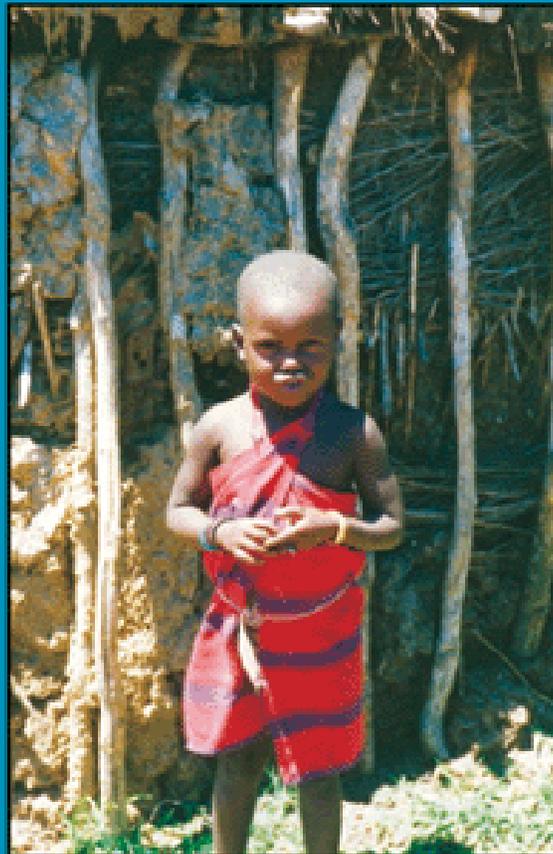




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Agriculture and HIV/AIDS



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Agriculture and HIV/AIDS

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FOREWORD

This paper, Agriculture and HIV/AIDS, was originally written in May 2001 at the request of EASE International in order to present a strategy for the agriculture sector in the area of HIV/AIDS. The paper brings together the work done by FAO, which focussed mostly on identifying the various impacts of the HIV epidemic on agriculture, food security and rural livelihoods with work done by the South East Asia HIV and Development Project of UNDP (UNDP-SEAHIV) in the area of setting up rapid development responses to the epidemic.

The paper argues that the agriculture sector should not attempt to carry out health work for which it is ill equipped, but concentrate on activities in which it has a comparative advantage i.e. agriculture. A simple model built along the lines of the Early Warning Rapid Response System (EWRRS) model, already published by the UNDP-SEAHIV,¹ identifies the key points of intervention for agriculture policies and programmes at two levels: the farming and the farm-household systems. The types of intervention at each level are briefly discussed. The paper also shows how such activities can dovetail with activities of the health sector. Some recommendations for the agriculture sector are made in order to assist it in initiating its interventions.



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¹ *Early Warning Rapid Response System: HIV vulnerability caused by mobility related to development*, UNDP South East Asia HIV and Development Project, July 2000, ISBN: 974-680-169-4, <http://www.hiv-development.org/publications/ewrs.asp>

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I. INTRODUCTION²

When one searches the literature, one finds titles where HIV/AIDS comes before agriculture. This can be explained by the fact that the objective was to demonstrate to a reluctant agriculture sector that HIV/AIDS was having an impact on agriculture production, food security and rural development.³ It is now time to go beyond this kind of demonstration and explore possible ways in which the agriculture sector can contribute to preventing and mitigating the HIV/AIDS epidemics.⁴ If the agriculture sector has been reluctant, it is due to the fact that the National AIDS Commissions, in their effort to bring together a multi-sectoral response to HIV/AIDS, do not always include the Ministry of Agriculture (MOA), as they do not understand what its role could be. On the other hand, the Ministries of Agriculture generally continue to consider HIV/AIDS as a health issue and do not perceive that the spread of the epidemics in rural populations is linked to their vulnerability resulting in part from a failure in development. It is only recently that some MOAs have considered their role in relation to HIV/AIDS and they still see their involvement as implying additional tasks without additional resources. Perhaps, more importantly, they do not want to become second-rate health agents to compensate for the insufficient outreach to rural populations of the health system, especially at a time when they are under stress due to the impact of HIV/AIDS.

Consequently, this paper will place the discussion within a development framework and attempt to discuss issues in which agriculture has a comparative advantage in contributing to HIV/AIDS prevention and mitigation. One has to understand that this is largely uncharted territory because the work has hardly started. Only a handful of people have worked in the area of HIV and Development and few projects have been funded or carried out. On the other hand, hundreds of millions of dollars have been poured into attempts at changing high risk behaviour, at providing information, education and communication (IEC) to youth, to commercial sex workers (CSWs), to drug users, etc. Thousands of people have worked and are working in health prevention, treatment and care. Despite these efforts over the years and a few “success” stories, the epidemics have continued to spread. It is therefore high time to step back and examine what can be contributed by different sectors in their respective areas of expertise.

² The author, Mr. Jacques du Guerny, is former Chief of the FAO Population Programme Service and FAO Focal Point on HIV/AIDS.

³ See Annex 1 for some selected references.

⁴ The plural is used for epidemics because there are many different HIV/AIDS epidemics, each with its own dynamics: some (e.g. epidemics in prisons or of men who have sex with men) are clearly outside of the field of agriculture. Others are fuelled by rural-urban links or related to issues such as land tenure and should be of concern to the agriculture sector.

One word of caution, activities in agriculture, even when rethought, redesigned and reprioritised, will not provide a miracle cure nor will they constitute a panacea. As has been

mentioned, HIV/AIDS requires a multi-sectoral approach, and there is only so much that can be expected from the agriculture sector. As over two thirds of the population is rural in most Sub-Saharan countries, agriculture clearly has a very special role. If agriculture and other sectors each contribute what they can in their field of competence, all these contributions, taken together, could have a significant impact on the future course of the epidemics.

II. SOME REMINDERS

The most recent fact sheet prepared by FAO for World AIDS Day in December 2000 is entitled: “AIDS – A threat to rural Africa”. Please note that the emphasis is on AIDS rather than on agriculture or rural populations.

Here is an extract:

AIDS is mostly a rural issue:

- More than two thirds of the population of the 25 most-affected African countries live in rural areas.
- Information and health services are less available in rural areas than in the cities. Rural people are therefore less likely to know how to protect themselves from HIV and, if they fall ill, less likely to get care.
- Costs of HIV/AIDS are largely borne by rural communities as HIV-infected urban dwellers of rural origin often return to their communities when they fall ill.
- HIV/AIDS disproportionately affects economic sectors such as agriculture, transportation and mining that have large numbers of mobile or migratory workers.

In most African countries, AIDS strategies and programmes, both international and national, have tended to be blind to the issue of population distribution and its implications. By focusing mostly on urban populations, the problem will not and cannot be resolved. The fact that in year 2000, FAO still needed to highlight what should be self-evident issues raises troubling questions. One explanation could be that when one is locked into a health framework, the socio-economic and demographic factors, which also fuel the epidemics, tend to become secondary. The example provided here of the international system also applies to many national institutions.

Already in November 1989, one of the consensus opinions emerging from leading epidemiologists and modellers was that rural populations would not be much affected. The little data available showed that prevalence rates in rural areas were low, i.e. they did not host

the usual high risk groups, CSWs or drug dependents, and the focus was on risk behaviour change and reduction. Issues such as rural-urban links, mobility and migration, which did not fit easily into health approaches, were simply not considered. For example, it was not until the 1997 meeting of the Inter Agency Advisory Group to UNAIDS (IAAG) that the issue of migration was placed on the agenda. Furthermore, institutions respond at their pace while HIV speeds along ahead of them. The problem is not limited to convincing the agricultural sector to become active, but ensuring that it does not get bogged down so that it moves swiftly and effectively.

The first attempts to consider HIV/AIDS and Development as a macro-economic question led to disappointing results.⁵ Impacts appeared only when one considered specific sectors such as agriculture. The studies were mostly limited to showing the wide variety of impacts and their intensity (cropping patterns, yields, nutrition, or on specific populations such as shepherds, fisher folk, etc.), but not touching on questions such as the effects of changes in prices of commodities (tea, cocoa, banana, etc.), land tenure and rights of women and children.⁶ One entirely new issue for agriculture is the implications of the projected dwindling size of the agricultural labour force in some developing countries. Until now, the concern for agriculture was to keep up with population growth. Although FAO studies were quite widely distributed, the author knows of no Ministry of Agriculture, National AIDS Programme or even UNAIDS Theme Group that has incorporated the result. Even if the relation between agriculture and HIV/AIDS is not the most popular topic in the field of HIV/AIDS, it could make a strategic contribution. Furthermore, it would be unrealistic to think that the present HIV/AIDS policies and programmes can cover the needs of rural populations. The agriculture sector has an important role to play and responsibility to assume in its field of competence. In order for this to happen, a careful analysis of some of the processes is necessary.

⁵ The World Bank has pointed out that evidence suggested that it was particularly difficult to assess the macro-economic impact of HIV/AIDS since many other factors affect economic performance. Moreover, economies tend to react more dramatically to economic restructuring than to long, slow corruptions as those wrought by AIDS. (Adapted from UNAIDS epidemic update: December 2000). Ironically, tradeoffs occur which led a Ministry of Agriculture to note that the impact of HIV/AIDS on its work was mitigated because it coincided with its efforts to downsize. From: Addressing the Impact of HIV/AIDS on Ministries of Agriculture and their Work. FAO/UNAIDS, forthcoming.

⁶ These are issues, which deserve in depth treatment, which is beyond the scope of this paper. Just to give an idea, trade barriers to the export of commodities from developing countries can depress incomes of farmers; fluctuations in the prices of commodities sold by farmers can create crisis situations in the farm-households: both increase vulnerabilities of the farm-household and its members. Land tenure and the rights of orphans and widows are touched upon towards the end of the paper.

III. A SIMPLE MODEL OF POINTS OF INTERVENTION IN HIV/AIDS

Figure 1. The Model: sequence of points of intervention

Development Framework			Health Framework			
1. Factors or events	2. Impact on	3. Impacts on vulnerabilities of systems	4. Impact on vulnerabilities of individuals	5. Impacts on risk behaviour	6. Responses	7. Level of response
Agricultural Policies and Programmes, Natural events (drought, flood) Socio-economic, Political, etc	Farming System	+++ ++	Increases Risk	Infection	Care	Individual
	Farm-Household System	0 --	Or Decreases Risk	(no infection)	Mitigation	Family Community

Adapted from: *Early Warning Rapid Response System: HIV vulnerability caused by mobility related to development*, UNDP South East Asia HIV and Development Project, ISBN: 974-680-169-4, page 2

This sequence corresponds to two different, but complementary frameworks: i) the health framework and ii) the development framework. The *health framework* is the one under which most HIV/AIDS strategies and programmes are built and is covered under **panels 4-7**. When officials or experts discuss HIV/AIDS, they nearly always discuss within this framework. This is why, we will begin by discussing these panels in order to make the distinction clear. The *development framework*, which in this case is focusing on agriculture, corresponds to **panels 1-3**. These panels have been placed before the health ones because they focus on the root causes of the vulnerabilities, the consequences of which the health framework picks up in **panel 4**. It should be noted that when multi-sectoral efforts are recommended, the contribution often attempts to fit within the health framework (panels 4-7). In the author's view, this would be a strategic mistake as the comparative advantage of agriculture, in the area of HIV/AIDS can be found in promoting agriculture and rural development in such a way that it also has a primary prevention impact (see panels 1-3). After briefly presenting the health framework (panels 4-7), the rest of the paper is devoted to discussing the development framework (panels 1-3).

The health based framework

First let's focus on the panels ranging from 4 to 7. These four panels correspond to the present scope of HIV/AIDS strategies and programmes and fall largely under the field of health. **Panel 4** is the target of prevention efforts. Information campaigns using modern media or traditional ones explain what HIV/AIDS is, the modes of transmission, the modes of prevention, the need to respect human rights, etc. Major efforts have centred on obtaining the support of various authorities, such as political, religious and workers' unions. As the epidemic in Africa is considered largely of heterosexual origin, efforts have concentrated on condom promotion, disseminating information on condoms, making the word acceptable and

a topic of discussion without shame or embarrassment. All these efforts aim at reducing high-risk behaviour through decreasing individual vulnerabilities. The well-known Thai campaign of '100% Condom Use' illustrates this. The individual sex worker (SW), even when fully aware of the need to insist on condom use, is vulnerable because of the superior negotiating power of the client who may not want to use one. The SW is also fearful of losing her job if the clients complain. By bringing together the brothel owners, the police and all concerned to insist on and facilitate 100% condom use, the sex worker is not as vulnerable to the previous pressures by the clients.

Panel 5 is the direct consequence of what happens in Panel 4. If the vulnerabilities have decreased, one can hope there will be no infection because the risky behaviour will have been eliminated or significantly reduced. However, if the vulnerabilities have not decreased then the individuals practice high-risk behaviour with the corresponding risk of infection. This is the typical case of the schoolgirl with a "sugar daddy." The girl is dependent economically, has no alternative source of income and therefore she is not able to propose, and even less able to insist on safer sex.

The important point to stress here is that panels 4 and 5 focus on the immediate causes of vulnerability and risk behaviour. The objectives of strategies and programmes are to modify these. For example, empower the SW so that she can insist on the client using a condom. Such strategies concern the sex worker, but not the reasons why she became a sex worker in the first place. Why do farm girls leave the land and become SWs? It has been observed that girls leave the land in droves due to drought, bad crops, drops in prices of the products of their parents' farms, etc. Does this have anything to do with less immediate forms of vulnerability which we could call perhaps "causal or root vulnerabilities"? Can agricultural policies, programmes and activities influence these types of vulnerabilities? Before discussing this further, let's finish presenting the "health" related panels.

One important issue needs to be identified. It is often argued that the role of other sectors is to contribute to vulnerability and risk reduction by joining forces with the health efforts. For agriculture, this means concretely that extension workers are to be trained in HIV/AIDS information, education and communication (IEC) or condom promotion, in order to assist in rural areas where the health system has no or insufficient outreach. The idea is not new and has been incorporated into family planning programmes for many years. IEC messages have been adapted for rural audiences and extension workers. For example, spacing children is like spacing rice plants so they grow better. The results did not meet with the expectations. The plus and minus factors of such a strategy need to be identified and weighed carefully. Of course, if the health system cannot reach out, the choice is between nothing and extension workers helping inform rural populations and referring them to the health services. What are some of the minus factors? Extension workers generally carry out such superimposed functions reluctantly and with little impact. More importantly, extension workers themselves are affected by HIV/AIDS. Their coverage of rural areas tends to shrink and they have to take over tasks of sick or deceased colleagues. All this precisely at a time when they have to learn to deal with changing situations (changes and declines in production, in farm-household income and food security) and new clienteles (elderly or orphans managing the farm-household). The tradeoffs need to be considered before rushing ahead with what appears as a generous idea. Millions of dollars have been considered for allocation of resources for the new roles of extension workers. However, is this the best way to spend

them? Perhaps, they would be better employed in helping agricultural extension workers adapt to the changes in agriculture, which are required by the HIV/AIDS impact, as well as assisting the farm-households in their new situations.

Panels 6 and 7 focus on the response to HIV infection and its evolution to AIDS and to the level of response of the infected or sick individual, but also of the support from and to the family and community. Besides the immediate prevention efforts of panel 4, enormous efforts are invested into these aspects. These efforts, carried out by public services, NGOs and the private sector, tend to be located in urban or easily accessible rural areas. Villages off main roads or a bit remote are generally left to their own resources. It is true that traditional solidarities function in such cases, but even they have breaking points. One word in Panel 5 has not been commented upon yet and that is “mitigation”. Mitigation of the impact of HIV/AIDS is clear when one talks of health related activities, such as the organization of psychological, social or religious support groups, looking after orphans, etc. All contribute to mitigating the impact. However, can other sectors contribute to mitigating the impact of HIV/AIDS? What could be the possible role of agriculture? To the knowledge of the author, this has never been really looked into and certainly deserves to be explored.

In summary, panels 4-7 represent the scope of current health based HIV/AIDS strategies and programmes. Development sectors can only play a minor role in this framework by helping the health sector take on some of its functions, but with a cost to the field of agriculture itself. When a development sector, such as agriculture, takes on such a role, it is considered to be playing a development role. This is not the case. On the contrary, it is the development sector, which abdicates its role to take on the health one.

The development based framework

We will now discuss the first three panels of Figure 1. It is within these three panels, which correspond to a development approach for HIV/AIDS vulnerability reduction, that the agriculture sector can identify its various possibilities for intervention.

Panel 1 presents some of the development factors (e.g. agricultural policies) or events (e.g. natural disasters, political events, conflicts or wars) that can have direct impacts on the situation and performance of the two key systems agriculture is concerned about in regard to HIV/AIDS: the farming system and the farm-household system of Panel 2. These factors or events can work independently on the two systems. For example, a drought might not have a serious impact on a particular farm system, but might seriously weaken the poorer farm-households, some of whose members will leave the farm and search for work in towns. Agricultural activities, designed to mitigate the immediate impact of the drought (e.g. providing water for the animals so that they survive or do not have to be sold under duress at a low price), can boost the resilience of the poorer farm-households. On a long-term basis, agriculture experts can explore ways to modify the farm system itself so that it becomes more resilient to drought.

As these examples show, depending on the impact on the systems in Panel 2, the vulnerability of these systems will increase, decrease or not be affected as shown in Panel 3. If the systems cannot absorb the stress, the vulnerability of these systems will increase. The individuals in Panel 4 will find themselves with few options and therefore susceptible to high-

risk behaviour. The first three panels contribute to determining the degree of vulnerability of the individuals as they enter the classic health based-model we have seen starting with Panel 4. The focus of the agriculture sector should be, through its development efforts, on increasing the resilience of the systems by working on background factors and causal vulnerabilities in order for individuals to have choices that enable them to avoid entering the Panel 4 scenario entirely. If that is not possible, to enter it under better conditions than they otherwise would have if there had not been the agricultural interventions.

To illustrate with a well-known story, one can recall the parable of the fish. To help the hungry you can give them a fish. You can even help them more by giving a fishing net so the people can fish and feed themselves. However, if you want to contribute to the group's longer-term food security, you teach them how to make and repair the fishing nets and the appropriate fishing techniques. This last approach is the development one and is easily placed in Panel 1.

IV. THE CRUCIAL ROLE OF THE FARM AND THE FARM-HOUSEHOLD SYSTEMS

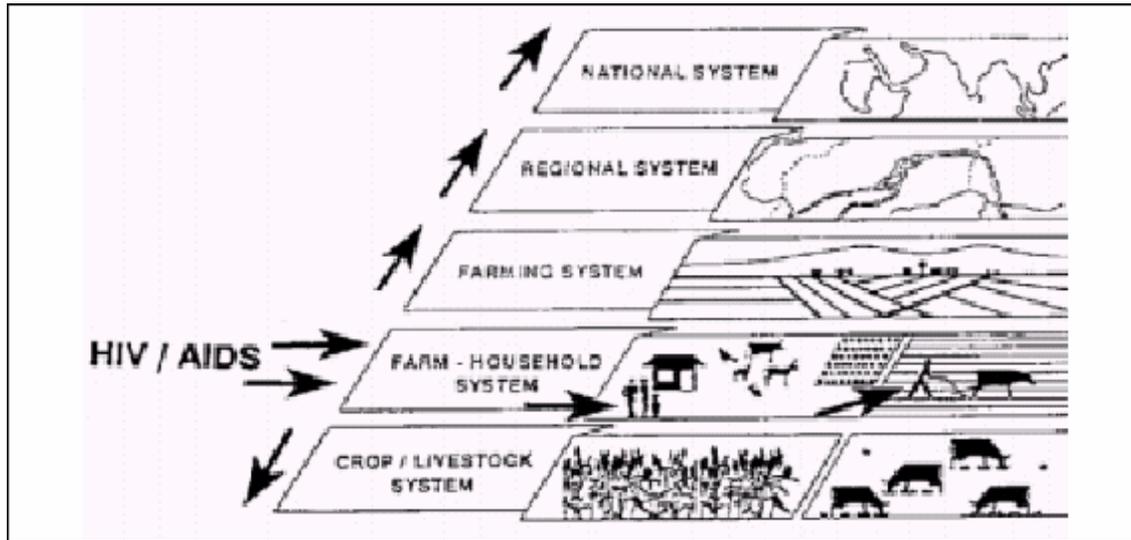
Looking at agriculture from a systems perspective has the advantage that one can identify the dynamics, the possible points for intervention and the impacts of such interventions throughout the system. The point is not to elaborate highly complex systems, but to dispose of operational tools. FAO, in its publication on AIDS in 1995,⁷ attempted to place it in a systems' approach and distinguished between several levels embedded in one another like the Russian Matrioshka dolls⁸ as shown in Figure 2.

As mentioned before, the national and regional levels are for generic measures such as developing rural infrastructure, rural credit or changes in land tenure. We would like to focus on the more operational levels where concrete action can be taken at the village level: i) the farm system and ii) the farm-household system.

⁷ T. Barnett, M. Haslwimmer, *The Effects of HIV/AIDS on Farming Systems in Eastern Africa*, FAO, Rome, 1995.

⁸ Russian wooden dolls which each fit inside another.

Figure 2. AIDS in the systems' hierarchy



The farm system level

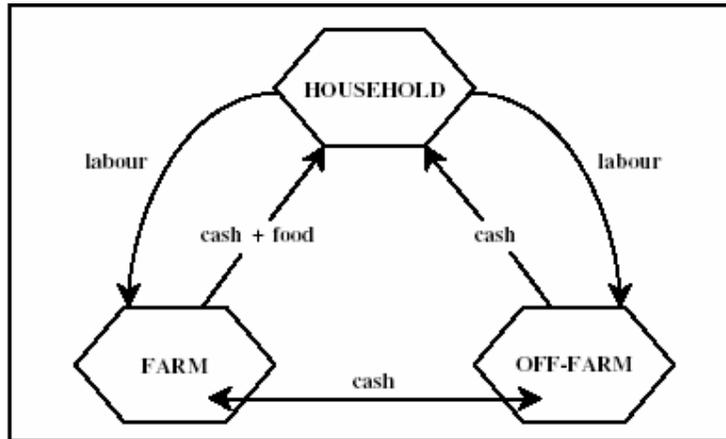
Farm systems can be identified through a number of variables, e.g. location, climate, types of crop/livestock or labour. Some systems are intrinsically more resilient than others. A system with ample rain, well distributed through the year, with fertile soil and a wide range of crops, is much less sensitive to the loss of labour than a system with insufficient rain, poor soils and few crops. There exist many kinds of farm systems, e.g. maize/legumes/pulses; pastorals/small holder paddy production/estate production; horticulture/cassava or finger millet/cassava (shifting cultivation). It is easy for local experts to characterize the local farm system. As shown by impact studies of HIV/AIDS, cash crops such as coffee, Irish potatoes or bananas are generally labour intensive and therefore cash crops are the first victims of HIV/AIDS labour shortages as the labour available is saved for subsistence crops.

By losing its main income generating sources, the farm system regresses. This could have serious consequences, such as loss of income required to pay for school fees or to supplement a diet based on cassava or sweet potatoes. HIV/AIDS thus forces the farm system to change in order to cope with the impacts. This farm system level could be a major level for operational and very concrete interventions to boost the resilience of threatened farm systems. Such interventions require detailed knowledge and the cooperation of local field experts and farmers. It is only with their help and involvement that one can identify precisely the factors to be intervened on and tailor appropriate interventions, which can effectively boost the local farm system. The lesson learnt is that strategies need to be tailored to each individual farm system in a country.

The farm-household system level

Figure 3 provides a simple presentation of the farm-household system. It is adapted from the FAO publication referred to previously.

Figure 3. A farm-household system



Source: The effects of HIV/AIDS on farming systems in Eastern Africa, FAO. 1995.

In a pure subsistence model one would find only the farm and household as components. This model is disappearing and is being replaced by a model with three components. The off-farm component is now integrated. This means that the farm-household is more and more dependent on off-farm sources of income; whether it is cash to buy inputs into the farm (seed, fertilizers, pesticides or equipment), improve the nutrition of the household or pay for school fees or medical costs. Off-farm sources of income entail sending labour to the city (for example for construction), to mines, to work on plantations or to join fishing crews. This kind of labour requires very few marketable skills and finds itself at the bottom of the totem pole. Both males and females are therefore very vulnerable to exploitation and to HIV infection. The structural link between the farm-household and the outside world, established through the movement of household members, creates the channel for the flow of both cash and HIV. Therefore, if this link fulfills the need for cash it can be the household's salvation, but if it brings in HIV, it can also be the household's destruction.

Most of the studies on the impact of HIV/AIDS have focused on the farm-household level. The list of impacts is impressive, ranging from abandoning the cultivation of remote fields or cash crops to the sale of assets to cover medical and funeral expenses. A typical mechanism through which the HIV impact occurs is that of the migrant worker who falls ill while away, uses its savings for medical treatment and then returns to the farm-household to be cared for and to die. By attacking the able-bodied and active adolescents and adults, HIV/AIDS undermines the farm-household through the direct loss of labour for the farm and of time available for both farm and household tasks. In order to cope with this, the farm-household has to reallocate both available labour and the time of the household members.

Another way HIV/AIDS can undermine the farm-household is through the unexpected costs of care for the sick person and loss of remittances, which can lead to the sale of assets, such as animals or land. Farm-households are not equal in the face of HIV/AIDS. The poorer ones, especially those with small land holdings are far less able to cope with the effects of HIV/AIDS, than wealthier households who are better able to absorb the extra

expenses, for example through the hiring of casual labour. This could lead to significant changes in the socio-economic structures of villages through the redistribution of assets.

Finally, HIV/AIDS insidiously destroys the base of development through compelling the parents in the household to pull their children out of school, thus mortgaging their future and making them more vulnerable to HIV. This destruction is also done through breaking the transmission of knowledge between the members of the household. This last point is important. The farm-household represents a complex series of tasks requiring specific knowledge, such as ploughing, selecting the right seeds, tasks which are distributed according to the division of labour. The sickness and death of a household member can lead to the disappearance of this member's knowledge before it could be passed on to another member. This results in less effective agricultural practices by the remaining members of the household.

An example of a project operating at both the farm system and farm-household levels

An on-going project called the Farmer Life Schools, with technical and financial support by UNDP-SEAHIV and executed by FAO in Cambodia, aims at mobilizing and empowering rural communities to reduce HIV vulnerability.

In a rice farming system, farmers are taught how to maintain a proper ecological balance in their fields, so that they do not need pesticides or fertilisers while improving their yields and income⁹. This learning process of a strategy of rice production lasts one growing season, i.e. 16 weeks and takes place in the Farmers' Field School, i.e. the rice field itself. The farmers whose strong point is their intimate knowledge of their fields learn to see their field as an ecosystem in which one has to conserve and encourage the natural biological diversity. They conduct an Agro-Ecosystem Analysis (AESA) of the field and then conduct field experiments. They work together to solve problems on the basis of their observations. The farmers' expertise and experience form the basis for further human resource development.

The original contribution of the project was to go a step further than the traditional Integrated Pest Management (IPM) approach. A similar methodology was introduced, but applied to the farmer's household and living conditions. In this case, the farmers go through a Farmer Life School (FLS) where their previous understanding of the life cycle of their crop is transposed to their own community. This leads them to observe and analyse the inter-related elements of their lives through a Human Ecosystem Analysis (HESA) directly inspired from the AESA. This enables them to identify threats to their lives and search for root causes of their vulnerabilities.

⁹ For a presentation of the FAO Integrated Pest Management Programme (IPM), one can consult: www.communityipm.org

For example, they will identify that incautious borrowing can lead to a debt burden at such a level that the farmer is faced with the choice of selling land (which is a last resort) or sending a daughter to work in a karaoke or beer bar with a high risk of HIV infection. Through this kind of analysis, the farmers are able to work out causal chains, options in decision-making and their long-term consequences when implemented¹⁰.

The objective of the farmers, after doing the HESA analysis, is to think through the long-term implications of their options, to select the best one and also find out ways to reduce their vulnerabilities, including to HIV/AIDS. One will note that this approach leads to the empowerment of the farmers. They analyse their situation, make their own decisions, implement them and face the consequences (good or bad). Some might be sceptical at the capacity of farmers at mastering the analytical tools and understanding complex systems. The author has observed a number of these HESA in which the farmers discussed case studies in their villages. It is fascinating to witness how villagers are able to analyse dynamics of household situations and identify strengths and weaknesses upon which they can develop a resilience building strategy.

A farming system, which is vulnerable from the agricultural perspective, is also fertile ground for the spread of HIV. Farmers assume household and individual survival strategies that entail various risks, which can make them more vulnerable to exploitation, migration and working in dangerous jobs or sex work. In figure 4, an X is placed in the right hand column to highlight this situation.

Similarly, the farm-household system is vulnerable from the agriculture perspective. For example, if the farm-household focuses solely on one crop that fails, which could be due to drought or to market price declines, that farm will find itself in a catastrophic situation with no other source of income to fall back on. This could create a situation whereby the family isn't able to pay the children's school fees. Subsequently, the children could be pulled out of school to be sent to the city, or elsewhere, to work. Oftentimes, the circumstances under which there is child labour are less than favourable and place the children in vulnerable positions. In figure 4, an X is placed along the bottom line to highlight this situation.

The worse case scenario is when both the farm system and the individual farm-household are both vulnerable. For this case, an X is placed in the lower right corner of Figure 4.

In practice, agricultural policies often give priority to output and intensification with lesser concern for vulnerabilities or social costs. There is a need to consider a more balanced approach between production and human welfare. (This is further illustrated in the next section discussing AIDS orphans and widows.) From an HIV/AIDS perspective, the objective is to encourage the agriculture sector to adopt and implement agriculture and rural development policies that will reduce vulnerabilities of the two systems discussed, for example, through higher value crops or rural credit. The reduction of the vulnerabilities would result in moving the X to the upper left box of the Low x Low combination.

¹⁰ *A Development Strategy to Empower Rural Farmer and Prevent HIV*, UNDP South East Asia HIV and Development Project, January 2002, ISBN: 974-680-200-3

Figure 4. Framework for assessing vulnerability to HIV/AIDS and illustrating the objective of interventions in agriculture

	Farming system vulnerability		
Farm Household System Vulnerability	Low	Medium	High
Low	←		
Medium			
High			

V. FLAGGING THE DIFFICULT AND SENSITIVE CASES OF AIDS ORPHANS AND WIDOWS

Can or should agriculture play a role in such sensitive issues, which have generally been dealt with from a human rights perspective? When one observes the limited success of the human rights approach, one wonders if the problems have been properly identified and analysed. The remarks presented here are very tentative and have as objective to point out that the problem, which perhaps needs to be tackled, is not the question of human rights or of women's rights, but the problems created by customary land tenure. Land tenure is an extremely complex and sensitive issue and one cannot generalize from specific cases, but still it seems to be an area, which could be usefully looked into. For example, in parts of West Africa, the ownership of land lies with the dead ancestors who put it at the disposal of a man to meet his needs and those of his family. When the man dies the land reverts to the ancestors which can result in the widow(s) and orphans being suddenly dispossessed. What is often overlooked is the fact that if the husband did not own the land it cannot be inherited. In such a case, can ways be found for the customary land tenure to accommodate the interests of the widows and orphans? As much vulnerability is associated with the loss of land or of rights to land, the agriculture sector needs to address these issues.

Another crucial issue is that HIV/AIDS challenges the present formal education given in schools for rural children who need to learn agricultural survival skills in case their parents die, i.e. producing their own food. All children should be provided with such skills, as it cannot be predicted which ones will become AIDS orphans. As to the children who are already AIDS orphans, in many cases they will have dropped out of school. In order to remain on the land they need support and protection from outreach workers and local institutions.

In order for this kind of change to be introduced in schools, agriculture and education authorities need to get together to work out joint strategies.

VI. CONCLUSIONS AND RECOMMENDATIONS

In view of the development dimensions of the HIV/AIDS epidemics, the agriculture sector, as the basis for the livelihood of over two thirds of the total population, can be expected to play an important role in determining the future course of the HIV/AIDS epidemics. In such a context, agricultural policies and programmes have a crucial responsibility in reducing the conditions, which create vulnerabilities in rural populations leading to higher risks of HIV infection. Agriculture can be developed in such a way to increase the resilience of rural populations and contribute significantly to HIV prevention. It should be recognized that in rural based countries, it is unlikely the HIV/AIDS epidemics can be controlled without the effective support of agriculture.

The area of Agriculture and HIV/AIDS is an area still at its initial stage of development. An organized effort could pioneer new and effective strategies. However, it should also be recognized that while the involvement of agriculture is essential, the issues are complex and require tailored interventions, suited to agro-ecological zones, rural institutions and the HIV epidemic.

The agriculture sector can play a role in both high and low prevalence countries and strategies need to be adapted accordingly. In the light of these considerations it is recommended to the agriculture sector and inter-sectoral assistance to recognize the fundamental importance of HIV/AIDS to agriculture, food security, the survival of rural populations and the future national levels and impacts of the HIV/AIDS epidemics. It should also be acknowledged that besides the current health based strategies in combating HIV/AIDS, development based ones and, in particular, agriculture ones can play an innovative and essential role in controlling the epidemics.

Recommendations for actions

Actions should be taken at two levels: Ministry of Agriculture (MOA) including rural institutions and at the field level.

1. Action at MOA and rural institutions level

- In regard of the present and projected impacts of HIV/AIDS on agriculture and rural populations, MOA and other rural institutions need to fully take the measures of these impacts. Advocacy is necessary for the MOA and rural institutions to ensure their commitment for action.
- The present agriculture policies and programmes should examine if they need to be revised in order to take into account the impacts.
- Revised strategies and priorities should be prepared to maintain and increase agriculture production and the food security of rural populations. The focus can be on agricultural issues, such as changes in cropping patterns, increasing the knowledge base, improving rural infrastructure and services (e.g. through partnerships with other sectors, including health) as well as on youth and their organizations, also in cooperation with other sectors such as education.

- Yearly assessments should be undertaken of the present and projected impacts on MOA and rural institutions' capacities to deliver programmes and services, their human, financial and other resources.
- Strategies to mitigate impacts on their capacities and resources should be prepared and implemented to build their future capacities. A first activity should focus on examining the changes in age and sex structure of the staff with a view to take necessary action at the level of recruitment and agriculture colleges and universities. Partnerships between public and private institutions for prevention activities for all categories of staff, including extension workers should be promoted.

2. Action at field level

- Priority farm systems should be selected for interventions tailored to their characteristics and vulnerabilities with the objective to increase their general level of resilience through development of higher and more stable incomes of farm-households. The systems should be based on the distribution of population, the HIV prevalence levels and the agricultural priorities.
- All activities should take into consideration present gender and age divisions of labour and consider opportunities to promote changes in line with human rights.
- Survival strategies for rural children, orphans and widows should be prepared in partnership with relevant sectors (e.g. education) in which they are taught appropriate agricultural and farm management skills. They will also need to be informed on their rights and ways in which to ensure their protection. Field staff will need to be sensitised and trained accordingly. Where possible, traditional institutions such as the council of elders will need to be mobilized to support these activities.

ANNEX I. SELECTED REFERENCES

The selection presented focuses mostly on publications available in electronic form on Internet and in the English language. The first section provides some titles or names of authors who have discussed HIV/AIDS and Development; the second section provides some titles or names of authors who have worked on HIV/AIDS and Agriculture; and the third section provides a selection of FAO papers on the subject.

As mentioned, rather than providing lists of papers, the names of authors can be looked up on the Internet to access directly a number of their papers.

A. HIV/AIDS and Development

A variety of views have been elaborated on and discussed. They can be found in:

1. Alan Whiteside and Tony Barnett: www.und.ac.za/und/heard

2. Desmond Cohen in UNDP, for example, *Poverty and HIV/AIDS in Sub-Saharan Africa*, Issues Paper 27; <http://www.undp.org/hiv/publications/index.htm>
3. The UNDP SEA HIV and Development Project has a number of thought provoking papers on linkages between mobility/migration and HIV/AIDS and Development: <http://www.hiv-development.org/publications>
4. The World Bank has a number of papers. One important publication (can be downloaded chapter by chapter from the International AIDS and Economics Network web site: <http://www.iaen.org>): *Confronting AIDS: Public priorities in a global epidemic*. By Martha Ainsworth and Mead Over. A World Bank Policy Research Report, 1997.
5. UNAIDS has a number of publications and CD-ROMs with information on HIV and development: <http://www.unaids.org/publications/documents/index.html>. Especially the “review of household and community responses to the HIV/AIDS epidemic in the rural areas of sub-Saharan Africa” might be of interest.

B. HIV/AIDS and Agriculture

Gladys Mutangadura, Helen Jackson & Duduzile Mukurazita (Eds), *AIDS and African Smallholder Agriculture*.

This publication is based on a regional conference. In 1998, SAFAIDS organised in Harare a conference on AIDS and agriculture for Eastern and Southern Africa. Smallholder agriculture is a vital sector for rural households and national economies in the region. This publication discusses the threat posed to rural development by the rapid spread of HIV/AIDS and how this makes it crucial for government, NGOs, local communities and other development partners to respond in a timely and effective manner. A similar conference was organised in 1999 for West Africa.

C. FAO papers on the subject

The list below has been extracted from *HIV/AIDS and Agriculture: An FAO Perspective*. The list can be found on www.fao.org and has been updated.

Selected FAO documents on HIV/AIDS, published since 1994

What has AIDS to do with agriculture? FAO, Rome, 1994.

The effects of HIV/AIDS on farming systems in Eastern Africa, FAO, Rome, 1995.

Report of a workshop on the relevance of HIV/AIDS to the work of FAO, by Günter Hemrich, Rome, July 1995.

AIDS: The future of the pandemic, statement by Jonathan M. Mann, on the occasion of World AIDS Day, FAO, Rome, December 1995.

The impact of HIV/AIDS on rural households/communities and the need for multisectoral prevention and mitigation strategies to combat the epidemic in rural areas (with special emphasis on Africa), by Erich Baier, January 1997 (in English and French).*

Impact du VIH/SIDA sur les systèmes d'exploitations agricoles en Afrique de l'Ouest, FAO, Rome, November 1997.*

Les populations rurales d'Afrique face au SIDA: un défi au développement (Synthèse des travaux de la FAO sur le SIDA), FAO, Rome, December 1997.

The rural people of Africa confronted with AIDS: A challenge to development (Summary of FAO studies on AIDS) FAO, Rome, December 1997.

The implications of HIV/AIDS for rural development policy and programming: Focus on sub-Saharan Africa, by D. Topouzis, Consultant, FAO, Rome, June 1998 (with same title also published as Study Paper No. 6 by the HIV and Development Programme, UNDP, New York, 1998).*

Rural children living in farm systems affected by HIV/AIDS: Some issues for the rights of the child on the basis of FAO HIV/AIDS studies in Africa, by Jacques du Guerny. Paper presented at the UNHCHR Committee on the Rights of the Child: day of discussion on "Children living in a world with AIDS", Geneva, 5 October 1998* (also under publication by Harvard).

HIV/AIDS and the commercial agricultural sector of Kenya - Impact, vulnerability, susceptibility and coping strategies, by Gabriel Rugalema with Silke Weigang and James Mbwika, FAO/UNDP, 1999.*

AIDS and agriculture: Can agricultural policy make a difference?, by Jacques du Guerny, in Food, Nutrition and Agriculture, No. 25, 1999, FAO, Rome.

HIV/AIDS and nutrition: Helping families and communities to cope, by Florence Egal and Arine Valstar, in Food, Nutrition and Agriculture, No. 25, 1999, FAO, Rome.

HIV/AIDS in Namibia: The impact on the livestock sector, by Ida-Eline Engh, Libor Stloukal and Jacques du Guerny, FAO, Rome, February 2000.*

Sustainable agricultural/rural development and vulnerability to HIV/AIDS, by Daphne Topouzis and Jacques du Guerny, FAO/UNAIDS joint publication, December 1999.

AIDS – A threat to rural Africa, FAO Fact Sheet, December 2000.

Addressing the impact of HIV/AIDS on ministries of agriculture and their work: Key Issues and Responses, by Daphne Topouzis and Jacques du Guerny, FAO/UNAIDS Joint Publication, forthcoming.

* Available on the Internet at the following address: <http://www.undp.org/popin/fao/faohome.htm> A limited number of print publications are also available.

NB: Some remarks

The effects of HIV/AIDS on farming systems in Eastern Africa, 1995, is a synthesis of the previous work done by FAO to show the various kinds of impacts on agriculture. It also introduces a systems approach and a first attempt at discussing vulnerabilities. FAO showed that HIV/AIDS had impacts: i) not just on smallholder farmers, but also on herders, commercial agriculture and children, and ii) similar effects in both East and West Africa. After documenting these impacts (including on nutrition), FAO began to shift its emphasis towards institutional responses and possibilities of intervention by the agricultural sector.