2. PRIORITY ISSUES AND STRATEGIC ACTION AT THE RURAL GRASSROOTS

Farmers examining local varieties of sorghum
in Obak village, central Uganda.

Reviewing food insecurity

Food insecurity is a serious, chronic problem affecting countless rural communities and millions rural households throughout Sub-Saharan Africa. It entails a wide range of situations and conditions, such as starvation, malnutrition, food shortages, forced reduction in number of daily meals, seasonal famine periods, unequal household food access, and food relief dependency. Food security is a primary goal in human development. It is often defined as the access to sufficient foodstuff to escape hunger, but it also involves other components, including particularly nutritional quality and cultural considerations (box 2).

Box 2. Towards an integral approach to food security

Food security is the state in which all people have an autonomous and regular access to food in sufficient amounts, under safe conditions, with the adequate nutritional quality, and in due regard for their legitimate cultural values and food preferences. In rural areas, local food security also entails sustainable agricultural and environmental means for food production as necessary factors for a genuine and enduring food security.

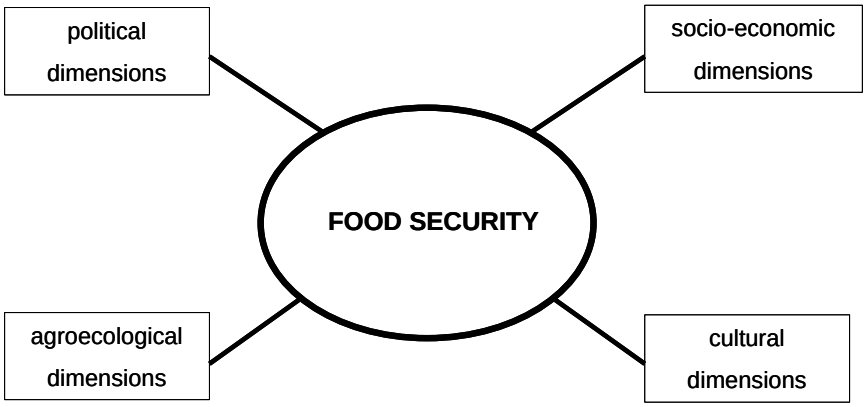
Source: Personal elaboration, drawing on FAO (1996) and Maxwell (1996).

Food insecurity is deeply connected to poverty (FAO, 1996). Overall, the poor and destitute in Africa are historically those struggling for food security (Iliffe, 1987). In particular, the poor are those living under a constant struggle to meet food security and other basic needs for themselves and their families, whilst the destitute are those that temporarily or permanently fail in that struggle. Food insecurity owes to a number of factors and forces, such as environmental conditions, socio-economic exclusion, chronic sickness, labour force shortages, gender inequalities, orphaning, civil unrest, and war. Since the late 20th century, HIV/AIDS impact has become a major factor of food insecurity throughout Sub-Saharan Africa (FAO, 2001b).

Agricultural development policies and programmes have mostly addressed food security through up-down approaches and macroeconomic analysis, attempting to solve a simple equation between inputs and outputs. In particular, high inputs of capital, technology, improved seeds, animal breeds, and chemicals were argued to result in higher agricultural productivity, increased agricultural commodity exchange, and poverty alleviation. Although mainstream agricultural policies and programmes have improved food access for growing urban populations (in terms of higher supplies and lower prices), they have been much less beneficial for rural people. Such policies and programmes were imported from the developed world, where economic dynamics are under sufficient institutional control and the temperate geography offers agroecological advantages. However, in tropical Africa, many rural communities have become more vulnerable to market fluctuations, have lost food autonomy, have become more exposed to environmental conditions, and confront a crisis around their agricultural systems. Population growth and insufficient doses of *modernity* have been often blamed for food insecurity in rural areas, yet they have rather served as pretext to hide the impact of misleading and missing policies and programmes. Inappropriate agricultural and rural strategies have not only resulted ineffective to the primary needs of the rural poor, but have also impaired their development prospects. In addition, economic globalisation trends and inadequate international cooperation further impair the prospects of rural people to attain food security and escape poverty.

Food security action requires duly attention to the food production, nutrition, and livelihood dynamics at the grassroots level. A shift towards microanalysis, participatory efforts and a rural grassroots focus is highly needed. Food security is not a simple equation where agricultural productivity and market exchange are outcomes, but demands multicriteria approaches with increased attention to the micro-dynamics. In particular, it relies on a more complex equation between agroecological, socio-economic, political and cultural factors (box 3). Consequently, grassroots considerations become more meaningful, including aspects related to local crop diversity, traditional knowledge, culture, nutrition education, community mobilisation, gender equality, and local food habits (Altieri, 1995; FAO, 1997; Villarreal, 2000). Accordingly, food security is not a matter of managing farmers and fields as pieces of a chess game, but demands that policies and programmes recognise that farmers are the primary actors in agriculture and rural development, not just objects. This grassroots-oriented and participatory approach to food security is likely to result more responsive to the poorest and most food insecure households, such as AIDS-affected households, female-headed households, and households fostering orphans.

Box 3. Integral approach to food security among smallholder farmers



- **agroecological dimensions:** drought, soil quality, agroecological zones, crop genetic resources, indigenous agroecological practices, pest risks, water management, *et al.*
- **socio-economic dimensions:** market opportunities and risks, food prices, labour availability, land tenure, gender inequalities, HIV/AIDS impact, nutrition, household food utilisation, access to appropriate technologies, micro-credit, *et al.*
- **political dimensions:** social stability, land reform programmes, agricultural policies, market and trade policies, rural development plans, agricultural research and extension programmes, rural micro-credit schemes, international agreements, community and civil society participation, *et al.*
- **cultural dimensions:** traditional crops, local food habits, indigenous knowledge systems, gender, grassroots organisations and initiatives, farmer seed systems, nutrition education, recognition of the dignity of rural lifestyles, *et al.*

Source: Personal elaboration, 2002.

HIV/AIDS impact in rural communities

In the late 20th century, the HIV/AIDS epidemic expands in rural Africa, in a lethal connection with poverty. The epidemic is rapidly spreading and severely impacting in rural areas, particularly over the poor and women (Villarreal, 2002). In fact, HIV/AIDS has become a *disease of poverty*: most infected people are poor, the socio-economic impact of HIV/AIDS is greater on poor households, and coping mechanisms are more limited and less effective in poor households (World Bank, 1999). In rural societies, HIV/AIDS impacts agricultural activities and, hence, undermines the very foundations of food security, nutrition and subsistence.

Unlike other major diseases, HIV/AIDS escalates morbidity and mortality particularly on the most active and productive segment of the rural society. That leads to a severe disruption of the rural socio-economic dynamic, especially in the labour and economic fabric of affected households (FAO, 1995; FAO, 1997b). In addition, AIDS dislocates the local mechanisms for the transmission of agricultural knowledge and skills, hence impairing the development prospects of surviving people, particularly rural youth and children.

The major development impacts of the HIV/AIDS epidemic on agriculture and rural livelihoods are as follows:

1. **Labour stress.** The cumulative scale of morbidity and mortality causes increasing labour losses in AIDS affected households, whilst there is an increasing need to divert time and labour to care for sick people and orphans resulting from AIDS. Rural households affected by AIDS suffer labour stresses that affect farm, off-farm, and domestic work alike. Poverty impedes hiring of labour as coping strategy. This labour loss undermines agricultural practices, hence aggravating livelihood vulnerability and food insecurity. In essence, HIV/AIDS exacerbates a classical factor of poverty and destitution in Africa: labour scarcity (Iliffe, 1987). The labour impact of HIV/AIDS affects more heavily rural women, due to gender inequalities, the traditional condition of women as caregivers, and the overwhelming workloads and responsibilities that women bear in the rural society.

2. **Economic impoverishment.** In poor households, AIDS drives an escalating economic crisis because of the growing related expenses (e.g. costly medical care) and the reduced income sources (due to labour losses). The cumulating healthcare needs of AIDS patients forces individuals and households to draw economic resources from other needs, such as food, education and agriculture. The labour shortages due to AIDS reduce food production and income generation, hence impoverishing households.

3. **Loss of indigenous and local knowledge.** AIDS undermines the transmission of agricultural knowledge within the household and across the community because of the related demographic asymmetries (disproportionate sickness and death of adults) and the weakening of the social fabric (lack of time, discrimination, and self-exclusion of HIV/AIDS affected families). In addition, the epidemic impact on rural professionals, like teachers and agricultural extension officers, and the withdrawal of children from school (as a distress response to the epidemic) further erode local mechanisms for the transmission of agricultural knowledge and skills. Consequently, indigenous and local knowledge is lost, hence impairing the development prospects of rural youth and children. In fact, the continuous neglect and erosion of indigenous knowledge and practices are at the roots of poverty and underdevelopment in Africa (Mammo, 1999). Accordingly, HIV/AIDS is likely to exacerbate this detrimental trend, unless targeted initiatives are deployed.

HIV/AIDS raises an additional issue that directly challenges the agricultural sector: the nutrition-health interface. It is manifest that HIV-infection and malnutrition are mutually aggravating processes. In fact, the fast and devastating health impact of HIV/AIDS in Sub-Saharan Africa owes significantly to the chronic malnutrition in the entire region, aside from lack of access to medical care and available drugs due to poverty and severe world inequalities. In essence, adequate nutrition represents a fundamental healthcare component in the struggle against HIV/AIDS, when not the only healthcare tool available for millions of rural poor that have no access to healthcare services and medicines. In particular, a balanced nutrition builds up the immune system, which helps people living with HIV/AIDS to control the progression of the virus and to combat AIDS opportunistic diseases with greater force. Nutrition action is also important in view that many AIDS patients tend to suffer from certain propensity to malnutrition.

In essence, the agricultural sector has a significant role to play in the HIV/AIDS crisis among the rural poor. It is relevant in the three main response areas to HIV/AIDS: prevention, care and mitigation (table 1). The most relevant roles are in care (nutrition/health) and mitigation (agricultural and rural livelihood issues). Concerning care, nutrition is a key healthcare component, especially among the poor that lack access to other healthcare support elements. The agricultural sector is critical in the mitigation of the AIDS development impact since agriculture represents the primary foundation of food security and livelihood across rural Africa. In particular, there is an urgent need to deploy agricultural development modes that are responsive to the labour and economic conditions of AIDS affected people. It is equally needed that such efforts address simultaneously other related issues that are relevant to fight poverty, alleviate the HIV/AIDS impact, and foster rural development: particularly gender equality, community mobilisation, and the transmission of local knowledge.

Table 1. HIV/AIDS response framework: Principal concerns and the agricultural sector

Response area	Principal concerns	Major issues for the agricultural sector
PREVENTION	Awareness, education, and gender equality	• Enhance food and livelihood security, with a focus on vulnerable groups and gender equality, to eradicate socio-economic conditions that lead to HIV risk behaviour (in other words, food and livelihood insecurity force people to engage in commercial sex as survival strategy or to migrate to escape destitution). • Incorporate awareness creation in agricultural programmes and community development initiatives. • Advance gender equality in access to productive resources (e.g. land, credit, seeds) and in agricultural decision-making.
CARE	Healthcare and psychosocial support	• Support nutrition as primary healthcare component: nutritional quality helps to improve the control of HIV infection and mitigate the health impact of AIDS (e.g. opportunistic infections, propensity to malnutrition). • Promote, integrate and improve the use of medicinal plants to enhance primary healthcare systems. • Integrate people living with HIV/AIDS and AIDS affected families in agricultural and community development efforts, arresting discrimination and self-exclusion of AIDS-affected households.
MITIGATION	Food and livelihood security	• Deploy labour-saving and labour-diffusing strategies. • Promote low-input agriculture to reduce production costs and increase farm net incomes. • Conduct priority action on household food security and nutrition. • Tackle the increasing frequency of highly vulnerable, food insecure, and impoverished households owing to HIV/AIDS impact, such as female-headed, orphan-headed, and orphan-foster households. • Promote gender equality to alleviate AIDS impacts and enhance coping responses at local level. • Maintain agrobiodiversity and indigenous knowledge as grassroots components to improve food security, nutrition, livelihood resilience and the capacity for rural reconstruction. • Create spaces and opportunities at the community level to facilitate coping strategies among AIDS-affected households. • Strengthen and develop community-based or other mechanisms for the transmission of agricultural knowledge and skills. • Adapt agricultural and rural institutions to the evolving scenarios owing to HIV/AIDS.

Source: Personal elaboration based on field research in Sub-Saharan Africa (2001) and personal communications with Marcela Villarreal (2002).

Household nutrition

Household nutrition represents a fundamental component in food security action in rural communities, especially in view of the scale of malnutrition. Malnutrition is of particular concern among the poorest families and the most vulnerable groups (such as orphans, pregnant women, lactating women, and sick people). Malnutrition results from poor energy intake, insufficient protein supplies, or micronutrient deficiencies. It entails not only human suffering, but also many other negative consequences: for instance, malnutrition impoverishes health quality, erodes labour potential, impairs children's learning capacities, undermines socio-economic development, and may incite social tensions (FAO, 1997).

Nutrition has become more critical in the HIV/AIDS context because nutritional balance is a primary force in the fight against HIV/AIDS. In essence, nutrition seems to both improve the control of HIV infection and mitigate the health impact of AIDS. A growing literature shows the critical interface between nutrition and HIV/AIDS care (Egal and Valstar, 1999; Piwoz and Preble, 2000). Nutrition action is being publicly recognised as a major issue in HIV/AIDS action (box 4). For instance, some AIDS organisations, local health authorities, and farmer field schools' activities advocate nutrition for people living with HIV/AIDS. In addition, HIV/AIDS care experts indicate that modern treatments against HIV/AIDS, when available for the rural poor, will require adequate nutritional intake to be effective. Therefore, improving nutrition is a critical need in action around HIV/AIDS care, both to reinforce the capacity of HIV/AIDS infected people to better combat the associated health problems, and to effectively use modern treatments, when available for the poor.

Box 4. "Nutrition is the first medicine for HIV/AIDS"

- The co-ordinator of the Teso AIDS Project stresses that "nutrition is the first medicine for HIV/AIDS" and that "good nutrition is the first priority in the care and mitigation of HIV/AIDS". Accordingly, this organisation from central Uganda is seeking alliances with local agricultural organisations to target nutrition as a key response to HIV/AIDS.
- In a village in Kagera (Tanzania), a woman suffering from HIV/AIDS who is also a community AIDS counsellor indicates that a crucial constrain in fighting HIV/AIDS is that local people lack nutritious foods (to strengthen their health status) and foods that can be easily eaten (to help in cases of mouth and digestive problems, as it often happens to AIDS patients). She advises fellow farmers living with HIV/AIDS to increase consumption of leafy, fruit and wild plants.
- Experts from international healthcare assistance organisations working in Africa state that adequate nutrition is indispensable in modern treatments for HIV/AIDS, and that malnutrition in rural Africa may become a major obstacle for HIV/AIDS drug campaigns, when available.

Source: Personal communications in Uganda and Tanzania, 2001.

Although nutrition-oriented interventions are critical in the fight against HIV/AIDS, they are often missing in agricultural and rural development programmes. Household nutrition action, in particular, represents a central strategy to effectively respond to the wide range of constrains and priority needs around nutrition in rural areas (box 5). It is also required to establish closer

connections between agricultural projects and household nutrition, to enhance food-based approaches to combat malnutrition and improve health status among the rural poor. The nutrition impact of agricultural interventions needs to be reviewed and enhanced. Accordingly, suggested initiatives comprise: optimising the use of locally available crop and food resources, community nutrition awareness and education, nutrition-tailored design of agricultural systems, and ease the connection between *agri*-culture and *food*-culture. It is also recommended to empower rural women because of their crucial, yet neglected roles in household nutrition, particularly in relation to women's responsibilities in farming, food processing and meal preparation.

Children eating *maengere*, a nutritious local meal based on maize and beans (eastern Uganda).

Box 5. Reflections around household nutrition action

- Sub-Saharan Africa suffers chronic malnutrition, with many areas experiencing no significant improvements after decades of development efforts and macroeconomic approaches.
- Extended experience among rural development practitioners suggests that increased income does not often turn into improved household nutrition, at least for all household members. That reveals the importance of nutrition action, food-based agricultural programmes, and introducing gender approaches in food and agricultural initiatives.
- Some major crops, including cash crops, do not represent balanced nutritional sources. They may provide good energy supplies but they are often deficient in other key components, such as proteins and micronutrients. In this sense, agricultural development programmes focusing on starchy crops, such as cassava and banana, may perpetuate malnutrition problems.
- Income- and market-based food security approaches have prevailed over, and discriminated food-based nutrition strategies. However, food markets increasingly fluctuate and even collapse, thus impairing a stable access to sufficient and nutritious food among the rural poor. Subsistence agriculture, however, provides a more resilient means for household and community nutrition. It is not at odds with agricultural commercialisation, but there are potential synergies to be explored and supported.
- Many rural households are suffering a rapid impoverishment, owing to new socio-economic conditions and the devastating impact of AIDS epidemic, which undermines their capacity to access nutritious foods. This reveals the importance of food production modes that are economically responsive.
- Inequalities in food access and utilisation within the household remain, including gender inequalities and the persistence of misplaced cultural barriers on food uses for children and women in some rural areas. In particular, gender inequalities impair the pursuit of household nutrition. For instance, gender inequalities in the control of household income result in imbalanced means for nutrition. In addition, the critical role of rural women in household nutrition is often ignored and constrained, such as particularly in the neglect towards the crops cultivated by women, women's knowledge on food processing and preservation, and women's role in planning household nutrition through meal preparation.
- HIV/AIDS and malnutrition seem mutually aggravating phenomena. First, malnutrition aggravates the health conditions and prospects of people living with HIV/AIDS, generating a downward cycle of weakness, sickness and increased malnutrition. Secondly, HIV/AIDS causes malnutrition because of metabolic changes, lost of appetite, weakness, and other health impacts.
- The neglect and despise for many traditional crops and local food habits washes away many options for enhancing nutrition in rural areas. For instance, rural people in drylands focus more on maize porridge than on millet porridge because of the prestige of maize and the despise of millet as an "indigenous" crop, yet in those areas millet porridge is more nutritious and affordable than maize porridge. Nutrition education, including awareness on the value and potential of local resources, is a helpful tool for improving food security and nutrition.
- There is an urgent need to improve and strengthen the nutritional impact of agricultural interventions.

Sources: FAO (1997), Piwoz and Preble (2000), personal communications with Florence Egal (2001), and personal field experience in Africa.

Labour stress

Labour is a fundamental productive asset in rural societies. In pre-colonial Africa, lack of access to labour, rather than land scarcity, defined the structural poor (Iliffe, 1987). Nowadays, the HIV/AIDS epidemic causes important labour loss and stress in affected households (box 6). The cumulating scale of morbidity and mortality among productive adults reduces the labour capacity of affected families. In addition, the growing number of sick people and orphans owing to AIDS requires additional care giving efforts, drawing labour from productive activities. Overall, HIV/AIDS represents a new wave of labour stress and, thus, a factor of poverty and destitution. Accordingly, alleviating labour stress is a major goal in agricultural and rural development in Africa, partly in response to labour scarcity as an historic factor of poverty, and partly as a recent development constrain due to the HIV/AIDS epidemic.

Considering labour issues in rural Africa requires gender approaches. In most areas, women undertake the largest part of rural labour, including farm, off-farm and household work alike. In many areas, women assume over 70% of rural labour loads, including strenuous activities such as crop harvesting, fetching water and fuelwood, husking grains, and taking care of babies and the sick. In addition, HIV/AIDS affects markedly rural women because they tend to assume most of the labour loads owing to HIV/AIDS, such as caring for the sick and the AIDS orphans. Men, however, tend to have a more limited labour fraction and more concentrated in income-generating activities. In some cases, cultural barriers are used as a pretext for the persistence of such gender-based labour inequalities, such as that certain crops are only women crops, or that certain activities are not "proper" for men. In other cases, agricultural and rural development programmes perpetuate women's labour stress by addressing agricultural and rural issues that are more relevant to men’s tasks and responsibilities. Therefore, addressing gender inequalities is a key issue to alleviate labour constrains. This is also relevant in view that the number of female-headed households is increasing, partly due to HIV/AIDS and partly to a significant migration of men from rural areas.

Finally, the depth of labour stress also depends on the agroecological conditions. Households inhabiting lands with adequate rainfall, soil fertility and certain crop systems will be less sensitive to labour loss than households in arid lands, with poor soils and with a small range of available crops (FAO, 1995).

Box 6. Major factors of labour stress due to AIDS

- Cumulative sickness and death affecting productive adults on a significant scale.
- Need to divert time to care for sick people, for the many orphans resulting from AIDS, and for attending relatives that return to their home villages from urban areas because they are suffering from HIV/AIDS infection.
- Reduced capacity to access additional labour force because AIDS causes a parallel economic impoverishment (due to labour loss itself and to costly healthcare, among other factors).
- Limited access to community labour support mechanisms (such as participation in women's labour groups) because of discrimination, self-exclusion, or difficulties to keep the pace of community life.

The alleviation of labour stress depends upon a wide range of concerted interventions. Suggested interventions comprise, among others: use of affordable labour-saving technologies, agricultural diversification as a labour-diffusing strategy, cultural changes towards more labour cooperation across gender, priority support for the crops and tasks of rural women, strengthening community labour support and exchange systems, exploring alternative labour-support schemes, organising cooperative initiatives to optimise labour efforts, and arranging labour dynamics to address the most important food security and nutrition needs.

Labour stresses may, in some cases, require the mobilisation of labour capacities of children, aged people and sick people. Accordingly, there is need to explore interventions that are sensitive to the labour capacities of these groups with due regard to their vulnerability and vital needs, such as children's schooling needs and health stability in people living with HIV/AIDS.

Group of farmers collectively weeding a field of teff in Haik village (central Ethiopia).

Agroecological approaches and sustainable rural livelihoods

The persistent nutrition, livelihood and environmental problems that poor rural people confront demand agricultural development alternatives. In fact, the hegemonic focus on raising unilaterally crop productivity, treating agriculture as a food production industry, and addressing food as a commodity has lead into an ecological and social crisis at the rural community grassroots (Garí, 2000). These trends have eroded the environmental, social and cultural basis for agriculture, food security and livelihood, progressively reducing the local capacities for improving nutrition, income and sustainable development. Consequently, the social and ecological failures of mainstream agricultural development recipes for the last decades are encouraging a shift towards agroecological approaches.

Agroecology represents an integrated understanding of the ecological and socio-cultural dimensions of agricultural systems (Altieri, 1995). Agroecological approaches aim at ecologically and socio-culturally sustainable ways of agriculture and food production. They represent a strategic force for more integrated and co-evolutionary relationships between people and ecosystems. Their distinctive feature is an integrated effort aiming at safeguarding the natural resource base, connecting agricultural production with nutrition, improving the

efficient use of local resources (both material and cultural), reducing the use and dependency on external inputs, incorporating appropriate and affordable technologies, strengthening the social and cultural dimensions of agriculture, improving the net economic return of agricultural practices, and empowering farmers as primary subjects in agricultural development. Agroecological approaches comprise a wide range of practices (box 7). Agroecology is a young agricultural development paradigm with untapped potential in rural development.

Box 7. Examples of agroecological practices

- crop diversification
- intercropping systems
- mobilisation and improvement of indigenous agricultural systems
- cover cropping
- organic farming
- integrated pest management
- selective weeding
- farmer-based and farmer-led agricultural experimentation
- water harvesting and conservation systems
- home gardens
- creation of living and non-living barriers in agroecosystems
- community seedbanks
- agropastoral systems
- participatory crop breeding
- agroforestry systems

The deployment of agroecological approaches is relevant to enhance the nutrition, labour capacity, economic security and sustainability of rural communities, as follows:

1. *Nutrition.* The nutrition dimensions is critical in view of the scale of malnutrition in the Region, as well as the nutrition needs of the many people affected, directly or indirectly, but the HIV/AIDS epidemic (e.g. AIDS patients, AIDS orphans).
2. *Labour flexibility.* Agroecological approaches broaden the options to manage labour at household level, especially through practices that: (i) save labour, (ii) optimise the use of available labour, or (iii) increase labour flexibility. For instance, agricultural diversification and the use of low-labour crops and varieties ease labour stresses.
3. *Economic security.* Agroecological approaches contribute to the economic responsiveness of agriculture, helping poor farmers to safeguard their scarce economic resources. In particular, agroecological approaches ease low-input agriculture, foster the efficient use of local resources, and facilitate the introduction of appropriate practices and technologies. That reduces production costs and increases the net economic return of agriculture, which is particularly useful to alleviate the economic crisis due to AIDS.
4. *Ecological and cultural resilience.* Agroecological approaches place special emphasis on maintaining the ecological and cultural foundations of agriculture. In the first place, they safeguard the natural resource base, ensuring nutrient recycling, conserving crop genetic diversity, and protecting soil and water resources, among others. Secondly, they aim at recognising, rescuing, mobilising and improving the indigenous agricultural systems, providing mechanisms for appropriate technical improvements.

The deployment of agroecological approaches relies significantly on agrobiodiversity and indigenous knowledge. In fact, *biodiversification* is a pillar in the science and practice of agroecology (Altieri, 1995).

Members of Bulobi farmer field school experimenting a traditional natural pesticide based on 5 local plants (eastern Uganda).

Gender equality

Gender equality is a central question in the theory and practice of development, more so as it matters food security and the mitigation of HIV/AIDS impact in rural communities. The persistence of gender inequalities aggravates food insecurity and the impact of HIV/AIDS, whilst simultaneously constraining the local capacities to effectively combat them. The pursuit of gender equality defies the whole development process, transcending mere support to women towards the generation of co-operative relationships between the roles that rural men and women play in the development process. Gender equality is thus part of the comprehensive effort to empower rural people, both men and women (Villarreal and du Guerny, 2000).

Gender is a major factor in the allocation of roles, responsibilities and resources at both the household and community levels (Koda, 2000). In this sense, women and men hold different perspectives, priorities, knowledge and skills related to agriculture, food security and livelihood. For instance, rural women have traditionally played a central role in household nutrition in a variety of ways, such as farming nutritious crops, planning household nutrition through meal preparation, and feeding the children. At the same time, women and men absorb differently the impact of HIV/AIDS. In particular, rural women tend to bear overwhelming responsibilities and workloads owing to caring for the sick and orphans. In general, gender inequalities place heavy, even growing labour loads on rural women, in all farm, off-farm, and domestic sectors alike. At the same time, gender inequalities exclude women from the resources, support and decision-making needed for the adequate fulfilment of such roles.

Gender inequalities do not only prevail in rural households and communities, but equally pervade agricultural policies, programmes, institutions and actors. Policy formulation and agricultural development projects often reconstruct and reinforce gender inequalities, for instance when emphasising technical support for crops typically farmed by men, when neglecting women's priority concerns around household nutrition, or when overlooking gender aspects in farmer participation. Therefore, gender sensitive approaches are thus required cross-scale, across the whole range of actors involved in agricultural and rural development.

Meeting of the Asuret women association
(central Uganda).

Gender equality is also crucial for supporting the poorest and most vulnerable rural households. Gender inequalities place female-headed households, AIDS-affected households, orphan-headed households, and orphan-fostering households, among others, at the edge of marginalisation and destitution, because of limited options and support to cope with their situation. In particular, female-headed households represent a highly vulnerable group in rural Africa, being often the poorest among the poor, notably due to pervasive gender inequalities. Their number and proportion in rural communities of Africa is rapidly increasing, partly because of the growing number of widows owing to AIDS and war, partly because of massive male migration to urban areas, and partly because of the prevalence of "many careless men" (quoted from a rural woman leader). Accordingly, community-based gender equality is highly required in order to ensure that such households are not discriminated for their gender condition, but adequately empowered to access productive resources (such as land, seeds and credit), to engage in community life, and to receive agricultural development support.

A farmer woman, head of household, with her child in the drylands of central Tanzania.

A critical question to consider is to what extent chronic food insecurity and HIV/AIDS impact are inducing, even forcing changes in gender relations, and how they affect gender equality. The formidable and growing pressures that rural people suffer in Sub-Saharan Africa are likely to produce social changes as a way to cope with the situation. At the same time, rural development practitioners may find new spaces to tackle gender inequality as rural people may be more willing to explore development alternatives to overcome their impasses.

Gender equality action is essential for people-centred sustainable agricultural and rural development, including the achievement of effective responses to food security, nutrition, and sustainable livelihoods (FAO, 2001c). The challenge ahead is to mobilise and concert all knowledge, skills and labour capacities available at the grassroots level, including those specific among women and men. In fact, rural people are increasingly aware that lack of cooperation and equality is a wasted opportunity to cope with food insecurity and malnutrition risks (box 8). In particular, gender equality and co-operation are required in terms of labour, income management, access to productive resources, access to marketing networks, commitment to support AIDS orphans, exchange of gender-specific indigenous knowledge, and decision-making, among other aspects. In this sense, gender equality action is not just to empower women, but also to involve both men and women together in every aspect of rural development. Taking the case of household nutrition, the challenge ahead is not to empower women alone to improve household nutrition, but to involve both men and women in designing adequate farming systems and achieving appropriate awareness to raise together the nutritional status in their households. In this sense, gender equality requires community mobilisation.

Box 8. Gender equality and food security

"Kuwepo na ushirikiano wa karibu kati ya wanawake na wanaume ili kuinua lishe, upatikani wa chakula na kupambana na madhara ya ukimwi."

[There should be more co-operation between women and men for raising nutrition, food security and mitigate AIDS impact]

- **Gertruda Tibanywa**, woman farmer, head of a household composed by 5 children (including 2 orphans) and her aged father, and active member of a local women's group. Gera-Kashekya village, Kagera, Tanzania, 19 December 2001.

Community mobilisation

Community mobilisation is also a transversal issue for rural development in Sub-Saharan Africa. The exclusion and formidable challenges that rural people suffer require grassroots mobilisation. Food insecurity is not just a concern for individuals, but community action is valuable and indispensable. The HIV/AIDS epidemic, which is disrupting the social fabric in the rural world, requires high doses of community mobilisation to counteract the ongoing community disruption and to explore ways ahead to overcome the crisis, from the social inclusion of households affected by HIV/AIDS, to care for the millions of orphans caused by AIDS and war. Community mobilisation is also necessary among powerless and small-scale farmers to achieve certain socio-economic progress, as isolated farmers are weaker to confront the complex rural livelihood challenges under the globalisation storm. Community mobilisation is finally indispensable for rural reconstruction, which is increasingly needed due to the scale of humanitarian emergencies, civil strife, natural disasters, famine, displacement, and HIV/AIDS crisis, among other calamities, that strike rural areas in Africa.

Refugee children in northern Ethiopia.

Community mobilisation comprises a variety of initiatives, efforts and processes, from informal women labour-supporting groups, to community organisations, and to farmer-led agricultural experimentation initiatives, among many others. There are incipient grassroots mobilisation efforts that connect agriculture and HIV/AIDS, revealing important prospects in enhancing local coping strategies to food insecurity and HIV/AIDS (boxes 9 and 10).

Box 9. Community mobilisation around agriculture as a force to fight HIV/AIDS

Farmer field schools

Farmer field schools, supported by an international FAO/IFAD programme, provide an exceptional space for farmer learning, discussion, and experimentation on agriculture to improve their food and livelihood security. Although farmer field schools were sponsored under a specific programme for integrated pest management, their flexibility and grassroots-oriented structure allows for broad community mobilisation initiatives. Farmer field schools provide ample room for farmer-led agricultural experimentation and, in fact, farmers incorporate their own experimental settings within the established protocols. In addition, farmer field schools have readily become community platforms for awareness on a number of crucial issues in rural communities, including nutrition, HIV/AIDS and, to some degree, gender equality. Farmer field schools offer inexhaustible options for community mobilisation and grassroots agricultural development. For instance, different farmers in Uganda and Tanzania (including some that are very poor and lack time due to labour stresses) report to have done every effort to join a local farmer field school to improve their agricultural practices and learn how to better cope with their most pressing nutrition and livelihood constrains. Farmer field schools are also addressing HIV/AIDS issues, so far mostly on prevention aspects, but they are a privileged basis for community-based HIV/AIDS mitigation strategies. Experiences from Zimbabwe indicate that farmer field schools provide farmers with many benefits, such as an opportunity for AIDS widows and other marginalised rural people to gain knowledge and support from their fellow community peers (Page and Davies, 1998). Some farmer field schools have also explored, although in embryonic status, a variety of community-based strategies for food security, such as creation of multiplication plots, conservation of crop genetic resources and transmission of indigenous knowledge. In farmer field schools, the active participation of women and the close co-operation between men and women farmers are likely to induce awareness and processes towards gender equality, as the knowledge, skills and concerns of each gender are brought together and conferred an equal status.

UWESO (Uganda)

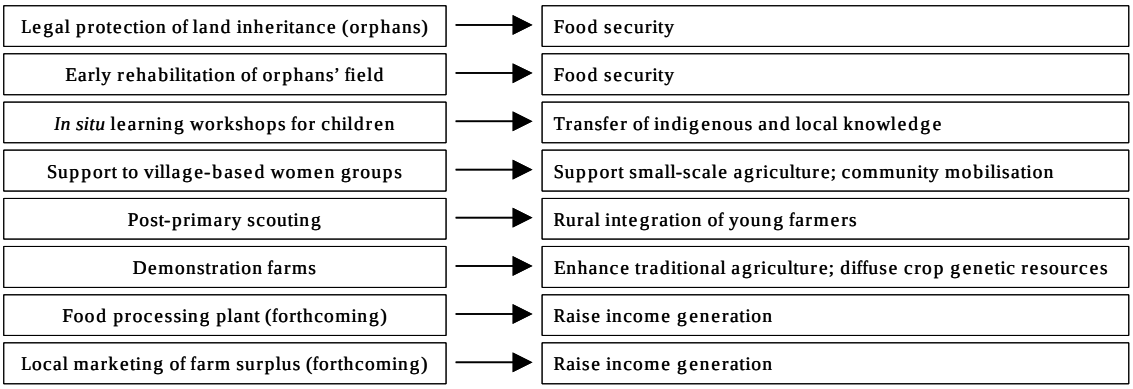
In Uganda, UWESO (Ugandan Women's Efforts to Save Orphans) is a non-governmental initiative that supports community organisations to foster and attend orphans, as well as enhancing the social inclusion of widows and poor women. It was founded in the mid-1980s to attend orphans and destitute women as result of the two-decade war in Uganda, and has progressively incorporated support for AIDS orphans and families affected by HIV/AIDS. The organisation originally focused on relief and social support, but is recently engaging in agricultural development issues, such as provision of micro-credit, training and seed distribution. They currently network with the Agriculture Department to explore adequate agricultural development initiatives to support orphans and destitute women. They also incorporate men in every local group so to raise gender awareness in agricultural and rural community development. Overall, UWESO shapes community mobilisation and hence becomes a privileged space for grassroots action towards food security and HIV/AIDS mitigation.

Meeting of the UWESO group in Aloet village (Soroti, Uganda).

Source: Field research in Tanzania and Uganda, 2001.

Box 10. Supporting AIDS and war orphans through agricultural support: The case of Partage-Tanzania

In Kagera, northwest Tanzania, the non-governmental organisation Partage supports about 4,000 orphans in the aftermath of AIDS and regional conflicts. Its main goal is to secure the rural future of orphans. Partage-Tanzania started in 1990 with a focus on social support activities, but has increasingly incorporated agricultural dimensions in orphan support. Therefore, their renovated efforts connect orphan support, agricultural development, community mobilisation and overall HIV/AIDS mitigation. This illustrates the potential and relevance of agricultural interventions for the socio-economic inclusion of orphans, as well as for the overall mitigation of HIV/AIDS. For instance, Partage-Tanzania has a team of 5 agronomists that support the rehabilitation of about 600 *shamba* [family fields] annually in direct support to orphans and foster families. It also has 15 workshops for training young people, 60 village-based teaching volunteers, 40 community groups, 250 scouts, and 14 experimental farms. The emphasis on agricultural development in the context of food insecurity, poverty and HIV/AIDS reveals new prospects for the livelihood of the poorest and most marginalised people in rural Africa.



Source: Field research in Kagera region, including personal communications with Philippe Krynen (field manager of Partage). Tanzania, 2001.

In essence, community mobilisation is valuable and indispensable to combat HIV/AIDS impacts. So far, existing community responses have focused on prevention and care, whilst mitigation responses are significantly missing. HIV/AIDS awareness initiatives and prevention committees have expanded in rural communities; for instance, local music and dance activities serve for building HIV/AIDS awareness. Concerning care, most efforts at the community level come from non-governmental organisations that support HIV/AIDS affected households under a client-based framework. The issue of HIV/AIDS mitigation has received little and weak community responses, yet this dimension of the response spectrum to HIV/AIDS is crucial and in most urgent need of expansion.

Strategic action: Agrobiodiversity and indigenous knowledge

In the grassroots struggle against food insecurity and HIV/AIDS, agrobiodiversity and indigenous knowledge represent resources with notable value and potential. However, they suffer formidable neglect and disregard, despite they are agricultural resources considerably close to, affordable, and habitual for rural people.

Agrobiodiversity comprises the whole biological resource diversity that human societies use and manage for agriculture, food, healthcare, and livelihood. Cultivated plants constitute the most prominent dimension of agrobiodiversity, including the enormous diversity of crops and crop varieties that small-scale farmers cultivate in the developing world. At some extent, agrobiodiversity also embraces wild useful plants, such as particularly wild food and medicinal plants, which rural populations know and use for nutrition, healthcare and livelihood purposes. Other agrobiodiversity components include forest resources and livestock.

Agrobiodiversity and indigenous knowledge are inextricable. They represent the biological and cultural dimensions, respectively, of the agricultural systems of rural communities. The conservation and use of agrobiodiversity relies upon indigenous knowledge, which covers aspects such as farming practices, plant uses, soil types, seed selection, crop improvement, natural habitats of wild plants, taxonomy and food preservation techniques.

The fundamental roles of agrobiodiversity and the associated indigenous knowledge in rural communities throughout Sub-Saharan Africa have been much ignored in policies and programmes related to agriculture, food security, natural resource management and rural development. However, agrobiodiversity and indigenous knowledge ground the food security, livelihood, and agricultural development prospects of poor rural communities in the developing world (Cooper *et al.*, 1992; Mascarenhas, 2000; Thrupp, 1998). They represent locally available resources with enormous value and potential to empower rural people to improve food security and address evolving needs such as especially AIDS impact. In particular, they represent available and affordable resources to widen the range of options for agriculture, food security, nutrition, healthcare and livelihood among poor AIDS-affected households. They assume increasing importance as other resources dwindle, become unaffordable, or disappear. All too often, local biodiversity and indigenous knowledge are the only assets left in poor rural communities. They are equally the basis for sustainable rural livelihoods. Their adequate recognition, promotion and integration are thus essential for food security and HIV/AIDS mitigation. However, HIV/AIDS generates a paradox around the conservation and use of agrobiodiversity and indigenous knowledge (box 11).

Box 11. Agrobiodiversity and indigenous knowledge: The HIV/AIDS paradox

The AIDS epidemic generates a paradox around agrobiodiversity and indigenous knowledge. As AIDS disrupts customary agricultural systems, socio-demographic structures, and community dynamics, it further impairs the maintenance of agrobiodiversity and the transmission of indigenous knowledge. At the same time, as poor households and communities become severely impacted and impoverished, agrobiodiversity and the associated indigenous knowledge become increasingly important for achieving food security, improving nutrition, and coping with evolving needs and changes owing to HIV/AIDS (e.g. labour loss, impoverishment).

Modern agricultural and development forces have persistently neglected and eroded agrobiodiversity and indigenous knowledge. They have accelerated, even if inadvertently, their depletion and depreciation at the very grassroots level. The narrow focus on market-oriented agriculture and cash-crop farming has impaired the conservation, valuation and use of agrobiodiversity, washing away many options for food security, nutrition and sustainable livelihoods. Globalisation forces and short-sighted analysis continue neglecting and eroding agrobiodiversity, sometimes despising it as a backward component of agriculture, and some other times through venerating new techno-capitalist endeavours such as transgenic crops that will hardly benefit the poorest people. For instance, in a seminar that the author presented in Dodoma (Tanzania) in December 2001, a regional agricultural officer criticised that a focus on agrobiodiversity and indigenous knowledge would bring Tanzanian farmers to the "past" and prevent them to access new resources such as particularly genetically modified crops. He even stated that Tanzania should follow European agricultural systems, which he wrongly argued to depend on transgenic crops. Misleading views, deficient knowledge base and poor development analysis perpetuate the neglect and erosion of agrobiodiversity as a force for sustainable agricultural and rural development. Glamorous agricultural development proposals such as the massive introduction of transgenic crops with promising yield increases will not bring tangible benefits to the poor, if they ever reached them, aside from posing threats to sustainable rural development (Garí, 2002b). After some decades of failing agricultural development strategies under the Green Revolution fever, new dreams following a similar rhetoric are not much convincing any more.

Promoting the conservation and use of agrobiodiversity is a suitable approach for food security, household nutrition, and sustainable livelihoods. Wider use of agrobiodiversity will be required to meet the food security and nutrition needs of poor rural and urban populations, to produce varieties adapted to adverse environments, to advance the protection and sustainable use of natural resources, and to foster agricultural and livelihood diversification. The international community has already recognised the importance of the conservation and use of biodiversity in agricultural and rural development (box 12). Awareness and initiatives are growing, but there still remains a strong reluctance to consider agrobiodiversity and indigenous knowledge as valuable forces for agricultural and rural development.

Box 12. Conservation and use of biodiversity in the international arena

- " (The) conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population."
  - *Convention on Biological Diversity* (1992): preamble.
- " The conservation of plant genetic resources is one side of the development equation; the use of these resources is the other."
  - *Diversity for Development: The new strategy of the International Plant Genetic Resources Institute.* IPGRI, Rome, Italy (1999): p. 4.
- " (Countries shall) promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture."
  - *International Treaty on Plant Genetic Resources for Food and Agriculture* (2001): art. 5.1(c).

A set of strategic components have been identified and will be analysed in the next chapters:

- Traditional, neglected and under-utilised crops (chapter 3)
- Agricultural diversification (chapter 4)
- Home gardens (chapter 5)
- Wild food plants (chapter 6)
- Medicinal plants (chapter 7)
- Community seed systems (chapter 8)
- Livestock and agropastoral systems (chapter 9)

These strategic components can empower the rural poor to combat food insecurity and AIDS impact, if adequate changes in policies, agricultural programmes, and practices at the farmer level are accomplished. These strategic components are already embedded in farmer dynamics and hence allow for grassroots responses. They appeal to the entire development sector, from international co-operation, to national policy-making, to agricultural research and extension programmes, and to community mobilisation. In fact, policy and programme responses around these strategic components are required to assist farmers in their implementation, whilst that would making farmers subjects, not objects in the development process.

The consideration of these strategic agrobiodiversity components is connected to gender equality and community mobilisation. In fact, gender inequalities result in the discrimination of the agrobiodiversity and indigenous knowledge that rural women hold and need for their specific roles, washing away options for agricultural development. Accordingly, gender approaches are indispensable for the viability and effectiveness of agrobiodiversity-based strategies and for the full transmission of indigenous agricultural knowledge (box 13). In addition, community mobilisation is required to launch community-based awareness and efforts around agrobiodiversity and indigenous knowledge.

Box 13. Agrobiodiversity and gender

- Through their daily work, rural women have accumulated intimate knowledge of their ecosystems, including the management of plant and animal genetic resources. It is estimated that up to 90% of the planting material that poor farmers use is derived from seeds and germplasm that rural women produce, select and save.
- Through their different activities and agricultural practices, rural men and women have often developed different expertise and knowledge about the local environment, the plant and animal species, and their products and uses. These gender-differentiated knowledge systems play a decisive role in the conservation *in situ*, management and improvement of genetic resources for food and agriculture.
- Women's key roles, responsibilities and specific knowledge about agrobiodiversity often remain "invisible" to experts in the agricultural, environment and rural development sectors, as well as to policy-makers and agricultural planners.

Source: Adapted from FAO (2001d).

In conclusion, the consideration of agrobiodiversity and indigenous knowledge results in new modes of agricultural and rural development. That equally forces a grassroots focus, empowers both men and women farmers, enhances local responses and increases farmer autonomy.