FACING THE CHALLENGE OF AN HIV/AIDS EPIDEMIC: agricultural extension services in sub-Saharan Africa

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The mandate of extension services, whether public or private, has always been rural human resources development with an aim to increase food production through the introduction of improved agricultural technology. The very survival of these human resources, both within the extension organization and among the clientele, however, is currently at stake due to the HIV/AIDS menace. Urgent and major efforts are needed by the extension services to prepare themselves for battle against the epidemic, to educate the farming population about the disease, and to develop new strategies, methodologies, materials, technology and equipment to serve the extension needs of thousands of new entrants in farming. The most meaningful role the extension services can play is in strengthening the prevention of further spread of HIV infections by educating men and women farmers on the subject, and by demonstrating the relationship between the epidemic and food security. This is the time when both public and private extension institutions ought to broaden their scope of work beyond transfer of agricultural technology and consider integrating environment, population, and HIV/AIDS education into ongoing agricultural extension programmes, with a view to the sustainable livelihoods of rural people.

This paper is a slightly modified and updated version of an article, authored by M. Kalim Qamar, FAO Senior Officer for Agricultural Training and Extension, which was published in a journal in 2001*. The re-publication of the article, along with pictures, was considered appropriate in view of the importance of the subject as well as in the interest of wider circulation among the member countries.

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<td>Acquired-Immunodeficiency Syndrome</td>
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The HIV (Human Immunodeficiency Virus) and AIDS (Acquired-Immunodeficiency Syndrome) that were “discovered” only a few years ago, have become a global threat against human life in such a short time. The World Health Organization (WHO) ranked HIV/AIDS in 1998 as the seventh highest cause of death worldwide. This ranking has now moved up to fourth place. According to the end of 2001 estimate figures released by the United Nations Joint Programme on HIV/AIDS (UNAIDS) (UNAIDS, 2002), various regions of the world have the following number of persons living with HIV or AIDS: South and Southeast Asia: 5.6 million; East Asia and Pacific: one million; Latin America: 1.5 million; Eastern Europe and Central Asia: one million; North America: 950 000; The Caribbean: 420 000; Western Europe: 550 000; Australia and New Zealand: 15 000; North Africa and Middle East: 500 000. The situation is the worst in sub-Saharan Africa where the figure is as high as 28.5 million and where 2.6 million people died of AIDS in 1999. The global figure for adults and children living with HIV/AIDS is 40 million, and probably growing. In 2001 alone, the AIDS deaths numbered 3 million, comprising 2.4 million adults, 1.1 million women and 580 000 children under 15 years. The number of children orphaned by AIDS, and living at the end of 2001 was 14 million. The estimates for world population growth rate are being revised downwards due to millions of past and projected deaths because of HIV/AIDS. The epidemic is threatening the very existence of human society in all parts of the world.

There have been numerous national, regional and global gatherings to discuss the problem of HIV/AIDS. The epidemic has been an item on the agendas of the summits of G8 and G77 nations, the Organization of American States, the Organization of African Unity, the Commonwealth of Nations, the European Union, the Association of South-East Asian Nations, the Caribbean Community Secretariat, the World Economic Forum and the World Social Forum. During 2000, a major international conference was held at Durban, South Africa in July, and the next event was the UN-sponsored second annual meeting of the African Development Forum held in Addis Ababa in December that discussed AIDS as the greatest leadership challenge. The UN World AIDS Day was also observed on the 1 December. In 2001, the most significant event has been the United Nations General Assembly Special Session on HIV/AIDS, held in New York 25-27 July, which in a true sense internationalized the issue, and underlined the urgent need for taking practical steps to resolve it. The UN Secretary General Kofi Annan, whilst opening the “Group of Eight” Summit in Genoa, Italy in July, called HIV/AIDS “a common enemy that knows no frontiers and threatens all people”. The need to strengthen the fight against the HIV/AIDS pandemic which threatens the lives and livelihood of millions of rural dwellers and jeopardizes rural devel-
The HIV/AIDS epidemic

dvelopment in several regions in Africa was underlined at the 22nd Regional Conference for Africa held in Cairo in February 2002. The impact of HIV/AIDS on development was widely discussed at the World Summit on Sustainable Development (Johannesburg, August 2002). The Executive Director of UNAIDS said that the disease is undermining food security as food reserves, livestock and land are sold to pay health costs. According to him, “the loss of agricultural skills means the food impact of AIDS will resound for generations. As urbanization continues, rural areas threaten to become unsustainable repositories of the very young, the very old and the sick.” In his address to the Summit, the Director-General of the Food and Agriculture Organization of the United Nations (FAO) said that apart from taking away people at the most productive time of their lives, the HIV/AIDS epidemic has indirect effects, such as the cost to farmers of trying to take care of those who are ill, the cost of funerals, and the cost of losing the transmission of know-how from one generation to the next.

Realizing the significance of the epidemic, several international development agencies have already initiated action. One of the Millennium Development Goals is to combat HIV/AIDS, malaria and other diseases. As agreed at the UN General Assembly, AIDS-related spending needs to rise to US$ seven to ten billion to meet the main prevention and care needs of low- and middle-income countries. The World Bank has announced a special campaign and has created a task force, ACTAfrica, to combat AIDS in the Africa region. The Asian Development Bank has unveiled a US$ 8.2 million plan to tackle the spread of HIV/AIDS in the Mekong Region of Thailand. The European Union is providing more than US$ 1.3 million to improve AIDS care facilities in Phnom Penh, Cambodia. The FAO has conducted several studies in Africa showing the relationship between HIV/AIDS and food production. In addition, the FAO has signed a Memorandum of Understanding with the UNAIDS. FAO has allocated US$ 17.7 million in emergency response, and has benefited 250 000 persons through supply of seeds, tools, fertilizer, and treadle pumps, restocking, animal disease control, vegetable gardening, and drought and labour-saving practices. There is no doubt that HIV/AIDS has quickly emerged as a very serious problem and the nations are desperately looking for practical solutions.
THE CRITICAL SITUATION IN AFRICA

Although the shocks of HIV/AIDS are being felt all over the world, the situation in Africa is the most alarming. In terms of national level comparison, the 21 countries with the highest HIV prevalence are all in Africa. According to a UNAIDS report, sub-Saharan Africa is the region with the fastest growing HIV/AIDS epidemic: 70 percent of the global infections. Four-fifths of all AIDS deaths in the world in 1998 occurred in this region alone. At least 95 percent of all AIDS orphans have been African, yet only a tenth of the world’s population lives in Africa south of the Sahara. In 1998, AIDS was responsible for two million African deaths – 5,500 funerals a day. The bulk of new infections continue to be concentrated in East and especially in Southern Africa. According to UNAIDS report on the global HIV/AIDS epidemic 2002, the global estimated number of people living with HIV/AIDS at end 2001 was 40 million, which included 28.5 million just for the sub-Saharan Africa. The deaths caused by HIV/AIDS in the entire world were three million out of which 2.2 million occurred in the sub-Saharan Africa alone. Similarly, the number of children who became orphans because of HIV/AIDS worldwide was 14 million out of which 11 million are in the sub-Saharan African countries.

In the countries hardest hit by the epidemic, morbidity and mortality have risen and are expected to continue to rise in the foreseeable future, changing the demographic structure of households and taking a heavy toll on resources and assets. The HIV epidemic is destroying the traditional social security mechanisms that have been providing support for centuries to the elderly and to orphaned children.
HIV/AIDS TURNING INTO A DEVELOPMENT ISSUE

Until recently, HIV/AIDS was considered mainly as a health issue, and all the programmes for combating the epidemic were based on health and medical sciences. Because of this very reason, these were mainly medical organizations, which were front-line fighters against the epidemic. However, views are changing fast. The adverse effects of HIV/AIDS on development institutions and their programmes in Africa have forced the health and non-health development agencies alike to approach the problem from an entirely different angle. The HIV epidemic is now being considered as an important cross sectoral developmental issue bearing far reaching implications for policies and programming, both for the governments and international development agencies.

The loss of breadwinners due to the epidemic is leading to increased poverty and food insecurity among affected families in sub-Saharan Africa. Also professionals and other categories of skilled labour have not been spared by the epidemic. The main consequence of this calamity in many affected countries is the reversal of the social and economic progress made during the last few decades, coupled with the serious negative impact both on households and relevant organizations and institutions. This is especially true for smallholder agriculture that is considered as a vital sector for rural livelihoods and national economies in the sub-region. An enormous cost burden has been imposed on households and organizations due to diversion of resources to health care, loss of both skilled and unskilled labour, funeral costs, costs of recruiting and replacing staff, and reduction in productivity due to losses of human resources.

HIV/AIDS has brought rural poverty and depression.
Both subsistence and commercial agriculture have been affected by AIDS significantly in the way of decline in crop yields, increase in pests and diseases, and decline in the variety of crops grown in case of subsistence farming (FAO, 1994). Major financial and social crises have been created in the agro-industry due to protracted morbidity and mortality and loss of skilled and experienced labour (FAO/UNDP, 1999). The epidemic bears serious implications for policy intervention, service delivery, and programme implementation by the organizations that are responsible for providing various services to the rural population. The situation necessitates the urgency for organizations and institutions to respond to the challenges posed by the epidemic, through modifying their approaches and methodologies in order to make them more relevant to the needs of rural dwellers.

The FAO has played a significant role in highlighting the HIV/AIDS as a development issue. The 27th session of the Committee on World Food Security (June 2001) requested FAO to support Member Countries in their efforts to prevent the worsening of HIV/AIDS epidemic and to mitigate its negative effects on food security and nutrition. The same month, at the Special Session of the United Nations Assembly on HIV/AIDS, the Director-General of FAO said, “HIV/AIDS poses a serious threat to the food security of the millions who are infected and their families….Furthermore, HIV/AIDS is affecting food security at the national level, by reducing countries’ ability to import food when needed”. The FAO has conducted a number of studies on the subject, including one funded by the UNDP and UNAIDS, on the impact of HIV/AIDS on agricultural extension organizations in Malawi and Zambia and possible appropriate institutional response.
THE CHALLENGE TO AGRICULTURAL EXTENSION SERVICES

There is already ample evidence that the epidemic has changed the very fabric of the farming population, bearing implications for agricultural extension services. Apart from the routine difficulties faced in daily work in rural areas by agricultural extension staff in developing countries, the challenges that most agricultural extension services face are mostly of a technical and logistic nature. Some examples are insect pest invasions, outbreaks of serious diseases, locust attacks, severe climatic effects, natural disasters, or intensive campaigns for an increase in agricultural production. The challenge currently posed by the HIV/AIDS epidemic to agricultural extension organizations in sub-Saharan Africa, however, is quite unusual as it affects both staff and clientele and involves human emotions to a depressing degree, that is, in addition to technical aspects. This challenge has at least three major dimensions. First, the very nature of the extension work; second, the impact of the epidemic on the extension organization itself and its staff; and third, the impact of HIV/AIDS on the clientele of extension services. A brief analysis of these three dimensions is in order.

NATURE OF THE EXTENSION WORK

Since most of the population of the countries, hardest hit by AIDS, lives in rural areas, a large number of people affected by HIV/AIDS in sub-Saharan Africa are, directly or indirectly, engaged in farming. The workers, who have the most frequent contact with the small-scale farmers, are the field extension agents. The extension services, by their very mandate and character, are supposed to deal with traditional, mostly illiterate rural households, in order to provide them with technical advice not only on agricultural technologies but also on relevant subjects like farm input supply, credit, marketing and farm management. Most of the extension staff themselves have their genetic roots in rural families. They travel frequently in rural areas, many times spending nights away from home, and being offered “hospitality” in villages due to their status. Also, they are in touch with so many widows forced into farming because of their husbands’ death, who need extension advice. Thus, the extension workers have ample opportunities of getting involved with multiple sex partners. All these factors expose the extension staff to the maximum risk of HIV infection, especially with their very limited knowledge of the epidemic.
IMPACT ON EXTENSION AND PARTNER INSTITUTIONS

Effects on extension workers as individuals
Extension staff apart from being more exposed to the risk of contracting the HIV infection due to their frequent visits to HIV/AIDS infected rural areas, are themselves suffering from the pandemic in many ways. Many of them are sick, some chronically. A number of their colleagues have already become victim to the disease, and more bad news is feared almost every day. The talk of colleagues’ demise is common in office meetings more than ever before. Then, they have the unbearable burden, in terms of time, money and energy, of taking care of their close sick relatives and visiting sick neighbours. Some of them have lost their spouses, thus leaving them not only grieved but also with the responsibility of taking care of minor children. The situation has forced some workers to pull their children out of school. Unlike in the past, the attendance of funerals is now a frequent thing, and it involves heavy costs due to ceremonies such as slaughtering of precious animals and serving meals to large number of persons. Low morale, depression, economic worries, and less productivity are now common in extension organizations due to HIV/AIDS. Extension workers who by training are required to motivate farmers to try and adopt new agricultural technology are themselves depressed and frustrated, and this affects their output.

Reductions and disruptions in staff
Discussions with government extension service officials reveal that their capacity for delivering satisfactory services is being affected by HIV/AIDS. This is due to disruptions in their programmes caused by deaths, protracted sickness and frequent absences of staff. For example, in Uganda, between 20 and 50 percent of all working time of extension staff is lost due to the attendance of funerals of AIDS victims and for the caring of sick relatives. A considerable number of skilled and experienced persons have died of AIDS. In the Central Province of Zambia, during the period 1991 to 1998, as many as 66 staff died due to HIV/AIDS-related causes, representing almost 20 percent of the loss of staff due to different illnesses. The same is true for many other provinces. In Malawi, where there has been a freeze on staff recruitment since 1995, a considerable number of vacancies have resulted from the death of front-line staff, worsening the already unsatisfactory extension agent to farmer ratio. For example, in one district, a Field Assistant is required to cover an area of about 400 square kilometers where 4 000 farm families live. The organizations, including public and non-public, are faced with time-demanding tasks of identifying, recruiting and training of new staff. The result of delays in replacing the deceased and very sick staff is that the reduced number of staff are not only psychologically depressed due to the loss of colleagues but they also have to handle a far heavier workload both within the office and outside in the field. This situation is bound to adversely affect the performance of agricultural extension organizations.
Increased organizational costs
Both public and private extension organizations and some relevant institutions have reported increased costs due to HIV/AIDS. The additional expenditure is related to payments for treatment of sick staff and their relatives, funerals of dead staff, compensation, salary advances, early retirements, recruitment and training of new staff, and for buying insurance coverage. According to the estimates provided by different private organizations engaged in extension work in Malawi, the cost of a funeral per death, depending on the status of the deceased staff members, could range between MK 1,000 and MK 50,000 (One US$=approximately 70 MK). The increased costs are bound to affect the performance of public extension departments as most of them already suffer from very low operational budgets. The frequency of visits to the field will dwindle further and the few in-service training opportunities the staff have will also disappear.

Established technical practices going obsolete
The years old administrative, strategic, policy and operational practices of almost all relevant organizations, including public, private and NGOs, seem to be outdated due to drastic changes in the social structure including, income levels, patterns of life, and types of clientele, all caused by HIV/AIDS. Extension services, whether government, semi government, private, or NGOs, are linked to many other institutions and organizations such as those responsible for providing credit, technology packages, marketing facilities, land tenure, and plant protection.
These organizations will also be affected in their operations and practices due to the effect of HIV/AIDS on the farming population. For example, there are now applications for agricultural credit from orphan- and widow-headed households, which are often not eligible according to the existing criteria for the approval of credit applications. The extension staff who, in general, are supposed to support the applications for rural credit, feel lost in the absence of the new criteria needed for this new clientele. The staff of rural credit institutions may be faced with a dilemma of their own since the applications for credit cannot be approved unless a revised policy is in place and a new set of criteria is available for the applicants to qualify. Similarly, the organizations and firms responsible for recommending farming systems and manufacturing farm equipment would soon find themselves wondering whether their recommendations and products are still as useful and in demand as they were before the epidemic hit.

EMERGENCE OF UNEXPECTED CLIENTELE AND EXTENSION-DEMAND ENVIRONMENT

Drastic change in the composition of clientele
The epidemic is changing the traditional composition of the clientele for extension services. In the areas of high HIV prevalence, the category of healthy and able-bodied men, women and youth, in the late adolescence to middle age range, is the one that has been most affected by high levels of morbidity and mortality. One finds more women, children and elderly persons now engaged in farming due to prolonged illness and/or death of their spouses, parents, guardians and other members of the family. Paradoxically, the struggle for feeding a large number of children left behind by their parents who have died young, has forced many very old persons back into farming who had retired from active farming long ago. The emerging target population for extension services increasingly includes more physically weak, sick, and elderly persons, widows and young

Elderly men are indirect victims of the epidemic
orphans. For example, according to UNAIDS estimates, in 2001, the number of AIDS orphans in Mozambique was 420,000, and by 2010, was expected to jump to one million. Zimbabwe currently has 700,000 AIDS orphans. These newcomers, who even though they are exposed to farming due to living in rural areas, have relatively less experience in agronomic practices, as compared to their elders, and have limited physical and technical capacities for the use of heavy tools, farm machinery and animal-drawn farm equipment.

Change of this magnitude in the type and character of the clientele is bound to render the existing extension strategies and methods outdated unless they are adjusted in line with the new extension clientele and their needs. The public extension organizations, however, are not yet prepared to cope with the situation.

Distraction from farming activities
While travelling by road in the rural areas of the sub-Saharan African countries hardest hit by HIV/AIDS, the scenes of funerals are quite common. Both men and women, who should normally be busy in farming activities, are now forced by traditional customs, to frequently spend considerable time on attending the funerals and relevant ceremonies. These funerals are not only attended in their own villages but also in the surrounding villages for which they have to cover large walking distances. The situation does not only cause serious distraction from their normal farming operations, but also results in reduced contacts with the extension agents, and less participation in technology demonstration and training activities. The farms are being ignored and so are the contacts with extension staff.

Farmers’ increasing queries on HIV/AIDS
The notoriously persistent denial and “conspiracy of silence” about HIV/AIDS, common among rural communities, is gradually giving way to relative openness. The stigmatism, denial and secrecy are still prevalent, but so many and so frequent deaths occurring in the area among relatives and friends can no longer be simply ignored. The escape from HIV/AIDS has understandably become as important a priority for farmers as the once eagerly sought technical advice on increasing agricultural production. The farmers’ questions are no longer limited to farming. There are so many queries related to HIV/AIDS. However, the extension staff who know little about the epidemic and have not received any special training in this subject, feel helpless and embarrassed in front of the farmers. They are not in a position to offer any useful information or meaningful advice.

Worsening supply of farm labour, food insecurity, and poverty
According to UNAIDS, HIV/AIDS infections are highest amongst adults aged between 20 and 40, who account for about three-quarters of all AIDS cases. The emerging households, where the men and women of most productive age have either died or are disabled by prolonged sickness, are now headed by orphans, adolescents, the elderly, and quite often weakened and sick adults, and have fall-
en deeper into poverty and food insecurity. This is because fewer family members can now spare the energy and time for earning wages in rural and non-rural employment. According to a study done in Ethiopia, AIDS-afflicted households spent 50 to 60 percent less time on agriculture than those not afflicted.

In the United Republic of Tanzania, researchers have found that women spent 60 percent less time on agricultural activities because their husbands were ill. In addition, infection rates are rising among African women, who account for 8 out of 10 of Africa's small farmers, and who traditionally provide the vital coping skills needed in times of food crisis. The latest statistics shows that women now make up 58 percent of Africans already infected. At present, 14.4 million people risk starvation in six Southern African countries where about 15 million are HIV positive and 1.1 million were lost to the disease in 2001. AIDS has been identified as one of the causes of this famine and the single most important cause of vulnerability in the region.

By one estimate, approximately two person-years of labour are lost by the time one person dies of AIDS, due to his/her weakening and the time others spend giving care. According to FAO, AIDS has killed about 7 million agricultural workers since 1985 in the 25 hardest-hit countries in Africa, and it could kill 16 million more before 2020. The loss in the agricultural labour force through AIDS in the nine hardest-hit African countries, for the period 1985-2020, may be projected as follows: Namibia 26 percent; Botswana 23 percent; Zimbabwe 23 percent;
The challenge to agricultural extension services

Mozambique 20 percent; South Africa 20 percent; Kenya 17 percent; Malawi 14 percent; Uganda 14 percent; United Republic of Tanzania 13 percent (FAO, 2001).
This trend could have at least four serious implications. First, deepening and expanding poverty due to loss of income; second, an increasing shortage of farm labour required for production tasks such as land preparation, ploughing, sowing, weeding, harvesting, and post-harvesting activities; third, drastic food shortages; and fourth, increased vulnerability to the epidemic due to increased poverty and food insecurity. This is a vicious circle beginning with the start of the HIV infection of some persons and ending with the infection of many more persons.
UNPREPAREDNESS OF EXTENSION ORGANIZATIONS

Some countries in sub-Saharan Africa, in addition to having public extension departments, have a number of semi-government bodies, private companies, and NGOs, which provide extension services. The HIV epidemic has not only affected these organizations in terms of reduced capacity due to loss of staff but it has also created new institutional, technical and operational challenges for the organizations. Presently, there are no extension programmes and strategies to improve agricultural skills of inexperienced young farmers including a large number of women and orphans who have suddenly become clientele of the services. The notoriously weak linkages between extension, research and other relevant agencies are no help in addressing the need for developing new technologies and equipment suitable for the new situation. The technical content of extension messages remains strictly confined to agriculture. Most serious of all, the extension staff themselves are ill equipped to cope with the situation because of their lack of knowledge on AIDS.

The remedial measures will obviously require additional human, financial and physical resources, appropriate training of staff, development of proper extension strategies, partnerships with relevant institutions, and above all, appreciation of the new situation and the establishment of fresh working relationships with the clientele. The crucial issue is how extension organizations that are used, for decades, to conventional, routine extension tasks and clientele, and which are suffering from shortage of staff, finance and morale due to HIV/AIDS, would be able to successfully handle the new challenges.
Due to parent’s death, young children have to struggle for survival
Agricultural extension services cannot and should not be expected to put an end to HIV/AIDS. This is not their main mandate. However, apart from the ongoing debate on the effectiveness of extension services in Africa and the needed measures to reform them, the fact remains that these are the only organizations whose field staff are very familiar with rural life. They, therefore, can and should play a meaningful role in helping the farming communities for protection against AIDS. If they do not move fast, in collaboration with other relevant institutions, to properly respond to the increasing impact of HIV/AIDS on the overall farming situation in general and on their own weakening organizational capacity in particular, the consequences could be disastrous and far reaching.

The negative effects may emerge in a logical sequence. Extension organizations that are already weak in most of Africa may almost collapse due to shortage of manpower and fall of morale in the absence of a viable strategy. The near-complete loss of technical guidance that extension agents could potentially provide through thoughtfully prepared strategy would throw the new and inexperienced children, elderly persons and widow farmers at the mercy of nature. Poor farming practices and neglected farms would eventually lead to lower crop yields, reduction in farmers’ income, increase in risks of food shortages and famine, and drag the rural population into even deeper poverty resulting in more deaths and more human misery. This in turn could result in a mass exodus of villagers to urban areas or elsewhere in search of food, jobs and escape from HIV/AIDS. It would not be surprising if such factors eventually lead to a higher rate of crimes and political unrest.

The possible consequences of delayed action could be horrendous. It is imperative that public and private extension organizations, governments, donor agencies and international development bodies draw appropriate strategies to cope with the situation, and the sooner the better.
POSSIBLE EXTENSION RELATED STRATEGIES TO FACE THE CHALLENGE

The HIV/AIDS epidemic is spreading so fast that taking any remedial measures has become almost a race against time. The agricultural extension organizations are not expected to be medically involved in the fight against AIDS, but they can play an extremely important role in preventing or at least minimizing the further spread of infection by educating the farming communities. The following measures may be of help in outlining a course of action.

FORMULATION OF A NATIONAL POLICY ON AIDS AND EXTENSION

The political will of national governments to recognize the seriousness of the HIV/AIDS issue and deal with it is the starting point. Recognizing the magnitude of the potential negative impact on development efforts, the Ministry of Agriculture, Food and Forestry of Zambia has rightly warned that any development programme that does not deliberately address HIV/AIDS is bound to fail as the benefit that may be perceived in the programme could potentially be overwhelmed by the negative impact of HIV/AIDS. However, most countries in Africa
are still without a national policy on agricultural extension let alone a policy on AIDS and extension. More than any other extension delivery actor, public extension services, being public, have both technical and moral obligations in this regard and should take the lead, and that too without waiting for a formal request from people to assist against AIDS. They should play a wider role, beyond the mere transfer of improved agricultural technology.

The governments should formulate a policy on the handling of the situation by extension staff in HIV/AIDS infected areas. The policy should be chalked out not just by the Ministry of Agriculture, but other ministries like those for health, population, social welfare, environment and youth should also participate in the exercise. However, while following a holistic approach, care must be taken to avoid the common temptation to see HIV/AIDS only as a health and welfare issue and thus losing the much needed collaboration between agriculture, health and welfare sectors. The relationship between the epidemic and food security and rural development needs to be clearly understood by the policy-makers.

PREPARATION OF EXTENSION STAFF

There are few extension workers who presently possess scientific knowledge about the spread of HIV/AIDS. The following steps could be useful for improving the situation:

Revision of pre-service and in-service training curricula

Even if HIV/AIDS were not an issue, the existing curriculum of agricultural extension certainly needs thorough revision and updating in most of the developing countries in view of significant global changes that are shaping up the future role of extension in the new millennium (Qamar, 2000), presenting meaningful options for institutional reforms in the national agricultural extension systems (Rivera, Qamar and Van Crowder, 2001). The academic institutions and relevant in-service training institutes of the sub-Saharan African countries in particular should review and revise the present extension curriculum. The objective should be to mainstream the subject of HIV/AIDS in agricultural extension programmes within the context of overall food security, linking it to the shortage of farm labour, low farm productivity, enhanced rural poverty, and the emergence of a rather different type of farming population.

Fast-track training of extension staff

- Intensive orientation sessions of short duration should be organized for extension staff by the health specialists, rural sociologists, and anthropologists. At the end of the orientation, the extension staff should possess knowledge on the relationship between food security and HIV/AIDS, the main causes for the spread of HIV/AIDS, its visible signs, precautions to be taken in the handling of the patients, ethical and privacy considerations, development of a healthy
and constructive attitude towards sick persons, coping with the new clientele of extension, common fears about the epidemic which have no scientific basis, and on tactful strategies to discourage certain sexual practices embedded in culture that expedite the spread of the HIV infection.

- All the in-service training institutes for agricultural extension should run special courses on the role of extension in mitigating the spread of HIV/AIDS among farming communities. These courses should include the development of appropriate extension strategies, methodologies, technical content of messages, and materials keeping in view the changing situation of farmers and their farms.

- An important area in which staff should be assisted by psychologists is on how to stay strong and keep morale high in an environment where so many colleagues are dying of AIDS, where absenteeism in offices is on rise and the workload is increasing, and on the financial and emotional burdens resulting from sickness and deaths of relatives which are causing depression.

Revision of extension strategies and technical messages
Agricultural extension strategies, methods, and technical content, should all be revised and adjusted in light of the fact that large numbers of inexperienced widows and orphans, and elderly persons are being forced into farming due to the death of their traditional able-bodied young men and women relatives. Many of
these persons are sick or physically weak. They are not able to use heavy farm machinery and equipment, nor are they able to follow any cropping patterns requiring vigorous and frequent physical labour. The situation has been further aggravated by the shortage of routinely available farm labour and deepening poverty. In Malawi, for example, the families affected by HIV/AIDS are giving up labour demanding tobacco cultivation and post-harvest processing in favour of crops like cassava and sweet potatoes, which require less manual labour. Similarly, small ruminants like goats are now preferred over cows. All these developments demand new thinking about the selection of technologies, extension strategies and field activities.

Some of the technical initiatives that extension organizations could take in this respect would be as follows:

- Incorporation of HIV/AIDS education messages into ongoing extension programmes, with emphasis on the interrelationship between food security, farm labour, income levels, and HIV/AIDS. The FAO has developed training modules for the integration of population and environmental education into ongoing agricultural extension programmes, which have been successfully applied in many countries. The HIV/AIDS messages can also be incorporated using the same principles. An attempt has also been made to incorporate HIV/AIDS concerns into participatory rural extension in Zambia (Kurschner, 2000).

- Introduction and/or strengthening of extension methodologies using a group approach that can be applied with relatively small number of extension staff in view of dwindling number of extension workers.

- Development of HIV/AIDS-oriented participatory, client-focused extension approaches and technical messages in order to address specific extension and training needs of old and new clientele in terms of age, gender and experience to enable them to benefit from the extension services.
• Involvement of rural youth in extension programme planning and implement-
tation since they constitute the sexually most active social group and are there-
fore hardest hit by AIDS (Africa Recovery, 1998). In this context, South Africa
makes a strong case where more than 40 percent of the population is under 18.

• Identification of culture-based sexual customs and practices in villages that
expedite the spread of HIV infection, and formulation of technical messages in
consultation with anthropologists and rural sociologists to discourage the
same among young rural men and women.

• Adoption of a human-focused rather than the traditional agricultural produc-
tion and technology-focused approach.

Preparation of multimedia extension materials on HIV/AIDS
Extension organizations should prepare and produce a variety of audio-visual
aids and non- formal educational materials that could be used for education and
the increasing of awareness about HIV/AIDS-related topics. These materials
could include posters, charts, flip-charts, pamphlets, leaflets, audio-cassettes,
video-cassettes, newsletters, radio messages, songs, scripts for rural theater plays
and puppet shows, etc. The central theme of these materials should be the rela-
tionship between rural poverty, agricultural production, food security, farm
labour and HIV/AIDS. The materials should be prepared keeping in mind the tar-
get groups, gender, age, culture, religion, local languages, literacy level of the
rural population, and the availability of electricity or battery cells in the area. The
instructional aids should be used by field extension workers in the same group
meetings and demonstrations where agricultural technologies are discussed and
demonstrated.

POSSIBLE ACTIONS IN THE FIELD

Institutional partnerships
Like many other organizations and institutions, extension organizations are sup-
posed to provide support services and as such they cannot successfully face the
challenge of HIV/AIDS all by themselves. They should forge new partnerships
with other relevant public and private institutions. Such partnerships should be
established not only with national-level institutions and organizations but also
with those at regional and global level. The purpose of these partnerships should
be to better appreciate the problem of HIV/AIDS, pool human and physical
resources to combat the menace and share relevant knowledge and experiences.
The following are some of the institutions with which extension organizations’
collaboration would be productive:

• Institutions engaged in farming-systems research, farm machinery and equip-
ment manufacturing, provision of rural credit to farmers, public health, for-
mal and non-formal education, community development, philanthropy and religious affairs.

- Educational institutes such as universities, colleges and especially elementary and high schools located in rural areas.

- NGOs and the private sector whose aim is to assist HIV/AIDS victims.

Anti-AIDS extension campaigns
Public and private extension organizations including NGOs should join hands in launching national campaigns against AIDS. The objectives of the campaign should include alerting the rural population against the dangers of the epidemic, how to remain safe in infected areas, how to practice safe sex, and strong discouragement of culture-based sexual practices such as multipartners, cleansing, etc. The Strategic Extension Campaign methodology that has been used in certain FAO projects in some countries (Adhikarya, 1994) could be of value in this regard. The following actions could be useful in organizing the campaigns:

- Using a combination of media including rural radio, television, printed materials such as posters, pamphlets and newspapers, pictures, audio cassettes, video cassettes, films, and folk media like rural theatre, songs, and puppet shows.
• Organization of special meetings, discussion sessions and seminars in rural areas with the involvement of rural leaders where debates on undesirable sexual behaviour responsible for the spreading of the deadly HIV infection could be encouraged.

• Raising and discussing the issue of AIDS in every meeting at all levels, both within extension organizations and in the field, no matter what technical purpose the meeting may have.

Preparation of rural leaders for collaboration
Extension organizations should seek active support and involvement of informal rural community leaders such as tribal chiefs, elders, mosque imams, church priests, school teachers, sportsmen and heads of youth clubs. However, this would be possible only if the leaders are made aware of the fact that even otherwise healthy looking individuals could be suffering from HIV/AIDS since the infection takes many years before the patients start showing clear symptoms and then it may be too late to treat them. Some of the actions in this regard could be as follows:

• Organization of special orientation sessions for leaders in order to educate them about HIV/AIDS and how they can help extension staff in their activities against the epidemic.

• Provision of short, intensive courses on different aspects of HIV/AIDS to leaders to enable them to help their respective followers meaningfully.

• Invitations to the leaders to attend meetings for planning special AIDS-focused extension programmes.

• Use of leaders in counseling and advising young people and children whose elders have died of AIDS, and in organizing their anti-AIDS action groups.

Extension-HIV/AIDS specific studies
Although international organizations, notably the FAO, have carried out several studies on the relationship of HIV/AIDS with agriculture, the national extension organizations should have further studies conducted on specific aspects of extension in relation to HIV/AIDS. The results of these studies should be used in formulating necessary government policies and extension strategies for rural communities that have been affected. Some suggested topics for the studies are as follows:

• Extension needs of inexperienced and new farmers.

• Feasible farming systems in HIV/AIDS infected areas.

• HIV/AIDS education needs of farming communities.
Fast-track training of extension workers is a start

- Extension strategies requiring less field staff.
- The suitability of existing farm equipment and machinery for HIV/AIDS-affected persons engaged in farming.
- Relationship between recent rural-urban migration and HIV/AIDS.

**intercountry extension networks on HIV/AIDS**

Extension services of the countries of sub-Saharan Africa hardest hit by the epidemic should form intercountry or even regional extension networks on HIV/AIDS. This would greatly facilitate the sharing and pooling of experiences, data, initiatives and resources. Electronic information technology, wherever available and applicable, may be used for establishing the networks. Rural radio systems should be brought into use. Study tours should be arranged to countries like Uganda, Senegal, and Thailand, which are mentioned as good examples of countries that are successfully fighting the spread of AIDS.
HOW DONORS CAN ASSIST

There is no doubt that the countries faced with HIV/AIDS have to put forth their own resources for fighting against the epidemic. However, since HIV/AIDS is now seen as a cross-sector development issue, the bilateral and multilateral donors may provide assistance to national extension organizations in handling the present situation and in avoiding the future impact of the epidemic. Such assistance may be provided under umbrella programmes of donors for, for instance, sustainable livelihoods, poverty alleviation, peoples participation, and possibly others. The key areas in which assistance is needed include:

- Training of extension staff in HIV/AIDS.
- Development of suitable extension strategies and methodologies.
- Launching of anti-AIDS extension campaigns.
- Conducting studies on extension-AIDS aspects.
- Establishing intercountry extension networks on HIV/AIDS through electronic information technology.
- Integration of HIV/AIDS in ongoing extension programmes and relevant projects.
- Formulation of new programmes and projects keeping in mind the latest socio-economic situation in AIDS-affected areas, potential AIDS-related effects of intended field activities, and the provision of safeguards against them at project identification stage.

The present priorities of donors have to be reviewed in light of the fast changing situation in the continent because of the epidemic. The reviews should be done with the following objectives:

- National extension systems should receive serious consideration for financial and technical assistance both in view of badly needed HIV/AIDS education for rural masses and the increasing danger of food shortages and poverty due to negligence of farms.
- The current trend to reform extension organizations through privatization of extension services in Africa may make sense under normal conditions but under current circumstances, its justification needs to be re-examined in earnest.
Similarly, while extension workers and farmers are struggling to stay alive by combating both the epidemic and an imminent famine threat, the reforms like mandatory down-sizing of public extension services through structural adjustment measures and charging subsistence farmers for extension advice should be reassessed and adjusted in light of the abnormal situation.
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