HIV/AIDS-related issues.
 - The provision of appropriate technical assistance, as and when requested, in the area of impact alleviation and reduction of vulnerability to HIV/AIDS, and in other HIV/AIDS-related issues.
7. UNAIDS and FAO will continue the practice of regular attendance at the meetings of each other's governing bodies, interagency coordination meetings and working-level technical meetings in areas of mutual concern, including through the Network on Rural Development and Food Security of the Administrative Committee on Coordination (ACC).
 8. In order to permit a regular review of the implementation of this Cooperation Framework and to encourage a regular consultation process, a one-day meeting will be convened once a year, alternating between the Headquarters of FAO and the Secretariat of UNAIDS.
 9. This Cooperation Framework will take effect on the date of signature indicated below. It may be modified at the request of any of the parties by mutual agreement.