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## Tracking Vulnerability: Lessons Learned Using Vulnerability Indicators in the Gikongoro Food Security/HIV/AIDS Initiative in Rwanda

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**Abstract:** *This paper provides a brief overview of the use of two standard indicators (the quantitative Months of Adequate Household Food Provisioning [MAHFP] and the Food Security Community Capacity Index [FSCCI]) and one project specific vulnerability index indicator to assess and monitor vulnerability in the general project intervention area as a whole and particularly for HIV-affected households. The paper compares and contrasts the three indicators in terms of the utility of the information they provided; the reliability and comparability of the data they generated; the efficiency of the indicators in terms of the time needed for data collection, entry, and analysis; and the potential of each of these indicators to track project impact on vulnerability. The findings using this framework indicate that all three indices resulted in changes in project activities that target vulnerable households. Although vulnerability indices are often attractive in concept and provide useful information for adapting project activities to better target vulnerable households, the MAHFP provides direct information on changes in food access that the vulnerability index entangles in other data. MAHFP is more efficient and comparable across times and projects. The livelihood and health data provided by the vulnerability index is useful as a follow up and cross reference with MAHFP, but this type of information can also be gathered through a livelihood profile or constraints analysis based on MAHFP. The main weaknesses of the vulnerability index as a way to track project impact on vulnerability is that it requires a substantial amount of staff time and it may over-estimate positive impacts of the project because it measures participation in project activities rather than the impact these activities have on food security. One of the main recommendations is that even if vulnerability indices are used in the future, the MAHFP questions can and should be added to all project survey forms as a way of tracking and verifying changes in vulnerability. It would also be helpful to follow up the changes in project activities to better target vulnerable households by exploring the impact on food security of these changes. This paper also concludes that use of the FSCCI identified a capacity-building need of associations of people living with HIV (PLHIV) that was hindering progress in improving the lives of their members (PLHIV households) and this should also be tracked in household survey forms in order to identify the project impact of association capacity building efforts on the vulnerability of households they serve.*

**Objectives:** This paper describes the attempts of the Gikongoro Food Security/HIV/AIDS Initiative (GFSI) to better target and track vulnerability of HIV/AIDS-affected households.

Two main questions have guided this analysis:

- Did inclusion of a project-specific vulnerability index and the quantitative Months of Adequate Household Food Provisioning (MAHFP) indicators provide

the project with information that facilitated targeting and tracking of vulnerable groups and vulnerability of HIV-affected households?

- Was project support of the associations for people living with HIV (PLHIV associations) bolstered by using the Food Security Community Capacity Index

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(FSCCI) to assess and track their capacity?

## **Background**

*Africare's Work on HIV/AIDS.* Since 2006, learning from field experience, the USAID Title II Food for Peace program has recognized HIV/AIDS as one of the most critical challenges affecting household food security in the poorest areas of Sub-Saharan Africa and (therefore) a major focus of the United States Agency for International Development (USAID) strategy (USAID/FFP/DCHA 2005). Most of the first generation of HIV/AIDS programs that international organizations like Africare executed under their Title II programs focused on promoting behavior change and communication, creating safety nets through food assistance to vulnerable groups; supporting community based orphan care and empowerment, and executing activities under the Improving Livelihoods through Increasing Food Security (I-Life)<sup>iv</sup> programs. These country specific activities were in addition to general awareness-raising activities that take place in most of Africare's Title II countries. One direct impact of the successful introduction and dissemination of antiretroviral therapy in many parts of Africa has been to expand the focus of HIV/AIDS assistance (from predominately health related activities) to improving the living standards and livelihood systems that support people living with the HIV. Strategic Objective One of Africare's Institutional Capacity Building (ICB) grant (FY04-FY08) was: "Title II field level impact increased by developing better methodologies for enhancing local capacity to identify and reduce food insecurity in vulnerable groups including HIV/AIDS affected households." Under this grant Africare has documented the benefits of their HIV/AIDS food programming for both Rwanda<sup>v</sup> and Burkina Faso<sup>vi</sup> and has produced several quick reference guides to help build staff capacity to identify and track HIV-affected households.<sup>vii</sup>

Africare has identified several key questions that cannot be addressed by the current indicators and methods recognized by USAID Office of Food for Peace (FFP) and the Food and Nutrition Technical Assistance (FANTA) project for Title II programs.

- How can projects identify the most vulnerable HIV-affected<sup>viii</sup> households?

- How can projects determine whether income generating, direct distribution, and agricultural production activities funded by the project reduced vulnerability of specific groups (e.g., HIV-affected households)?
- How can projects identify training needs and impacts at the community level that help PLHIV associations minimize the devastating economic, social, and health impacts of HIV/AIDS on households and individuals coping with the disease (i.e., how are household vulnerability and PLHIV association capacity related)?

*The Gikongoro Food Security/HIV/AIDS Initiative (FY05-FY09).* The Gikongoro Food Security/HIV/AIDS Initiative (GFSI) is typical of the new expanded focus of Title II food programs on PLHIV programming. The current design takes advantage of and builds upon achievements of the Africare-supported Gikongoro AIDS Project (GAP) in Gikongoro province, (now Nyamagabe district) (Africare/Rwanda 2005). This region is one of the areas with the highest rates of HIV infection in Rwanda, with rates estimated to be two to four times the national average.<sup>ix</sup> The project was designed with three strategic objectives (SOs):

- SO1: Increased incomes and reduced vulnerability to food insecurity,
- SO2: Improved household health and nutrition and reduced vulnerability to HIV/AIDS, and
- SO3: Increased access to basic food commodities through monetization and local production.

The project was conducted as a consortium and Africare was only responsible for activities under SO2 in Gikongoro (Nyamagabe) district (Table 1).<sup>x</sup> Although some of the Africare project activities—such as growth monitoring—cover the general population of the district, the majority of Africare's activities have focused on strengthening health and nutritional status and reducing the vulnerability of PLHIV (Annex I).

Despite the focus on HIV, vulnerable households, and activities to reduce vulnerability, the original project monitoring and evaluation system did not include any standard indicators with which to measure the impact of food programming, nutrition education, and livelihood activities on the vulnerability of PLHIV households. In addition, the general food

**Table 1. The Gikongoro Food Security/HIV/AIDS Initiative Activities for the Africare Project Area Targeting the General Population and HIV-Affected Households**

<b>SO2: Improved household health and nutrition and reduced vulnerability to HIV/AIDS</b>
<b><i>IR 2.1: Improved access and use of health and HIV/AIDS services</i></b>
IR 2.1.1: Increased access of [PLWHA] cooperatives and associations to a range of general community health services
IR 2.1.2: Increased awareness about the dangers of HIV/AIDS through behavior change communication initiatives
IR 2.1.3: Increased availability and use of PLWHA and child care services at the community level
<b><i>IR 2.2: Improved knowledge and use of good nutritional practices</i></b>
IR 2.2.1: Improved nutritional status for children aged 0 – 5
IR2.2.2: Mitigated impact of HIV/AIDS on the nutritional status of people infected and affected by HIV/AIDS

insecurity and HIV prevalence of the intervention area demonstrated the need for the project to intervene, but project staff also recognized that there were important variations in vulnerability and need, as well as suspected differences in constraints, that were not reflected in average values for the major descriptive statistics and project indicators. Finally, Africare realized that although they had easy access to PLHIV households through the PLHIV associations, the M&E system didn't include any method for targeting or tracking the organizational capacity and training needs of the PLHIV associations, which were the principal vehicle for both executing and sustaining the activities under SO2. To address these issues, the project introduced:

- Two models for tracking household vulnerability—one based on the Months of Adequate Household Food Provisioning (MAHFP) and one based on a project-specific vulnerability index composed of eight variables and
- The Food Security Community Capacity Index to measure the capacity of PLHIV associations working with the project.

**Methods:** The data for this analysis was collected during two interrelated studies.

- *Mid-Term Quantitative Survey:* The project quantitative survey was conducted in November and December 2007 and collected data from a stratified random sample of 372 households in 30 administrative cells (each cell is comprised of several villages).<sup>xi</sup>
- *PLHIV Household Survey:* A separate follow-up household survey was conducted in October 2008 of 189 households affiliated with the 29 most

active PLHIV associations (out of a total of 35 PLHIV associations).

*Mid-term Quantitative Survey (November-December 2007).* The entire project area was divided into 56 cells representing 11 sectors. The team randomly selected 360 households to interview from 30 of the 56 cells in which it intervened. Within each of the sampled households:

- The household head (male or female) was interviewed about the food security situation of the family;
- One mother with a child under 24 months of age was given an in-depth interview about health and nutrition practices specifically related to infant and child care (nursing, weaning, mother's feeding habits during pregnancy and nursing, the practices used to treat diarrhea, and drinking water); and
- All children under the age of five were weighed.

*Vulnerability Index.* Before leaving the village, the enumerators/extension agents charged with executing the study regrouped to identify the vulnerability class of each household that was interviewed. This vulnerability classification was based on eight variables (Box 1). Some of the variables were information from the survey (such as the number of livestock in the household, whether or not the household head or mother reported having an income generating activity, whether or not the household was farming on land they owned or rented, and the nutritional status of the children based on anthropometric measurements). Other information was based on the enumerator/extension agent's observations (such as the quality of construction of the house and perceived poverty level of the household).

Using all eight variables (Box 1), each household was classified in a subjective manner<sup>xii</sup> based on agreement between the enumerators/extension agents as:

- Category A: Least Vulnerable,
- Category B: Vulnerable, or
- Category C: Most Vulnerable.

This status as (A, B, or C) was listed on each of the forms and provided the basis for a disaggregated analysis of the households by vulnerability status.

*MAHFP.* The same mid-term survey of household heads included the basic questions (Box 2) needed to calculate the Africare indicator “Months of Adequate Household Food Provisioning” (MAHFP). Based on the responses to these questions, the project calculated the number of months that households reported having “adequate” household food provisioning, which was defined in the context of the project area as two meals each day. The method followed the one recommended in Africare’s guidance on MAHFP (Konda et al. 2008, AFSR No. 17). In addition to an average MAHFP for the sample, the project also classified households sampled into three different food security categories:

- Category I: Least Food Insecure (12 months of adequate household food provisioning),
- Category II: Moderately Food Insecure (4 to 11 months of adequate household food provisioning); and
- Category III: Most Food Insecure (0 to 3 months of adequate household food provisioning).

*FSCCI.* During the same mid-term survey, the project organized a separate assessment of the PLHIV associations, through which the project routes its interventions. These assessments were conducted on the 29 most active associations (out of a total of 35) with which the project works. To assess this capacity the project used a modified version of the Africare Food Security Community Capacity Index (FSCCI).<sup>xiii</sup> The FSCCI is a ten variable index that communities use to self assess their capacity in key areas that they need to identify and manage risk and routine food security interventions (Box 3). In the early stages of an intervention, an extension

agent administers the tool and reports the community’s self-assessment in key areas. Eventually, many communities master the tool and administer it themselves with little or no direct project intervention (Tushemerirwe and McMillan 2007).

*Vulnerability Follow-Up Study of PLHIV Households (October 2008).* Although the original mid-term survey included a question to identify PLHIV households (whether the household belonged to a PLHIV association), only 28 households in the mid-term were identified as PLHIV households. In order to better understand the special needs and constraints of the PLHIV households—which were the principal target of the project—the project needed a larger sample size. Therefore, GFSI commissioned a separate follow-up study of the PLHIV households in October 2008. The questionnaire that was used (Annex II) was based on a revised and improved version of a questionnaire developed and pilot tested in the Africare/Burkina Faso program (Badiel et al. 2008, AFSR No. 24). Given the emphasis of the program on health and nutrition, the Rwanda team added a series of questions that focused on health and nutrition in addition to the more general health, agricultural, and non-agricultural employment questions that were included in the Burkina questionnaire. In addition, the Rwanda study weighed one person living with HIV in each household.<sup>xiv</sup> To calculate the MAHFP the group used the same questions that were asked during the mid-term survey (Box 3).

Since most individuals who test positive for HIV join a PLHIV association, the list of members was used to draw a random sample from each of the associations. It was determined that a minimum of ten percent (10%) was needed for the study based on the list of registered members, which would equal 172 households. The project selected a total of 189 households (10% or 17 more than the minimum needed for the desired sample size) in order to include extra households in case any of the first 172 households could not be interviewed. The random sample was stratified by PLHIV association resulting in five to six sampled

**Box 1. Variables Considered in the Project Specific Vulnerability Index**

1. Socio-economic situation of the household
2. Access to land
3. Livestock ownership
4. Income generating activities and capacity to manage IGA
5. Capacity to pay school fees of children and their health care
6. Nutritional, health, and hygiene status of household and members
7. Housing quality
8. Number of meals eaten every day by households (without food assistance)

**Box 2. Questions used by Africare/Rwanda to Calculate the Quantitative MAHFP in the GFSI Project Mid-Term and PLHIV Household Surveys**

1. Do your crop production and other resources cover your annual food needs? /\_\_\_\_\_/

1=Yes                      2=No

2. How many times per day does your family actually eat? /\_\_\_\_\_/

3. Can your family eat as much as they want without food aid? /\_\_\_\_\_/

1=Yes                      2=No

If yes, for how many months can the household eat as much as they want? \_\_\_\_\_ months

If no, how many months does household not eat as much as they want? \_\_\_\_\_ months

4. Food Security Calendar (Number of months of adequate food provisioning=Number of months when the households have sufficient food to eat)

# of months of abundance		# transition months		#hungry/lean months	
2006	2007	2006	2007	2006	2007

*(Ask the number of months of adequate food, of transition, and hunger (i.e., lean months)*

**Box 3. Modified Version of the Standard Africare FSCCI used to Assess the Mid-Term Capacity of the PLHIV Associations in the GFSI Project**

The FSCCI index was used to measure the capacity of the PLHIV associations with whom the project works. Each variable is measured by one to five indicators that are ranked from zero to five with five being the highest ranking. Although most of the variables measure the same capacities as the standard Africare FSCCI guidance (Africare 2007, AFSR No. 2), and included the same number of indicators (28), the ordering of the variables is different.

1. Community Organization
2. Community Participation
3. Good Internal Functioning of the Organization
4. Capacity to Analyze and Plan
5. Transparency and Good Management
6. Communication and Exchanges with Outsiders
7. Capacity to Take Action
8. Individual Capacity
9. Community Capacity to Analyze and Manage Risks and Vulnerability
10. Community Capacity to Manage Risks Associated with HIV/AIDS

The maximum number of points possible is 140; an organization's score on the FSCCI (y) is based on the percentage that the association's score (x) represents of the total points possible (140) (x divided by 140 x 100=y).

households from each of the 29 associations. The project extension agents:

- Interviewed the HIV-positive household head using the questionnaire (Annex II) and
- Measured the height and weight of the person interviewed immediately after the interview to calculate their Body Mass Index (BMI).

## Results and Discussion

### The Project Specific Vulnerability Index

The project vulnerability index classified 360 surveyed households into three vulnerability categories:

- Least Vulnerable: 146 households (41%),
- Vulnerable: 172 households (47%), and
- Most Vulnerable: 42 households (12%).

*Vulnerability Index and HIV-Status.* Based on an analysis of households where the household head reported that they or a member of the household belonged to a PLHIV association (the proxy indicator used to identify households of PLHIV), the PLHIV households varied in terms of their vulnerability classification. A larger percentage of the households in the most vulnerable category reported membership in a PLHIV association (19%) compared to the vulnerable and least vulnerable categories combined (8%

and 5%, respectively) (Yates chi square, p-value=0.009) (Table 2). This highlighted the need to explore the special constraints of HIV-affected households.

*Vulnerability Index and Child Malnutrition, Feeding Practices, and Health.* One of the principal objectives of the mid-term quantitative survey was to see if these different levels of vulnerability (based on the project-specific vulnerability index) correlated with: (1) children's nutritional status (based on anthropometric measurements) and (2) current feeding practices and nutritional status of children less than 24 months (based on interviews with mothers when the children were weighed). The study showed a positive correlation between vulnerability category and data on underweight children (i.e., a higher percentage of children were underweight in more vulnerable households) and particularly noteworthy is that the percentage of children in the most vulnerable households who were classified as underweight was substantially higher than the average (31% versus 19%, respectively). The data on wasting shows a different story with a higher percentage of children in the middle category (vulnerable) than in the most vulnerable category (3.8 versus 2.8 percent, respectively), but a much lower percentage of children classified as wasting in the least vulnerable category than the average.

**Table 2. Food Security Status (based on the average MAHFP) of GFSI Beneficiary Households in Different Vulnerability Categories (November-December 2007)**

Categories and Levels of Food Insecurity Based on the Project Vulnerability Index	Sample size and % of the total sample	#Adequate Food security (# months) (MAHFP)	Percentage of households in this category that belonged to PLHIV Association
<i>For the Entire Project Intervention Area (n=360)</i>			
A. Least Vulnerable	n=146 (41%)	5.1 mo	4.9%
B. Vulnerable	n=172 (47 %)	3.9 mo	7.5%
C. Most Vulnerable	n=42 (12%)	1.3 mo	19.1%
<b>All Households</b>	<b>n=360 (100%)</b>	<b>4.1 mo</b>	<b>7.9%</b>
<i>For Households in Mid-Term Survey Who Reported Belonging to PLWHA Associations (n=28)</i>			
A. Least Vulnerable	n=7 (25.0%)	4.7 mo	100%
B. Vulnerable	n=13 (46.4%)	3.6 mo	100%
C. Most Vulnerable	n=8 (28.6%)	1.2 mo	100%
<b>All Households</b>	<b>n=28 (100%)</b>	<b>3.2 mo</b>	<b>100%</b>

Source: Sidibé 2008.

**Table 3: Prevalence of Malnutrition for Different Vulnerability Groups in the GFSI Project Intervention Area (based on the project-specific vulnerability index)**

Ages, Sex, and Nutritional Status of Children Weighed during Mid-Term Quantitative Survey	Stunting (Malnutrition chronique) (Height/Age)		Wasting (Malnutrition Aiguë) (Weight/Height)		Underweight (Insuffisance Pondérale) (Weight/Age)	
	< -3 SD	< -2SD	< -3SD	< -2SD	< -3SD	< -2SD
	<b>Percentage of children in different categories of food insecurity (0-59 months)</b>					
Least Vulnerable	9.4	31.0	0.9	1.4	0.5	12.2
Vulnerable	18.9	43.9	1.9	3.8	2.7	20.7
Most Vulnerable	23.9	43.7	0.0	2.8	11.3	31.0
All (0 – 59 months)	15.9	38.9	1.3	2.7	2.9	18.8
Health Demographic Survey (of Rwanda) III 2005 (0-59 months)	19.3	45.3	0.9	3.9	4.4	22.5

**Source:** Africare 2008 and *Enquête Démographique et de Santé (EDS) 2005*.

Stunting data show the most vulnerable and vulnerable households have a similar percentage of children classified as stunted (43.7 versus 43.9 percent, respectively) but both of these categories have a higher percentage of stunted children than the least vulnerable households (Table 3).

During the first three years, the GFSI project invested heavily in educating mothers about childhood illness treatments and good feeding and nursing practices. To assess the early impact of these efforts, the mid-term survey included detailed questions on childhood feeding and health practices that would illuminate the constraints to healthy children of households in the most vulnerable and moderately vulnerable categories (Table 4). The data on feeding and health behaviors and knowledge for children under 24 months of age show that a higher percentage of the most vulnerable households did not practice some of the favorable feeding and health practices sponsored by the project. The fact that the mothers in the most vulnerable category show no difference in nursing their children demonstrates that if the desired behavior is not subject to constraints aside from knowledge, all households (regardless of vulnerability status) can benefit. The project suspects that because nursing does not cost anything, mothers in the most vulnerable group are just as likely to report doing this beneficial feeding practice.

A smaller percentage of households in the most vulnerable category reported practicing three of the project supported health behaviors (Table 4):

- Visit to a prenatal clinic,
- Use of enriched broth for child, and
- Membership in insurance program.

In addition, four percent of the households classified as most vulnerable report their child having had measles while none of the households in either of the other less vulnerable categories report their children having had measles. While this percentage is low, it is a stark difference for a disease which can be prevented with a low-cost vaccine and may indicate constraints that are special to these most vulnerable households.

These observations may be related to available financial capital. Some of the beneficial activities for which a significantly lower percentage of the vulnerable households reported participation require a cash investment (purchasing the ingredients for enriching broth, paying for the



*Household interviewed during mid-term survey that was classified as very vulnerable. Six children and their mother and father all live in this house with one room. Photo credit: S. Sidibé*

**Table 4. Nursing and Diet practices for Children under 24 months of Age for Mothers in Different Vulnerability groups (based on the MAHFP)**

Health Knowledge/Practice	Least Vulnerable n=122	Vulnerable n=189	Most Vulnerable n=49	Test of Difference (p-value)	All n=360
<i>Areas with no Major Differences between Vulnerability Groups</i>					
Child who was weighed was nursed	100.0	99.5	100.0		<b>99.7</b>
Child who was weighed put at mother's breast:					
-during first hour after birth	73.0	73.4	71.4		<b>73.0</b>
-between 1-8 hours after birth	21.3	19.2	16.3		<b>19.5</b>
-After more than 8 hours after birth	5.7	7.4	12.3	.63 <sup>a</sup>	<b>7.5</b>
Mother reports child showing symptoms of malaria during two weeks prior to survey	7.4	7.4	8.16		<b>7.5</b>
Mother reports child showing symptoms of diarrhea during two weeks prior to survey	27.9	22.2	28.6	.53 <sup>c</sup>	<b>25.0</b>
Mother reports she is aware of where to obtain family planning information and supplies	99.2	95.2	91.8	.011 <sup>d</sup>	<b>96.1</b>
Mothers who reported knowing about using oral rehydration salts to treat a child with diarrhea	10.7	8.5	2.0	.15 <sup>e</sup>	<b>8.3</b>
Mother reports that child showed signs of upper respiratory infection during the two weeks before the survey cough and/or signs of pneumonia	20.5	26.5	36.7	.061 <sup>h</sup>	<b>25.8</b>
<i>Variable with Important Differences between Vulnerability Groups</i>					
Mother reports using enriched broths	59.8	37.6	24.5	<.01 <sup>f</sup>	<b>43.3</b>
Mother belong to the government funded insurance program	91.8	80.5	70.6	.046 <sup>g</sup>	<b>83.1</b>
Mother reports that child has had measles	0.0	0.0	4.1	na	<b>0.56</b>
Mother had at least one visit to the Prenatal Consultation Service ( <i>Consultation Prenatale</i> or CPN) during pregnancy for the child being weighed	100	100	95.9	.018 <sup>b</sup>	<b>99.9</b>

**Source:** Sidibe. 2008. GFSI Mid-Term Quantitative Survey.

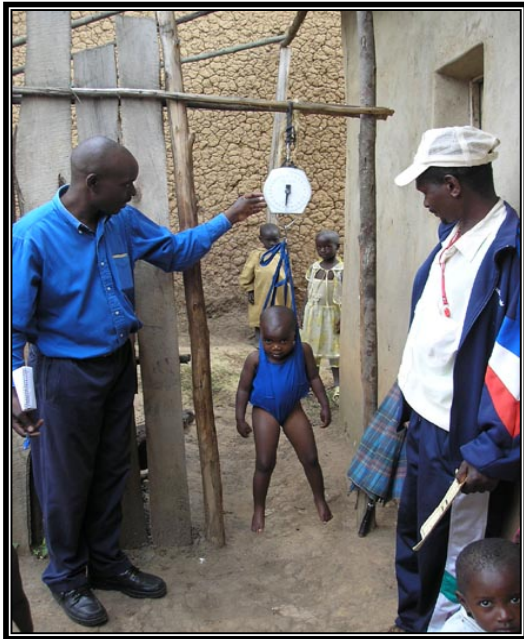
<sup>a</sup>=not significant with Yates chi square test; <sup>b</sup>=Fisher's exact test; <sup>c</sup>= not significant chi-square test, uncorrected; <sup>d</sup>= not significant Fisher's test; <sup>e</sup>= not significant Yates chi square test; <sup>f</sup>=chi square test, uncorrected; <sup>g</sup>=chi square test, uncorrected; <sup>h</sup>=not significance chi square uncorrected.



government subsidized insurance program<sup>xv</sup> and/or paying for transportation to the insurance office to sign up, and transportation to visit a prenatal clinic). Therefore, even if the project addresses the need for education about beneficial health behaviors, the most vulnerable still have the constraint of cash flow, no matter how subsidized the activity or how little the payment. The data on knowledge (rather than practice) of using oral rehydration salts for sick children and knowing where to obtain family planning information (which show no statistically significant differences between vulnerability groups) support this finding.

Based on the mid term survey's evidence that the highest percentage of chronically malnourished children were from households classified as vulnerable and most vulnerable using the project vulnerability index, the evaluation concluded that any sustainable reduction in the rate of malnutrition would have to include activities that decreased the vulnerable and very vulnerable households' constraints in these areas.

Based on the analysis of the vulnerability category, health and feeding practices, and the



*One of the principal objectives of the mid-term quantitative survey was to see if these different levels of vulnerability correlated with children's nutritional status and current practices for the feeding and nutrition of children less than 24 months (based on interviews with mothers when the children were weighed). Photo Credit: S. Sidibé.*

staff's experience in the field, the project's conclusion that the principal constraint was lack of cash was also linked with lack of food from household production and lack of ownership of land (the most vulnerable groups had to rent land therefore they don't have access to a way to produce food within the household).

*Modification of Project Activities Resulting from Vulnerability Index Analysis.* The analysis described above brought to the attention of the project a group of households that were not benefiting from the project activities that were aimed at changing behavior. To address these issues the project identified a series of new activities that were designed to better target the special needs and constraints of the most vulnerable households. To fund the activities, Africare developed a separate follow-up proposal that was funded by Catholic Relief Services; this new set of activities started in January 2008 (Box 4).

The project anticipated that women in the most vulnerable category would suffer from stigma if they were identified as having performed the worst in terms of childhood nutrition and health practices. To avoid this stigma, the decision was made to create a new organization—the "Mothers' Association to Fight Malnutrition" (*association des mères pour lutter contre la malnutrition*)—through which the project could route the activities targeting this group. The members of the mothers associations were recruited from the women participating in the project's Hearth program for rehabilitating moderately malnourished children (referred to in French as FARN, *Foyer d'Apprentissage et de Rehabilitation Nutritionnelle*). Although the Hearth program included women from all three vulnerability groups, the majority were from the vulnerable and very vulnerable groups.

Once the mothers' groups were organized, the project worked through these groups to help women develop collective irrigated gardens and income generating activities that were supported by the new sub-grant from CRS (Box 4). This strategy specifically addressed the lack of access to and ownership of land for the most vulnerable households. The same groups became the focus of a new set of project health and nutrition activities. The fact that the mothers' associations were linked to the highly successful (and appreciated) Hearth program reduced the stigma of belonging to them.

**Box. 4. New Activities Started after Project Mid-Term (January 2008) to Address Issues Raised by the Vulnerability Index Analysis**

- Recruitment of women who participated in Hearth programs to form Mother's Association to Fight Malnutrition.
- Conduct growth monitoring activities for PLHIV using Body Mass Index and Mid Upper Arm Circumference
- Conduct nutrition, hygiene, and sanitation for households affected or infected by HIV/AIDS
- Organize cooking demonstrations
- Work through mothers' associations to promote gardening and seed distribution
- Work through mothers' associations to promote small animal husbandry

**Source:** Annex I.

*Comparing the Vulnerability Index and the MAHFP.* Despite the fact that Africare has traditionally used the MAHFP to calculate its vulnerability categories, GFSI used the project specific vulnerability index (discussed above) to classify households into three vulnerability categories. The reason for this was that MAHFP—with its exclusive focus on “months of adequate food”—was criticized for not considering many of the other factors that affect or are affected by food security (such as livelihood activities, resources, and health behaviors). While the results of the vulnerability index study resulted in positive changes in project activities to target vulnerable households, for the purposes of this paper and the assessment of the indicators for tracking vulnerability a re-assessment (December 2008) of the mid-term data was done that looked at MAHFP in relation to vulnerability categories of the vulnerability index. The average MAHFP was calculated for each of the vulnerability categories based on the vulnerability index.

The mid-term average MAHFP was only 4.1 months for all 360 households sampled. The average MAHFP for each of the vulnerability groups based on the vulnerability index were significantly different (p-value .00001, ANOVA).

- **Least Vulnerable:** Just under one half of the households (41%) were classified as least vulnerable with an average of 5.1 months of adequate household food provisioning.
- **Vulnerable:** Approximately 47 percent of the sampled households were classified as moderately vulnerable with an average of 3.9 months of adequate household food provisioning.

- **Most Vulnerable:** Approximately 12 percent of the sample was classified as very vulnerable with an average of only 1.3 months of adequate household food provisioning.

In sum, the survey showed that food security was a widespread problem with very low MAHFP, even for the least vulnerable group, and that (at least on the surface) vulnerability categories seem to correlate well with MAHFP. This is not entirely surprising given that one of the variables in the vulnerability index that classified households into these three categories is the number of meals eaten each day and it is likely that the more household food provisioning the more likely the household is to eat more meals each day.

There was a major difference detected between the vulnerability index and the MAHFP. A comparison of the number of households classified in the most vulnerable category (based on the vulnerability index) and most food insecure category (based on the MAHFP) illuminated dramatic differences. The data show that the MAHFP indicator identified 166 or 46 percent of the 360 households as most food insecure (i.e., most in need), while the vulnerability index only identified 42 or 12 percent of the 360 households as most vulnerable (i.e., most in need) (Table 5). From the perspective of a food security project with the aim of targeting and addressing the constraints of the most vulnerable households to food insecurity, MAHFP identifies a larger group in need of specialized attention. The danger that arises from this is that the vulnerability index used in this project may have underestimated the number of households with serious constraints to food security.

**Table 5. Comparison of Composition of Household Classifications Based on MAHFP and the Vulnerability Index**

Indicator	Good <i>Least food insecure/ Least vulnerable</i>		Moderate <i>Moderately food insecure/ Vulnerable</i>		Poor <i>Most food insecure/ Most vulnerable</i>	
	#	%	#	%	#	%
MAHFP (n=360)	7	1.9	187	51.9	166	46.1
Vulnerability Index (n=360)	146	40.6	172	47.8	42	11.7

*PLHIV Household Survey (October 2008)*

Given the high HIV prevalence in Rwanda in general and the project area in particular and that the project’s vulnerability analysis during mid-term demonstrated a higher percentage of the most food insecure households belonged to PLHIV associations (i.e., were impacted by HIV) and that only 28 households were identified in the mid-term survey as belonging to PLHIV associations, the project needed to explore the special constraints of these households to food security in a study that specifically targeted HIV-affected households.

The field work for the follow-up vulnerability study of PLHIV households using the MAHFP (instead of the project-specific vulnerability index) was conducted eleven months after the field work for the mid-term survey (2-15 October 2008). The PLHIV survey had several complementary objectives that included: (a) providing the project a better in depth understanding of the special constraints and opportunities with which PLHIV households are confronted as a basis for better targeting these households in project activities and (b) providing a close-to-mid-term measurement of PLHIV household vulnerability against which the project achievements could be measured at the final survey. The same survey was expected to permit a comparison of the special needs and constraints of the PLHIV households in the most food insecure category based on MAHFP with the most food insecure households in the wider project area. The critical difference between the PLHIV household survey and the mid-term was that it used the MAHFP (Months of Adequate Household Food Provisioning) rather than the project-specific vulnerability index to assess the

vulnerability status of the households. This decision was based on two factors.

- First, data collection for the MAHFP was relatively simple and could be built into the standard questionnaire (Box 2). In contrast the project specific indicator was based on questions that were drawn from the 33 page mid-term quantitative survey and enumerator perceptions during the interviews.
- Second, the Africare food security health and nutrition group wanted to compare the results of the PLHIV household study in Rwanda with a similar study in Burkina that used the MAHFP<sup>1</sup> (see Badiel et al. 2007, AFSR No. 24) and with the general population (based on mid-term survey).<sup>xvi</sup>

The study confirms that the average MAHFP for the PLHIV households (3.5) is less than the average for the general population (4.1) (p-value <.01). This difference would have likely been even more pronounced had the PLHIV households been compared with the non-PLHIV households in the general population (i.e., if the PLHIV households had been deleted from the general population sample). More striking was that not one of the PLHIV households in the sample was classified in the least food insecure category (Table 6):

- Sixty-four percent of the PLHIV households were classified as moderately food insecure (the middle category of food security based on the MAHFP) compared to 48 percent of the population as a whole and
- Thirty-six percent of the PLHIV households were classified as most food insecure compared to 12 percent for the population as a whole.

**Table 6. Households at Different Food Insecurity Levels: PLHIV Households and the Population at Large (based on MAHFP)**

Food Insecurity Category (based on MAHFP)	PLHIV Household Survey (October 2008) n=189			Mid-Term Survey (November-December 2007) n=360		
	# of PLHIV HHs in Category	% of PLHIV HHs in Category	Average MAHFP	# of HHs in Category	% of HHs in Category	Average MAHFP
Most Food Insecure (0-3 mo)	68 HHs	36.0%	1.2 mo	42 HHs	11.7%	1.3 mo
Moderately Food Insecure (4-11 mo)	121 HHs	64.0%	4.2 mo	172 HHs	47.8%	3.9 mo
Least Food Insecure (12 mo)	0 HHs	0%	n/a	146 HHs	40.5	5.1 mo
<b>Average all HHs</b>	--	--	<b>3.5</b>	--	--	<b>4.1 mo</b>

The main results of the detailed analysis of socio-economic characteristics related to food security status of PLHIV households compared to the general population indicated several differences and lack of differences between the two data sets (Table 7). Education of the household head did not correlate with improved food security based on MAHFP categories for PLHIV households (non-significant chi squared test, p-value=.32 comparing most food insecure and moderately food insecure PLHIV households), but education did relate to improved food security in the general population (p-value <.01, chi squared). This may indicate again that even if education is improved for PLHIV households, there are other constraints that prevent food insecure PLHIV households from improving their food security status. Alternatively, this lack of difference in education of household heads for households of PLHIV may indicate that individuals with education are more likely to live in HIV-affected households.

Most PLHIV households and the general population list agriculture as the main occupation with little, if any, difference between food insecurity categories (Table 7). However, a higher percentage of the general population in all three food insecurity categories list other occupations for the household head. Despite the fact that 100 percent of the households heads of the most food insecure PLHIV households report farming as their main occupation, only 90 percent of these household heads are able to “do some agricultural activity.” This is compared to

97 percent of the household heads of PLHIV in the moderately food insecure category who report being able to “do some agricultural activity” (although a this difference was not statistically significant, p-value .099). PLHIV households seem to have less labor (also confirmed by the household composition data reflecting active workers compared to total household members presented below and in Table 7). PLHIV households in the most food insecure category had fewer active workers (an average of 1.6 active workers in the most food insecure PLHIV households compared to 2.3 active workers in moderately food insecure PLHIV households, ANOVA test, p-value .0034) and a higher dependency ratio (i.e., ratio of dependents to active workers) (3.3 compared to 2.3, respectively). The nature of participation in certain livelihood activities and the ability to work at all may be directly related to the stage of illness of the PLHIV. However, comparison of the percentage of the most food insecure PLHIV on antiretroviral therapy compared to moderately food insecure PLHIV on antiretroviral therapy show no statistical differences (84% compared to 75%, p-value .18, chi squared) (Table 9). PLHIV are put on antiretroviral therapy when their CD4 count is less than or equal to 350 or if they are presenting symptoms of opportunistic diseases. Despite the non-significant statistical tests related to labor and work capacity, field experience has shown that labor is a major constraint for PLHIV households.

One of the more dramatic findings of the study is related to the practice of income generating activities. The most food insecure PLHIV households are much less likely to practice an IGA than the moderately food insecure PLHIV households (p-value  $<10^{-9}$ ). Comparing participation in IGAs for the same two food insecurity categories for the general population, the difference in percentages between these two groups is much less dramatic (24% participation of the most food insecure compared to 27% participation of the moderately food insecure) and the statistical test shows it is not significant (p-value .64).<sup>xvii</sup> This brings to light two questions. Do IGAs have the potential to raise food security in PLHIV households and are there special constraints to participation in IGAs that are characteristic of very food insecure PLHIV households, which don't appear to be as influential in non-PLHIV households who are very food insecure? A higher percentage of moderately food insecure PLHIV households (59%) report practicing IGAs than for the same food insecurity category for the general population (23%) (p-value .013, chi squared uncorrected) (Table 7). This may indicate the success of the new project activities (as of January 2008) focused on increasing the capacity of PLHIV associations to support IGA development in PLHIV households. However, it also highlights a very vulnerable group of PLHIV households that has not been able to develop IGAs. The project has admirably focused on HIV-affected households (as is recommended by USAID strategy), but it has also highlighted the need for more specific focus on the most food insecure PLHIV households that may have even more serious constraints to food security building activities.

The mid-term survey showed that a much higher percentage of the PLHIV household heads are headed by women (60 percent of PLHIV households compared to three percent for whole population) (Table 7). Qualitative data explain this as households where the husband has passed away.

The project also collected data on household food consumption and dietary diversity variables to explore the specific areas of need for PLHIV households. Due to the design of the mid-term survey only one food consumption variable (number of meals consumed each day) could be compared between the PLHIV and general population datasets (Table 8). The general trends

in number of meals consumed for the different food insecurity categories is the same for PLHIV households and the general population (noting that there were no PLHIV households in the least food insecure category). For both datasets, the more food insecure households tend to consume fewer meals per day. Especially important 21 percent of the most food insecure PLHIV households reported consuming one meal per day compared to eight percent of the moderately food insecure PLHIV households (significant difference with chi square, uncorrected test=5.96 p value=0.0146). It is interesting to note, however, that a higher percentage of moderately food insecure PLHIV households reported eating three meals per day than was reported for the moderately food insecure households in the population at large (Table 8). This could, in part, be a response to the need for PLHIV to eat smaller, more frequent meals to control nausea.

PLHIV household food security level was correlated with household consumption of meat and fish as well as fruit and vegetables based on both a 24 hour recall and when reported as the number of days in a week these items are consumed (Table 9). This data is also related to the BMI values calculated during the household interviews for the PLHIV study. Approximately 24 percent of the individuals weighed and measured for the most food insecure PLHIV households were malnourished, while only 10 percent of the individuals weighed and measured from the moderately food insecure households were considered malnourished (Table 9).

*Modification of Project Activities Based on Vulnerability Analysis using MAHFP for PLHIV Households and the General Population.* The project knew that most of the PLHIV households were likely to be classified in the most food insecure and moderately food insecure categories prior to starting the study; they did not have quantitative data. It was not surprising that HIV-affected households were vulnerable to food insecurity. Indeed this is the basis of Title II programs beginning to pay special attention to the needs and participation of HIV-affected households in project activities. What they did not know were the critical differences within the PLHIV households that distinguished the most vulnerable or most food insecure households from moderately food insecure households and how that affected their health and nutritional status, as well as their ability to participate in and benefit from project-sponsored agricultural and

**Table 7. Socio-Economic Characteristics of Households and Household Heads at Different Food Security Levels: PLHIV Households and the Population at Large**

Household Characteristics	PLWHA Household Survey (October 2008 (n=189))			Mid-Term Survey (November-December 2007) (n=360)		
	Most Food Insecure n=68	Moderately Food Insecure n=121	Least Food Insecure n=0	Most Food Insecure n=42	Moderately Food Insecure n=172	Least Food Insecure n=146
<i>Sex of the Household Head</i>						
Male	36.8 %	41.3%	0.0	95.2%	96.5%	98.6%
Female	63.2 %	58.7%	0.0	4.8%	3.5%	1.4%
<i>Education of the Household Head</i>						
No formal education or literacy	32.4%	25.6%	0.0	47.6%	36.0%	15.8%
Formal education or literacy	67.6%	74.4%	0.0	52.4%	64.0%	84.2%
<i>Occupation of the Household Head</i>						
Farmers	100.0%	99.2%	0.0	92.9%	95.3%	90.4%
Others	0.0	0.8	0.0	7.1%	4.7%	9.6%
<i>IGAs Practiced by the Household Head</i>						
Yes	7.4%	58.7%	0.0	23.8%	27.3%	45.5%
No	92.6%	41.3%	0.0	76.2%	72.7%	54.5%
<i>Active Workers in the Household</i>						
0 to 2 active workers	92.6%	72.7%	0.0	90.4%	91.2%	91.0%
3 to 5 active workers	7.4%	23.9%	0.0	9.6%	8.2%	7.6%
>5 active workers	0.0	3.3%	0.0	0.0	0.6%	1.4%
<i>Household Size (# of Residents)</i>						
1 to 3 persons	16.2%	24.8%	0.0	33.3%	34.9%	35.6%
4 to 7 persons	73.5%	64.5%	0.0	59.5%	57.5%	56.9%
>=8	10.3%	10.7%	0.0	7.2%	7.6%	7.5%
No. of PLHIV HH heads able to do some agricultural activities	89.7%	96.7%	0.0	n/a	n/a	n/a

**Table 8. Number of Daily Meals Consumed for PLHIV Households and Population at Large**

Number of Meals Consumed Daily	PLHIV Household Survey (October 2008) (n=189)			Mid-Term Survey (November-December 2007) (n=360)		
	Most Food Insecure n=68	Moderately Food Insecure n=121	Least Food Insecure n=0	Most Food Insecure n=166	Moderately Food Insecure n=187	Least Food Insecure n=7
1 meal/day	20.6	8.3	0.0	33.1	6.4	0.0
2 meals/day	79.4	64.5	0.0	66.9	82.4	0.0
3 meals/day	0.0	27.3	0.0	0.0	11.2	100.0

**Table 9. Food Consumption and Nutritional Characteristics of PLHIV Households at Different Food Security Levels (based on the MAHFP)**

Variable	PLHIV Household Survey (October 2008) (n=189)		
	Most Food Insecure n=68	Moderately Food Insecure n=121	Test of Difference (p value)
HIV/Infected Persons on ARV (in the HH)	83.8	75.4	Not significant, p-value = .18, chi squared uncorrected
Number of Daily Meals			
1 meal/day	20.6	8.3	p-value = .015, chi squared (compared 1 meal with 2/3 meals/day)
2 meals/day	79.4	64.5	
3 meals/day	0.0	27.3	
Consumption of Meat or Fish last 24 Hours			
No consumption	86.8	54.5	p-value = .000007, chi squared
Consumption	13.2	45.5	
Consumption of Meat or Fish by Week			
No consumption	58.8	15.7	p-value = 10 <sup>-9</sup> chi squared
1-2 days/week	38.2	45.5	
3-4 days/week	2.9	22.3	
5-7 days/week	0	16.5	
Consumption of Fruit			
No consumption	36.8	16.5	p-value = .0017 chi squared
1-2 days/week	32.4	38.0	
3-4 days/week	13.2	19.0	
5-7 days/week	17.6	26.5	
Consumption of vegetables last 24 hours	77.9	86.0	Not significant, p-value = .16, chi squared
BMI (Body Mass Index)			
BMI ≥ 18.5 Well Nourished	76.5	90.1	p-value = .012 chi squared uncorrected
BMI < 18.5 Malnourished	23.5	9.9	

income generating activities. Based on this information, the project developed a more fine-tuned strategy for targeting the most vulnerable (most food insecure) PLHIV households during the second half of the project starting in January 2009. Certain activities involved better targeting of some of the original project activities or activities that were added at mid-term; other activities were completely new (Annex I).

*Reorientation of Project Criteria for Enrolling and Graduating Households in/from Food Assistance.* Based on information from the PLHIV household survey, the project changed the criteria for food aid to PLHIV households. Under the new system priority for new enrollment was given to households with lower BMI (which also tend to be in the most food insecure category). To make room for new arrivals, the project started graduating households with PLHIV who were improving

(i.e., those with PLHIV with higher BMI measurements).

*Development of New IGAs and Agricultural Activities Better Adapted to the Very Vulnerable (Most Food Insecure) Households.* Based on the study's evidence that the most food insecure PLHIV households were not engaged in many of the IGA and irrigated gardening activities that the project promoted through the PLHIV associations, a new strategy was developed to include:

- Working with PLHIV associations to help them better understand the specific needs of the most food insecure households and the critical importance of tracking participation in and benefit from activities in the associations' action plans of the most food insecure PLHIV households;
- Working through the PLHIV and mothers' associations to promote less labor-

intensive livelihood activities that were better adapted to the labor constraints of the most food insecure households including:

- A new less labor-intensive household gardening model in or next to the beneficiaries' houses that included distributing vegetable seeds with high nutritional value to HIV households and
- A new model for small animal production in or next to the beneficiaries' houses that was better adapted to the labor constraints of the most food insecure PLHIV households;
- Training orphans and vulnerable children in tailoring; and
- Training PLHIVs to work with improved techniques for soy processing.

*Improved Targeting of Health and Sanitation Support:* A third pillar of the revised strategy after January 2009 was the project's commitment to developing more focused systems for targeting health and nutritional support to the most vulnerable households. This included:

- A new sub-group of nutritional education and culinary demonstration programs focused on the most food insecure PLHIV households and
- Better targeting of the project's health and hygiene kits (that include metal pots, disinfectant for drinking water, jerry cans, blankets, and soap) to the most food insecure PLHIV households that the survey showed had the greatest need due to their limited labor resources and income.

*Analysis of the Capacity of PLHIV Associations (using the FSCCI)*

One important consideration when exploring constraints of PLHIV households to food security is the capacity of the PLHIV associations through which the GFSI project activities are managed. The project recognized that if PLHIV associations did not have strong capacity to assist their member households, improvements in the food security status of these households would be limited. In addition, PLHIV associations needed to be aware (just as Title II programs do) of the special needs and constraints of the most vulnerable PLHIV households. Three of the 35 PLHIV associations



*New kitchen garden activities were initiated for PLHIV households based on the needs identified in the PLHIV survey. Photo Credit: S. Sidibé.*

with which the project works were created by the previous GAP project; the other 32 have been created under GFSI. During the first year of the project, however, very few of these associations had any formal structure or organization. Just before the GFSI mid-term, Africare started focusing more attention on the issue of strengthening their internal organization and capacity. As part of this process, GFSI started training the extension agents and association leaders to use the FSCCI self-assessment tool in August 2007 (Box 3 above). An official administration of the tool was conducted in 29 of the most active associations with which the project works as part of the mid-term in November-December 2007, the results of which are presented below.

The average score based on all 28 indicators and using the project system for calculation was 55.2 points. The majority of the associations (76%) scored in the average capacity level (50-70 points) (Table 10). Only a small percentage (7%) had a score that classified them as having strong capacity and approximately 17 percent were considered to have weak capacity (less than 50 points).

The chief weaknesses of the associations that were classified as having strong capacity were that (Annex III):

- The technical aspects of managing the association and cooperative were not yet mastered and
- They exhibited limited resources in comparison with their planned activities and objectives.



**Table 10: Percentage of PLHIV Associations with Different Levels of Organizational Capacity (based on the FSCCD)**

Level of capacity	Number of Associations	% of Associations
Strong Capacity (Index>70)	2	6.9 %
Average Capacity (Index>50 <70)	22	75.9%
Weak Capacity (Index<50)	5	17.2%
<b>Total</b>	<b>29</b>	<b>100%</b>

In addition to these constraints, the associations ranked as having average capacity had (Annex III):

- Weak capacity to manage conflict,
- Limited training,
- Insufficient land devoted to collective fields for PLHIV association members,
- Insufficient development of income generating activities,
- Weak capacity to plan and execute income generating micro-projects,
- Weak capacity (and experience) in seeking finance from outside donors,
- Weak capacity to make decisions,
- Weak capacity to build the capacity of their members,
- Weak participation of members in scheduled meetings, and
- Insufficient member contributions to group funds.

The weakest associations were characterized as having (Annex III):

- Limited knowledge about the principles or objectives or about the benefits to be had from cooperatives,
- A small membership base and high levels of dependence on Africare for financial support,
- An incomplete list of officers with many positions being appointed rather than elected,
- Monthly or annual action plans that are not easily available or understood by members and a lack of understanding of and ability to develop projects that could be presented to other donors to fund activities in the action plan,
- An association bank account with limited amount of money from activities or membership fees coming into it, and
- Limited capacity to plan and organize activities to fight HIV/AIDS.

The same index can be dissected to calculate the average score—as well as the range and variation across the population—of specific capacity-measuring variables within the index (such as

those related to HIV/AIDS and general risk management). Three indicators (with a maximum value of 15, Variable 10, Box 3) were used to measure the more specific project capacities needed to identify and manage the risks associated with HIV/AIDS, including:

- Existence of an action plan that takes into consideration community level activities to fight against HIV/AIDS,
- Knowledge of committee members about HIV/AIDS in their community, and
- Evidence of formal collaboration between the community and health service providers on issues related to HIV/AIDS.

Although the average score for the “capacity to manage risk associated with HIV/AIDS” variable was 51.72 points (i.e., 52% of the possible value of 15 points), a high percentage of the associations (41%) were classified as weak in this variable (Table 11). Only 17 percent of the associations were classified as weak when considering all 10 variables of the index.

Five indicators with a maximum score of 25 points total were used to measure the associations’ capacity to identify and manage risk in general (Variable 9, Box 3):

- Existence of a community-based information and identification system of risks and shocks,
- Existence of plans to mitigate risks and shocks,
- Capacity of the community to diversify its activities,
- Existence of an M&E system of the mitigation plan, and
- Capacity to request and receive external assistance.

The average score for this variable was 45.66 and the overwhelming majority of the associations (72%) were classified as weak (Table 12).

This analysis highlighted the fact that although the aggregate capacity of the associations has no doubt increased since they were created, a relatively high percentage of the associations

were still considered weak and many associations need assistance in building the specialized skills they need to work on HIV/AIDS and risk management. Even the associations with average capacity are probably insufficiently equipped to sustain their activities without outside assistance. By identifying these weaknesses at mid-term, the project still has time to address them and possibly improve the impact of the project activities targeting PLHIV households.

Income generating activities are critical to providing PLHIV households with the resources they need to maintain their health and nutritional status. Under Rwanda law, associations are required to have the status of a legally recognized cooperative before they can apply for and receive financial support from an outside donor or the government for a micro-project. Many of the activities and skills that are needed and measured by the FSCCI will be facilitated by obtaining cooperative status. The principal impact of the current study was to help Africare identify the areas of need so that the project

could help transform the associations into cooperatives.

*Modification of Project Activities as a Result of the FSCCI Analysis.* One major impact of the FSCCI analysis was to highlight the critical importance of helping the associations build their capacity to transform their organizations into cooperatives (Box 5). Once the associations become cooperatives they are authorized to develop the types of outside donor-funded projects that they need to sustain their activities. They are also better able to manage IGAs. In January 2008 when the targeted training of associations began, only one association had been transformed into a cooperative. Within one year, 19 associations created six cooperatives—three of which have official recognition and another three are in the process of getting their official recognition. It will be important to see if this empowers the associations to have a more positive impact on the member households—especially those in the most vulnerable group. The project has also begun to provide the trainings listed in Box 5.

**Table 11: Number and Percentage of PLHIV Associations with Different Levels of Capacity for the Identification and Management of Risks Related to HIV/AIDS**

Level of Capacity	Number of Associations	% of Associations
Strong Capacity (Index>70)	4	13.8
Average Capacity (Index>50 <70)	13	44.8
Weak Capacity (Index<50)	12	41.4
<b>Total</b>	<b>29</b>	<b>100</b>

**Table 12: Number and Percentage of PLHIV Associations with Different Levels of Capacity for Identification and Management of the Risks and Vulnerability**

Level of Capacity	Number of Associations	Percentage of Associations
Strong Capacity (Index>70)	2	6.9
Average Capacity (Index>50 <70)	6	20.7
Weak Capacity (Index<50)	21	72.4
<b>Total</b>	<b>29</b>	<b>100</b>

**Box 5. New Activities Started after Project Mid-Term (January 2008) to Address Issues Raised by the FSCCI Analysis of the PLHIV Associations**

Build organizational capacity of PLHIV associations to transform themselves into registered cooperatives that are able to manage the IGAs and agricultural activities that all PLHIV households need to sustain increases in the health status and livelihoods of their members, including:

- Training in organizational principles,
- Training in cooperatives (goals and responsibilities),
- Training in basic principles of accounting and management, and
- Enhanced training in the design and execution of sub-projects to support IGAs.

## **Conclusions**

### Summary Observations

*Utility.* Did the vulnerability index and the MAHFP indicator provide the project with information that facilitated targeting vulnerable groups and tracking its impact on these same project beneficiaries? The analysis has shown that both the project-specific vulnerability index and the MAHFP indicator provided project staff members and community leaders with a way of targeting households that needed their assistance the most and documenting those needs and constraints. They also provided the first profiles of vulnerability in general and in HIV-affected households specifically. Both of these indicators showed a group of households in dire need of food security interventions (the very vulnerable households from the general population sample of the mid-term survey using the vulnerability index—and the most food insecure according to the MAHFP analysis of both mid-term and PLHIV household data). It is not possible to know if the two indicators would show the same constraints for the most in need groups since the vulnerability index was not used in the PLHIV study and there were an insufficient number of PLHIV households in the mid-term survey sample. However, both resulted in changes in project activities that were designed to better target the respective vulnerable groups.

Each of the two methods identified that the most vulnerable and most food insecure households (respectively) had neither the means nor the capacity to participate in or benefit from some of the project interventions (such as some of the IGAs that were introduced for PLHIV after the mid-term [based on information from the PLHIV survey] and the use of enriched broth for children for the most vulnerable households in the general population).

While each indicator (MAHFP and the vulnerability index) provided the project with a group to target that was in great need of food security interventions, these two indicators did not identify the same households in the three categories of respective vulnerability. The vulnerability index identified a much smaller number of households than the MAHFP did as most in need. The danger of using the vulnerability index may be a resulting underestimate and lack of identification of

households that need special consideration to participate in and benefit from project activities.

While positive change in some of factors addressed in the vulnerability index (e.g., increased income from IGAs) might help improve the status of the most vulnerable households and can be considered a positive change—and actually removed them from the most vulnerable category—main aim of these projects is to increase food security and the vulnerability index complicates tracking food security.

A major strength of the MAHFP was the simplicity, clear guidance, and structure (Table 13). A critical weakness—as discussed above—was that: (a) it did not take into account other factors that could affect household vulnerability and food insecurity—so it could not identify the bottle necks in improving food security unless other variables were used and correlated with MAHFP; and that, by doing so, (b) the categorization of the population (during the mid-term and final evaluation of the project) might undervalue the project's impact on reducing aggregate household vulnerability and other constraints that the project was targeting. This perceived “weakness” is also a strength in the sense that it keeps the focus solidly on measuring the actual food access—not the activities that are assumed to led to improved food access.

The project's use of the FSCCI was beneficial to capacity building efforts. The mid-term analysis (using the FSCCI) of the PLHIV associations (which were the principal institutions charged with executing the project's activities and would be responsible for sustaining these activities once project funding ended) showed different levels of capacity. Especially important was that the study showed that only a few of the organizations had transformed themselves into cooperatives or understood the necessity of doing so. Once an association transforms itself into a cooperative it is able to manage IGAs and develop proposals for other donors. In the absence of additional funding, there is little likelihood that the associations can sustain meaningful activities once the project funding ends. Based on this analysis, GFSI refocused its training on helping the PLHIV associations better develop their capacity to get cooperative status and better manage funds. The same training sessions emphasized the need for improved targeting of the most vulnerable or most food insecure

households who had neither the means nor the capacity to participate in some of the main activities that the associations and the project sponsored. This refocusing of the project training resulted in a dramatic increase in the number of associations that became registered cooperatives.

A major strength of the FSCCI is that it helped the project identify some of the critical weaknesses of the PLHIV associations while there was still time to address them. It remains to be seen, however, if this new stronger status of the associations translates into measurable increases in the living standards and health of all the PLHIV household members and the most vulnerable PLHIV households in particular.

*Reliability/Comparability.* One of the chief weaknesses of the project specific vulnerability index is that there is no standard form for calculating the index (Table 13). This, combined with the fact that the actual decision about ranking is made by the enumerator team prior to leaving the village, raises questions about its validity for inter-year and inter-project comparisons. The same room for subjective interpretation of someone's vulnerability status opens the door to "creative promotion" (e.g., the enumerator's determination that if a particular household participated in a project supported activity, such as IGA development, that—in and of itself—moves that household to an improved vulnerability status, rather than basing it on changes/improvements in food security). The implicit assumption is that these activities in and of themselves reduce food insecurity, a link that must be continually assessed and verified. None of these indicators will show their full utility unless they are comparative between years. Being comparative between programs within the same organization (Africare) and category of programs (i.e., Title II food security programs) is an additional bonus to be seriously considered for standardized indicators with easily available guidance (such as the MAHFP and FSCCI). If projects choose to use vulnerability indices in the future, they should aim to select variables that will limit the subjectivity and make these indices more comparative across times and regions.

*Efficiency.* Another strength of the MAHFP is the fact that it can be calculated from a minimum number of questions in a questionnaire that is designed for other purposes. In contrast, the vulnerability index takes into account a wide range of information from a more complex

questionnaire and interviews with different people (household heads and mother of children, including actual anthropometric measurements of the child). MAHFP questions can be added easily to any survey and cross-tabulated with an unlimited number and type of other household data. The fact that the enumerators inserted the vulnerability status into the header of the three questionnaire packets in the mid-term survey facilitated the speed with which the data could be analyzed. The fact that neither the MAHFP status of the household nor the PLHIV association FSCCI ranking was inserted in the headers rendered any type of cross-analysis of these indicators with the health and nutritional status of the households impossible.

*Impact Assessment.* Impact assessment can be viewed on two levels. One level involves documenting the project's actual household level impact. The second level involves the capacity to measure impact. One weakness of the project's monitoring and evaluation system is that the data needed to calculate the three indicators were not collected during the project baseline. This made it difficult to document the project's impact on household livelihood and risk management strategies, food security status, and vulnerability during the mid-term. A more in-depth impact assessment of the original activities—as well as those that were added after mid-term to better target vulnerable groups—will be possible during the final evaluation if all three variables (the project specific vulnerability index, the MAHFP, and the FSCCI) are measured in a systematic way during that survey. The fact that all three of the mid-term survey questionnaire packets (for household head; mothers; and anthropometric measurements of children) included a place for marking the vulnerability status of the household in the header increased the speed with which the project was able to conduct the vulnerability analysis. This avoided the type of complex merging that has traditionally made it difficult to construct a vulnerability profile based on the actual data in a quantitative survey (Nanéma et al. 2008, AFSR No. 9). A similar problem plagued the GFSI project when it tried to examine the influence of household food security status on child malnutrition levels since the data on the MAHFP was in one data set and the household malnutrition data in another.

**Table 13. Strengths and Weaknesses of the Three Indicators: The Project-Specific Vulnerability Index, the MAHFP, and the FSCCI**

Criteria	Project Specific Vulnerability Index	MAHFP	FSCCI
<p><b>Utility</b> <i>Utility to project in terms of identifying critical obstacles/constraints to food security that project could address by reorienting existing and/or adding new activities</i></p>	+Useful in highlighting the livelihood and health constraints of the most vulnerable.	+Useful in identifying the relationship between livelihood and health constraints and food access, as well as participation in project activities, if cross-tabulated with these and other household and health variables.	+Useful in highlighting weak areas of capacity that programs would need to develop to sustain their activities after the project.
<p><b>Reliability/Comparability</b> <i>Reliability and comparability of the data gathered in different time periods and between projects in different locations</i></p>	-There is no standard form for calculating the indicator which is based on a larger 33 page survey and includes subjective observations and ultimately subjective classifications. This raises issues about comparability between years due to staff turnover.	+Indicator uses the standard questions Africare developed for quantitative surveys and uses standard guidance, highly comparable between years and projects.	+Indicator uses the standard form used by Africare for its programs and uses standard guidance that allows for some local context sensitivity.
<p><b>Efficiency</b> <i>Amount of time needed for data collection, entry, and analysis</i></p>	-Data collection and analysis are labor intensive (i.e., require asking information on a wide range of topics and subjective observations). +The fact that the enumerators inserted the vulnerability status of the household in the header of the questionnaires before leaving the village facilitated speedy analysis of all data by this indicator.	+Indicator can be collected from a simple set of questions (Box 2) -Linking household data from one survey with MAHFP data from another survey without a consistent coding for households is very labor intensive. If MAHFP is recorded in each survey header this would increase efficiency of disaggregating all household data based on this indicator.	+Extensive (3 months) training of extension agents and community leaders in the use of the FSCCI index facilitated data collection and analysis. Training is facilitated by standardized guidance.
<p><b>Impact</b> <i>Ability to track and show household level impact of activities introduced or changed because of the data analysis and tracking.</i></p>	+Ability to show global impact of the project on more than just food access (8 variables) (in this case study it was constrained by the lack of baseline data) -While index includes “number of meals/day” as an indication of food access, aggregating that variable with others in a single index scores makes it difficult to track the impact of specific project activities on food access.	+Ability to show global impact of the project on food access (in this case study constrained by lack of baseline data and the fact that MAHFP household status was not entered into the questionnaire header). - Focuses exclusively on food access. To explore influence of other factors contributing to or detracting from food access additional variables need to be added to surveys.	+Ability to show changes in PLHIV association capacities (in this case study constrained by lack of baseline data) +Identified areas of need (need to be designated cooperatives) that resulted in transforming associations into cooperatives. - Unknown if/how improved scores on FSCCI transforms into higher living standards for their members (including PLHIV association scores on household survey form would allow for this assessment).

The recommendations to include the number of MAHFP in all household level survey forms and to indicate the PLHIV association or its FSCCI score will facilitate analysis of the impact that changes in project activities and capacity building have on household vulnerability. Including a vulnerability index score on the household survey forms is also possible if the project decides to invest in another in-depth and tedious vulnerability index survey.

## Recommendations

### Recommendations for GFSI's Final Evaluation

In the interest of comparability, the project should:

- Use the same three questionnaire packets and training modules from the mid-term for the final project evaluation and
- Conduct a separate, complementary study of randomly chosen PLHIV households similar to the PLHIV household survey conducted in October 2008.

In addition, a few simple modifications are recommended for the design and execution of the final surveys that would enhance comparability between the final evaluation, the mid-term, and PLHIV household survey.

1. *Code the Household MAHFP in the Header of all Questionnaires:* Noting the MAHFP status in the headers of all three survey forms (and training staff how to do this during the enumerator training sessions) will facilitate a comparative analysis of the relative merits of the indicators.
2. *Calculate the MAHFP with and without Food Assistance:* Since a large majority of the PLHIV households receive food aid—which was the case for all the households that were interviewed in the October 2008 survey—it is important to adjust the questions so that they take into account average MAHFP, both with and without food aid. Neither the mid-term nor the PLHIV calculations of the MAHFP considered the impact of food aid on household food security (both were measures without food aid). This should not be difficult since the most recent revision of the Africare MAHFP guidance suggests ways that the questionnaire format and analysis can be adapted to allow this analysis. While this type of

disaggregated analysis is especially important for the PLHIV, it is also important for the final quantitative survey calculations of the MAHFP. In making this adjustment to the MAHFP survey, the project should be careful to also maintain consistent data on MAHFP with the mid-term and October 2008 PLHIV study. If needed, they should calculate MAHFP several different ways so that the data can be comparative with earlier surveys.

3. *Create a Code Sheet for Data Entry on the Vulnerability Index:* Since the eight variable vulnerability index did provide useful information and did results in project activities to better target vulnerable households, it would be useful for the project to standardize the questions and observations that went into compiling it (if they chose to conduct it again). Given the fact that staff members are familiar with other indices, this should not be difficult. Instead of a separate questionnaire, the “code sheet” could be a simple matrix with space for filling in their observations. This in turn could provide a basis for other Africare programs to use an adapted version of the same eight variable model, with allowances built in for considerations of regional differences.
4. *Create a Livelihoods and Risk Management Profile.* Since the project used the project-specific vulnerability index to create a livelihood profile (Annex IV) after the mid-term they should use the same method for constructing the livelihood profile during the final evaluation. This type of livelihood profile will help the project be better able to document its impact. In the future, livelihood and risk management profiles should be completed at baseline as well as mid-term and final and could be constructed based on MAHFP categories.
5. *Code the PLHIV Association FSCCI Score in the Header of the Household Survey Forms.* The same final survey offers an unprecedented opportunity to examine the link between the PLHIV FSCCI score and household vulnerability and health and nutrition status of PLHIV member households. The simplest, most efficient way to conduct this analysis—and to avoid the problems that can result from merging files from different data

sets—is to note the FSCCI score of the association to which the household belongs in the header of the household questionnaires (three mid-term questionnaires that will be adapted to the final quantitative evaluation and the PLHIV household survey that will be adapted for the final quantitative evaluation). The assessment of the impact of capacity building efforts of PLHIV associations that are guided and measured by the FSCCI should be of particular interest to other cooperating sponsors and USAID and the USAID-funded FANTA project.<sup>xviii</sup>

6. *Expand Training for PLHIV Associations.* With the aim of building the capacity of local communities to identify and assist vulnerable HIV-affected households, the project should consider training PLHIV associations in:

- The use of the MAHFP-PRA (Africare 2007, AFSR No. 1) so that they have a systematic way of tracking vulnerable households and their needs and the impact of association-sponsored activities on these households,
- Effective collaborating with health care providers and HBC providers, and
- General characteristics and important considerations related to HIV/AIDS in their communities.

#### Recommendations for Africare in General

1. *Continue to Recommend that Programs Use the MAHFP as the Basis for Tracking Vulnerability:* Although the vulnerability indicator may have added some additional information on factors that reduce household vulnerability, it was less standard and comparative than the MAHFP. For this reason, the team recommends that all Africare programs still be required to use the MAHFP as the principal basis for their vulnerability analyses. If other indicators are added—such as a project specific vulnerability index—this should be in addition to and (not a replacement for) the MAHFP.
2. *Compare the Questionnaires and Results of the Burkina Faso PLHIV and Rwanda PLHIV Household Surveys:* Given the Africare health and nutrition working group's interest in developing

a comparative study of vulnerability of HIV-affected households in Burkina and Rwanda, it would be useful to compare and contrast the results of these two surveys in greater depth. One output of this exercise could be a revised questionnaire that would be helpful to other food security programs in areas with high HIV/AIDS prevalence.

3. *Livelihoods and Risk Management Profiles.* Future projects may find it useful to create a livelihood system and risk management profile for the major vulnerability categories (based on the MAHFP) for the population at large, as well as for the PLHIV households. An example of this type of profile (which was constructed using the project-specific vulnerability index categories rather than the MAHFP) is included as Annex IV. This type of analysis can help the project document its impact on livelihood systems and risk management strategies of vulnerable groups and the general population.

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## Annex I: Gikongoro Food Security/HIV/AIDS Initiative Activities

Project Activities	Original Proposal		Added After Mid-Term Survey (January 2008)	Added After PLHIV Study (January 2009)
	All HH	PLHIV		
<b>SO2: Improved household health and nutrition and reduced vulnerability to HIV/AIDS</b>	X	X		
<b><i>IR 2.1 Improved access and use of health and HIV/AIDS services</i></b>	X	X		
IR 2.1.1: Increased access of [PLHIV] cooperatives and associations to a range of general community health services		X		
<ul style="list-style-type: none"> <li>• Work with [PLHIV] cooperatives and associations members to develop a plan for providing or linking members with social services such as health and non-formal education</li> </ul>		X		
<ul style="list-style-type: none"> <li>• Work with [PLHIV] cooperatives and associations to promote increased awareness of HIV/AIDS among its members and encourage cooperative members to have HIV/AIDS testing</li> </ul>		X		
<ul style="list-style-type: none"> <li>• Encourage and assist [PLHIV] cooperatives or other community-based association members for adhesion to the existing “<i>mutuelles de sante</i>” or organize themselves in order to cover their health expenses</li> </ul>		X		
<ul style="list-style-type: none"> <li>• Assist [PLHIV] cooperatives and associations to contact services such as community based health care and the supplemental feeding programs for their members tested positive</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>• Provide technical support in the design and implementation of an HIV/AIDS education program for [PLHIV] cooperatives and associations located in the target district or in other regions</li> </ul>		X		
<ul style="list-style-type: none"> <li>• Build organizational capacity of PLHIV associations to transform themselves into registered cooperatives that are able to manage the IGAs and agricultural activities that all PLHIV households need to sustain increases in the health status and livelihoods of their members.</li> </ul>			X	Build PLHIV associations’ understanding about the need to address the special needs and opportunities of the most vulnerable (most food insecure) households
IR 2.1.2: Increased awareness about the dangers of HIV/AIDS through behavior change communication initiatives	X	X		
<ul style="list-style-type: none"> <li>• Expand the established system of peer educators and counselors to increase awareness about HIV/AIDS transmission and prevention in Gikongoro Province.</li> </ul>	X	X		

Project Activities	Original Proposal		Added After Mid-Term Survey (January 2008)	Added After PLHIV Study (January 2009)
	All HH	PLHIV		
<ul style="list-style-type: none"> <li>Implement of a BCC program through the successful ABC approach by conducting community drama, sensitization workshops, seminars, mobile cinema, peer-education and /or training, and observing of World AIDS Days</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Conduct activities that enhance increased turn-out for voluntary counseling and testing. These include HIV/AIDS education sessions about the advantages of testing and counseling</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Conduct a program of community-based global care management of people living with HIV (PLHIV). This includes medical and psycho-social support, food aid for needy families, and promotion of income generating activities for their caregivers</li> </ul>		X		
<ul style="list-style-type: none"> <li>Food distribution to PLHIV and community volunteers (Peer-educators, peer-counselors, Volunteer Home Based Caregivers, Community Nutrition Educators).</li> </ul>		X		Reorientation of the project criteria for graduating households good assistance in order to better target the most vulnerable (most food insecure) households
IR 2.1.3: Increased availability and use of PLHIV and child care services at the community level	X	X		
<ul style="list-style-type: none"> <li>Identify, in collaboration with local authorities and community leaders, AIDS-related vulnerable children</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Support communities in the development of “family plans” where adults and children in vulnerable families decide—while the parents are still healthy—how their children will be cared for in the event of their deaths</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Support to extended families and communities in resources mobilization for orphans</li> </ul>	X	X		
<b>IR 2.2: Improved knowledge and use of good nutritional practices</b>	X	X		
IR 2.2.1: Improved nutritional status for children aged 0 – 5	X			
<ul style="list-style-type: none"> <li>Train and support community nutrition educators in collaboration with the Provincial Direction of Health</li> </ul>	X			
<ul style="list-style-type: none"> <li>Conduct growth monitoring activities for children under 5 and their</li> </ul>	X			

Project Activities	Original Proposal		Added After Mid-Term Survey (January 2008)	Added After PLHIV Study (January 2009)
	All HH	PLHIV		
mothers in partnership with the Provincial Direction of Health. Community Nutrition Sites established and equipped with Salter scales and height boards				
<ul style="list-style-type: none"> <li>Develop or purchase of nutrition IEC materials to distribute to Africare extension agents, health agents and Community Nutrition Educators</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Conduct nutrition IEC activities (interpersonal communication sessions, dramas, theatres, workshops, mobile cinema) in each intervention area in Nyamagabe district</li> </ul>	X			
<ul style="list-style-type: none"> <li>Lead group discussions with mothers and farmers on the nutritive values of foods and the promotion of growing crops with high nutrititional value</li> </ul>	X	X		
<ul style="list-style-type: none"> <li>Implement the HEARTH approach (<i>Foyer d'Apprentissage et de Rehabilitation Nutritionnelle or FARN</i>) which is a positive deviance approach for community-based rehabilitation of moderately malnourished children</li> </ul>	X			
<ul style="list-style-type: none"> <li>Recruitment of women who participated in the HEARTH programs to form "Mothers Association to Fight Malnutrition" (<i>association des mères pour lutter contre la malnutrition</i>)</li> </ul>			X	
IR 2.2.2: Mitigated impact of HIV/AIDS on the nutritional status of people infected and affected by HIV/AIDS				
<ul style="list-style-type: none"> <li>Distribute food rations to PLWHA, to orphans and other vulnerable persons and to community volunteers (peer-educators, peer-counselors, HBC volunteers, District Nutrition Educators)</li> </ul>		X		Reorientation of the project criteria for graduating households good assistance in order to better target the most vulnerable (most food insecure) households
<ul style="list-style-type: none"> <li>Identify and promote through public awareness and extension programs foods and diets with high nutrition value that are adapted to PLWHA (direct distribution of commodities to insure a more</li> </ul>		X		

Project Activities	Original Proposal		Added After Mid-Term Survey (January 2008)	Added After PLHIV Study (January 2009)
	All HH	PLHIV		
balanced food supply and carotene intake)				
• Conduct growth monitoring activities for PLWHA through BMI (Body Mass Index) and MUAC (Mid-Upper Arm Circumference )			X	More regular weighing of PLWHA to determine BMI Status
• Conduct nutrition, hygiene and sanitation education for household affected or infected by HIV/AIDS.			X	
• Organize cooking demonstrations with local food			X	-Development of a new sub-group of activities focused on the very vulnerable households
• Work through PLWHA and Mothers' Associations to promote gardening activities for household affected or infected by HIV/AIDS and distribution of fortified seeds and training on small kitchen/backyard garden			X	-Development of a new sub-group of activities focused on the creation of gardens in or next to the compounds of very vulnerable households -More focused targeting fortified seeds to very vulnerable households.
• Work through PLWHA and Mothers' Associations to promote small animal husbandry and to train households to manage small animal production enterprises and IGAs (restaurants, etc.)			X	Development of a new sub-group of activities focused on stall feeding and small-scale production in or next to the compounds of very vulnerable households
• Distribution of Hygiene Kits (blankets, Jerri cans, soap, water purification, cooking pots) to PLHIV households				X
• Training of tailoring for orphans vulnerable children (OVCs)				X
• Training of PLHIV on soy technology process (milk, tofu)				X

## **Annex II : Revised Questionnaire for PLHIV Survey**

### **Africare**

*The Gikongoro Food Security HIV/AIDS Initiative (NYAMAGABE District, Southern Province)*

## **QUESTIONNAIRE: Food Security in PLHIV Households<sup>1</sup>**

**Date of interview** / \_\_\_ / \_\_\_ / \_\_\_ /  
(day /month /year)

**Name of Interviewer:** \_\_\_\_\_

**Name of Supervisor:** \_\_\_\_\_

**Sector:** \_\_\_\_\_

**Cell:** \_\_\_\_\_

**Name of the PLHIV Association they Belong to:** \_\_\_\_\_

**Household Identification Number:** \_\_\_\_\_

### **Introduction**

Hello, my name is \_\_\_\_\_ and I work with Africare. We are conducting a survey on household food security. We would be very grateful if you would agree to participate in the study. If you do, we would like to ask you certain questions about the level of food security in your household. This information will help us to strengthen some of the activities that we carry out in your sector. The survey should take approximately \_\_\_\_\_ minutes. The information collected will be kept strictly confidential.

<sup>1</sup> *This questionnaire is a revised version of the first questionnaire that was pilot tested by Africare/Burkina Faso in January 2008 (Badiel, et al. 2007). The text marked in italics (below) indicates the modifications that Africare/Rwanda made to the original questionnaire.*

PLHIV and Food Security Survey Continued

1. First and last name of the household head: .....

Age \_\_\_\_\_ years

Sex  |

1=Male 2=Female

Profession : \_\_\_\_\_

Weight : /\_\_\_/\_\_\_/\_\_\_/.\_\_\_/\_\_\_/

Height : /\_\_\_/\_\_\_/\_\_\_/.\_\_\_/\_\_\_/

2. What is your level of education?

1. None / \_\_\_\_\_/

2. Primary school but cannot read / \_\_\_\_\_/

3. Primary can read and write / \_\_\_\_\_/

4. Secondary / Post-secondary / \_\_\_\_\_/

3. Can you read or write Kinyarwanda (note: local language of the region)?

1. Yes / \_\_\_\_\_/

2. No

4. How many people live in your household (size)? / \_\_\_\_\_/

5. How many active workers are there in your household? / \_\_\_\_\_/

6. What is your principal occupation? (Translation: Ni iyihe mirimo y'ibanze ukora? (Ibisubizo byinshi birashoboka) Shyira akamenyetso ku bisubizo byose avuze

1. Food Production (Ibihingwa ngandurarugo) ... /\_\_\_/

2. Commercial crop production (Ibihingwa ngenga bukungu) /\_\_\_/

3. Livestock (Ubworozi) ..... /\_\_\_/

4. Trade (Ubucuruzi) ..... /\_\_\_/

5. Crafts (Ubukorikori)..... /\_\_\_/

6. Agricultural worker (Uhingira abandi) ..... /\_\_\_/

7. Salaried work (Ukorera umushahara) ..... /\_\_\_/

8. Other not-specified (Ibindi) (Sobanura )..... /\_\_\_/

9. Other specified (write in occupation) \_\_\_\_\_ /\_\_\_/

10. Nothing /\_\_\_/

PLHIV and Food Security Survey Continued

**HOUSEHOLD FOOD SECURITY**

1. Do your crop production and other resources cover your annual food needs?
    1. Yes /\_\_\_\_/
    2. No
  2. How many times per day does your family actually eat? /\_\_\_\_/
  3. Can your family eat as much as they want without food aid?
    1. Yes /\_\_\_\_/
    2. No
  4. If yes, for how many months can the household eat as much as they want? \_\_\_\_ months  
If no, how many months does household not eat as much as they want? \_\_\_\_ months
  5. Food Security Calendar (Number of months of adequate food provisioning=Number of months when the households have sufficient food to eat)  
**(Ask the number of months of adequate food, of transition, and hunger (i.e., lean months)**
  6. *During difficult times, do you reduce the ration (quantity served) of adults in the household because there is not enough food and/or you cannot get food enough?*
    1. Yes /\_\_\_\_/
    2. No

*If yes, for what length of time? \_\_\_\_\_Number of months*
  7. *Have you or other adults in the household reduced the number of daily meals because there is not enough to eat during difficult times?*
    1. Yes /\_\_\_\_/
    2. No
  8. *If yes, which meal (s) have you suppressed?*
    1. Breakfast /\_\_\_\_/
    2. Lunch /\_\_\_\_/
    3. Dinner /\_\_\_\_/
  9. *Has your household been forced to eat food that they do not like because there was either insufficient food or no food at all during difficult times of the year?*
    1. Yes /\_\_\_\_/
    2. No
  10. *If yes, what are the principal foods consumed (during these difficult times of the year)?*
-



PLHIV and Food Security Survey Continued

**Information on HIV/AIDS and Nutrition**

1. Are you taking ARV? /\_\_\_\_/
2. How long have you known you were sero-positive?
  1. Less than a tree months (trimester)?
  2. Three months (trimester)?
  3. Six months? /\_\_\_\_/
  4. One year
  5. More than a yearPlease indicate the exact year you were diagnosed (note year): /\_\_\_\_/\_\_\_\_/ .
3. Are there other sero-positive persons in your household?
  1. Yes 2. No /\_\_\_\_/If yes, how many? /\_\_\_\_/
4. Are you (and other sero-positive persons in your household) being monitored by a health agent?
  1. Yes 2. No /\_\_\_\_/
5. If no, why not?
  1. Distance from the Health Center.....
  2. Lack of a doctor..... /\_\_\_\_/
  3. I didn't have enough money.....
  4. Don't know .....
6. Are you (and other sero-positive persons in your household) being monitored by a community volunteer (notably home based care [HBC])?
  1. Yes 2. No /\_\_\_\_/If yes, for what length of time? /\_\_\_\_/\_\_\_\_/ in months
7. Are you given nutritional counseling [during these household based monitoring sessions]? In other words, Did volunteer give you the nutritional counseling during the household visit?
  1. Yes 2. No /\_\_\_\_/
- 7.1. If yes, are you able to follow the diet being recommended during the nutritional counseling sessions?
  1. Yes 2. No /\_\_\_\_/
- 7.2. If no, for what reason?
  1. Lack of access to the recommended foods [i.e. food is not available locally]? /\_\_\_\_/
  2. Insufficient resources (money) to have access to the foods [which are available] /\_\_\_\_/
  3. Do no know where to find certain foods? /\_\_\_\_/
  4. Other (explain) /\_\_\_\_/
6. Before you were diagnosed sero-positive, did you eat:
  1. More than now
  2. Like now /\_\_\_\_/
  3. Less than now
  4. Do not know

PLHIV and Food Security Survey Continued

7. Currently while you are taking ARV, are you eating:

1. More than usual (normal)
2. Usual (normal) /\_\_\_\_/
3. Less than usual (normal)
4. Don't know

8. How many times are you eating by day?

1. 1 /day
2. 2 /day
3. 3 /day /\_\_\_\_/
4. + 3/day
5. Don't know

9. During the past week, how many days have you eaten meat or fish?

1. Did not eat
2. 1 -2 days
3. 3 -4 days /\_\_\_\_/
4. 5 - 6 days
5. 7 days
6. Don't know

10. During the past week, how many days have you eaten fruit (mango, oranges, maracuja, papaya, banana, pineapple, plums) (Translation: *imbuto* [ *imyebe, amacunga, amatunda, amapapayi, imineke, inanasi, ibinyomoro*])?

1. Did not eat.
2. 1 - 2 days
3. 3 - 4 days /\_\_\_\_/
4. 5 -6 days
5. 7 days
6. Don't know

11. Are you still able to carry out agricultural activities?

1. Yes
2. No /\_\_\_\_/

If no, for how long has this been the case?

1. Less than three months (trimester)
2. Three months (trimester)
3. Six months /\_\_\_\_/
4. One year
5. More than a year

12. Are you able to conduct activities that earn you cash income (like an IGA)?

1. Yes
2. No /\_\_\_\_/

If no, for how long has this been the case?

1. Less than three months (trimester)
2. Three months (trimester)
3. Six months /\_\_\_\_/
4. One year
5. More than a year

PLHIV and Food Security Survey Continued

13. Now we are going to talk about what you ate yesterday. From when you woke up till you slept last night. (Translation: Noneho Tugiye Kuvu Ku Mafunguro Mwafasha Kuva Ejo Mu Gitondo Mubyutse Kugera Nijoro Mugiye Kuryama).

Instructions: Note the foods eaten in each group. Please pose the question so that they clearly understand that the time period covers a 24 hour period.

(Translation: Ejo Mu Gitondo Ni Iki Wariye Muri Aya Mafunguro Akurikira: Kuvuga Amafunguro Ari Muri Buri Kiciro, No Kwandika Mu Kazu Amanota Ajyanye N'igisubizo Yatanze. Baza Ikibazo Ku Buryo Uri Bumenye Amafunguro Yose Yafashe Mu Masaha 24 Ashize).

Food Groups / Amoko Y'ibiribwa	Consumption during the preceding 24 hours (Translation: Ibyariwe Mu Masaha 24 Ashize)		Number of days consumed during the preceding seven days (0-7 days) (Translation: umubare W'ibyarwe Mu Gihe Cy'iminsi 7 Ishize [ Ikimenyetso 0-7])
	1= Yes (Yego) 2= No (Oya)	Niba Ari Yego, Ni Inshuro Zingahe	
1. Sorghum, Rice, Wheat flour, Maize (Translation : Amasaka, Umuceli, Ifu Y'ingano, Ibigori)			
2. Sweet potato, Iname, Potato, Manioc, Colcase (Translation: Ibijumba, Ibikoro, Ibirayi, Imyumbati, Amateke)		-	
3. Beans, Green Beans, Soy (Haricot, Petit Pois, Soja) (Translation: Ibishyimbo, Amashaza, Soja)			
4. Peanuts (Translation: Ubunyobwa)			
5. Oil, Butter (from milk) (Translation: Amavuta, Amavuta Y'inka)			
6. Milk and Milk Products (Translation: Amata, N'ibikomoka Ku Mata)			
7. Sugar and Honey (Translation : Isukari, Ubuki)			
8. Fruits (Mango, Orange, Maruja, Banana Papayas, Pineapples, Prunes) (Translations: Imbutu [Imyembe, Inanasi Amacunga, Amatunda, Amapapayi, Imineke, Ibinyomoro])			
9. Vegetables (Cabbage, Spinach, Carrots, Tomatoes, Eggplant, Green leaves) (Translation: Imboga [Amashu, Epinari, Karoti, Inyanya, Intoryi, Imbiga Rwatsi])			
10. Meat/Fish (Translation: Inyama/Amafi)			

### Annex III: FSCCI Analysis

**Qualitative Feedback on the Strengths and Weaknesses of PLHIV Associations with Different levels of Capacity (based on the FSCCI)**

Level of Capacity	Strengths	Weaknesses
Strong Capacity (index >70)	<p>--Official recognition of the association at the district and national level through a signed agreement with the ministry of commerce, industry, and crafts.</p> <p>--A good organizational structure with written by-laws and an internal rules and regulations handbook that is understood and applied by all the members. The officers are elected in transparent democratic elections and the officers have a coherent understanding of their roles and responsibilities.</p> <p>- Monthly and annual action plans are available and there is a good understanding about how to elaborate micro projects and to seek funds from donors other than Africare to finance the activities in their action plan.</p> <p>--Autonomous financial management tied to the project bank account and management by a qualified manager who is compensated each month by the association.</p> <p>--Almost all the officers are literate and can read and write.</p> <p>--The association makes use of computers to manage some of its activities.</p> <p>--Strong capacity to identify and analyze problems and to establish priorities for resolving problems through the design, management, execution, monitoring and evaluation of income generating micro-projects.</p> <p>--Regular meetings with active participation from the members with written minutes that are kept on file with the project documents.</p> <p>--Monthly contributions to a group fund are paid regularly by the members.</p> <p>--Strong capacity to solve conflicts and make decisions for the association.</p> <p>--Strong capacity to plan and organize activities to fight HIV/AIDS.</p> <p>--Capacity to execute agricultural activities that are inserted in the performance contracts of the district<sup>2</sup></p> <p>--Organization of the association into a cooperative and the members understand the objectives and principles of cooperatives.</p> <p>--Good collaboration between the associations in the design and carrying out of income generating micro-projects</p>	<p>-Technical aspects of managing the association and cooperative were not yet mastered.</p> <p>-Limited resources of the associations in comparison with their planned activities and objectives.</p>

<sup>2</sup>The term « performance contracts » refers to the annual evaluation of the district action plans (i.e. comparison of the activities carried out with those what was planned). Each sector has detailed action plans for community development. Every association outlines its activities based on the priorities identified by the

Level of Capacity	Strengths	Weaknesses
Average Capacity (Index >50<70)	<ul style="list-style-type: none"> <li>--Official recognition at the level of the sector and the district (not at the national level).</li> <li>—A good organizational structure with a written bylaws and an internal rules and regulations handbook that is understood and applied by all the members. The officers are elected in transparent democratic elections and the officers have a coherent understanding of their roles and responsibilities.</li> <li>--Monthly and annual action plans are available and there is a good understanding about how to elaborate micro projects and to seek funds from donors other than Africare to finance the activities in their action plan.</li> <li>--The Association has a bank account which has very little money coming in</li> <li>--A few officers are literate and can read and write.</li> <li>--The association office makes no use of computers.</li> <li>--Average capacity to identify, analyze and solve problems through the design management, execution, monitoring and evaluation of income generating micro-projects.</li> <li>--Regular meetings with active participation of the members but the minutes of these meetings are not often available in the administrative documents of the association.</li> <li>--The monthly member dues are not regularly paid by members.</li> <li>--Average capacity to solve conflicts and to take useful decisions for the association without external assistance.</li> <li>--Capacity to plan and organize activities that fight against HIV/AIDS.</li> <li>--Capacity to execute activities at the sector level only. The capacity to execute activities that enter into the performance contracts of the district is limited.</li> <li>--Certain members understand the objectives and principals of the cooperatives and the necessity to organize themselves into cooperatives. The associations collaborate with others and often seek technical support in the design and execution of their income generating micro-projects.</li> <li>--The existence of at least one income generating activity.</li> </ul>	<ul style="list-style-type: none"> <li>--Weak capacity to manage conflict.</li> <li>--Limited training.</li> <li>--Insufficient collective parcels;</li> <li>--Insufficient development of income generating activities.</li> <li>--Weak capacity to plan and execute income generating micro projects.</li> <li>--Weak capacity (and experience) in seeking finance from outside funding agencies.</li> <li>--Weak capacity to make decisions.</li> <li>--Weak capacity to build the capacity of their members.</li> <li>--Weak participation of members in the scheduled meetings.</li> <li>--Insufficient member contributions to group funds.</li> </ul>

community. Every community has its own action plan. Before starting to execute its action plan, every association or community organization must send its action plan to the sector or district. This results in a signed contract between the PLHIV association and community and the district that outlines the specific planned objectives.

Level of Capacity	Strengths	Weaknesses
<p>Weak Capacity (index &lt;50)</p>	<p>--Officially recognition of the association at the sector level only and not yet recognized by the district.                      --A written handbook of rules and regulations exists but is not respected by the members. Most members are not familiar with association bylaws.</p>	<p>--Small associations without many activities or visit that depend primarily on Africare for support.                      --An incomplete list of officers with many positions being appointed rather than elected.                      --The same constraints chief weaknesses of the associations with “average capacity.”                      --Monthly or annual action plans are not easily available or understood by members and without the capacity to develop micro projects or seek funds from donors other than Africare to finance the activities proposed in their plan of action.                      --Have a bank account but limited understanding of how to develop projects that could be presented to outside donors.                      --Limited capacity to plan and organize activities to fight HIV/AIDS.                      --The members—including the officers—don’t understand either the principles or objectives of cooperatives.</p>

## Annex IV: Livelihood Profile of the Major Vulnerability Groups based on the Eight Variables in the GFSI Project Vulnerability Index

Variables in Vulnerability Index (numbered)	Least Vulnerable	Vulnerable	Most Vulnerable
% of HH in sample	40.6%	47.8%	11.7%
<b>1.</b> Socio-economic situation of the household (qualitative assessment by extension agents conducting interview)	The socio-economic situation is better than in other groups, here people have a house in which they live, they have land, they eat three times a day sufficient and good meals, there are not many diseases, children go to school, they are able to pay health fees, they raise animals, the agriculture yield is enough to cover the family food need, they have some activities that generate income for the household.	People have a small houses of poor quality or do not have houses, less land, eat at least two meals a day, children are in poor health, some cases of malnutrition and diseases, some have a few small animals, agricultural yield is not sufficient, unable to satisfy some basic needs like school fees, health fees, clothes, there is no consistent activity that generates income.	The socio-economic situation is different from the two first groups. People here do not have sufficient food to eat, they eat one meal a day, they live on very little land, the majority do not have houses, if they have a house it is poor quality, there are many diseases from malnutrition, children do not school, there is no money for medical fees and no income.
--housing (improved)	Better		
--housing (unimproved)	In this category people own their houses	In this category some people own their houses and others live in rented houses	The majority do not own their own their houses, they rent houses and work for the house owners because they have no money for rent.
<b>2.</b> Access to land	Report owning land, larger holdings than middle group.	Smaller holdings than the least vulnerable but the majority report owning land.	The majority do not own their own land.
<b>3.</b> Livestock ownership	78.0% of HH  Cattle, ruminants, and poultry holdings that vary considerably in size within the category. Income from livestock is important for the family.	71.5% of HH  Small ruminants and poultry which they sell to pay for emergencies. Livestock holdings are not managed as a business due to insufficient funds and frequent livestock turnover due to sales.	40.5%  1-2 small animals maximum; many have no animals.
<b>4.</b> Income generating activities and capacity to manage income generating activities	53.3% report having IGAs & other production activities that generate income	27.5% report having IGAs & other production activities that generate income	24.5% report having IGAs & other production activities that generate income
--IGAs	More active engagement in IGAs than other	-Males often work as hired laborers on others	-Almost none

<b>Variables in Vulnerability Index (numbered)</b>	<b>Least Vulnerable</b>	<b>Vulnerable</b>	<b>Most Vulnerable</b>
	groups	fields but remain living with the family -Smaller number report having IGAs -Heavy dependence on aid/donors to support IGAs	-High incidence of longer term migrant labor by males to earn income with which to purchase food -The few IGAs tend to be resale of basic household goods.
-- <i>Credit and savings</i>	More active seeking of credit and loans (21%) from formal institutions because they can post equity	5.8% -People in this category participate in small internal lending groups (tontines) to give to each other a small amount of money that can help him to initiate some small IGA.	4.8% -No IGA, but some people organize small cultivation activities with each other and those who have land.
-- <i>Crop production</i>	Higher income from crop production due to a combination of better land, the use of organic fertilizers (from their animals), and cash revenues from other sources that enable them to purchase improved seed, fertilizer, and agronomic extension services.	More limited income from crop production due to smaller landholdings and labor shortages (males working as hired laborers)	Very limited income from crop production due to poor health status and absent laborers
<b>5.</b> Capacity to pay the school fees of children and their health care	Most were able to pay school fees and medical fees for their children	Under “normal” circumstances can pay fees; due to drought having difficulty	Children tend to drop out of school due to inadequate food and parent’s inability to pay fees
<b>6.</b> Nutritional, health and hygiene status of the household	Good nutritional status, especially children are in good health, no cases of malnutrition. Healthy bodies, food, and environment, good hygiene.	Moderate nutritional status, many children Have moderate malnutrition and some cases of severe malnutrition, fair food, environment, and hygiene.	Nutritional, health, and hygiene status of household is deplorable, many diseases related to malnutrition and poor hygiene.
--38.9% of children stunted in this category	Moderately :31.0% Severe: 9.4%	Moderately: 43.9% Severe : 18.9	Moderately: 43.7% Severe: 23.9
--2.7% of children wasted in this category	Moderately: 1.4% Severe: 0.9	Moderately: 3.8% Severe: 0.9%	Moderately: 2.8% Severe: 1.9%
-18.8% children of in this category underweight	Moderately: 12.2% Severe: 0.5%	Moderately: 20.7% Severe: 2.7%	Moderately: 31.0% Severe: 11.3%



<b>Variables in Vulnerability Index (numbered)</b>	<b>Least Vulnerable</b>	<b>Vulnerable</b>	<b>Most Vulnerable</b>
<i>% with kitchen gardens</i>	19.2%	18.6%	11.9%
<i>% of households with medical insurance</i>	93.0%	85.7%	More limited number of HH with medical insurance (76.6%)
<i>Children consume a balanced diet</i>	59.8%	37.6%	24.5%
<i>More frequent attendance at health education meetings</i>	x		
Illness levels (respiratory infection and/or malaria)	36.9% Lower rates of upper respiratory infection and malaria in children	42.8% High rates of upper respiratory infection and malaria in children	54.1% Highest rates of upper respiratory infection and malaria in children.
7. Housing quality of the household	Good housing, houses with sheet metal or tile roof, space for family, separated from the kitchen.	Houses with sheet metal, tile, or wood roof, moderate amount of room for family	Smaller houses, not enough room for family, no kitchen.
8. Number of meals eaten every day by the household	3 times a day (on average)	2 meals per day (on average)	1 meal per day

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<sup>iii</sup> Leah A.J. Cohen is a geographer who has conducted research on HIV/AIDS in farming and fishing households in East Africa. She is currently managing editor of the Africare Food Security Review paper series.

<sup>iv</sup> Many private voluntary organizations have targeted vulnerable households through I-Life programs using livelihood building activities, food assistance, and HIV education. One example is the I-Life program in Malawi that has been operational for the last four years. It is being managed by a consortium of US private voluntary organizations: Africare, CARE International, the Catholic Development Commission of Malawi (CADECOM), Emmanuel International (EI), Save the Children, US (SCUS), The Salvation Army (TSA), and World Vision International (WVI) Under the leadership of CARE and Catholic Relief Services by the final year, this project had reached an estimated 120,000 households with interventions to promote food security through improved agricultural practices and marketing; enhanced livelihood security through small scale village savings and loan groups; increased access to water and sanitation; improved maternal and child health and greater livelihood security for HIV and AIDS-affected individuals and households.

<sup>v</sup> The Africare, USAID Titled II-funded Rwanda program, implemented under a sub-grant from ACDI/VOCA, operates in Nyamagabe Province and is called the Gikongoro Food Security Initiative (FY05-FY09). For more background on the specifics of the HIV/AIDS activities see Maslowsky et al. (2008, AFSR No. 11).

<sup>vi</sup> The Africare, USAID Title II-funded Burkina Faso program operates in Zondoma Province and is called the Zondoma Food Security Initiative (FY05-FY09). For more background on the specifics of the HIV/AIDS activities see Maslowsky et al. (2008, AFSR No. 11).

<sup>vii</sup> Africare has also developed brief documents to be used to select and field test additional indicators recommended by FANTA for both nutrition education of PLHIV and food assistance programming for PLHIV (Africare Health, Nutrition, and HIV/AIDS Working Group 2008, AFSR No. 20 and Africare Health, Nutrition, and HIV/AIDS Working Group 2008, AFSR No. 25) as well as a concise summary of the FANTA and WHO (2007) guide on Food Assistance Programming in the Context of HIV (Africare Health, Nutrition, and HIV/AIDS Working Group 2008, AFSR No. 21)

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and is in the process of developing a brief on proxy indicators to identify PLHIV and their households (Africare Health, Nutrition, and HIV/AIDS Working Group 2008, AFSR No. 22).

<sup>viii</sup> FANTA, World Food Programme (WFP), and Africare have addressed the need to identify effective proxy indicators to identify households affected by HIV (see FANTA and World Food Programme [2007: 49] and Africare Health, Nutrition, and HIV/AIDS Working Group [2008, AFSR No. 22]). However, the Rwanda program did not have this problem because HIV households were easily identified through their food rations to PLHIV households that is administered through PLHIV associations. In areas of higher stigma, HIV proxy indicators may first need to be employed to identify PLHIV households. Although Africare may want to explore how MAHFP could be used to identify the most vulnerable households (to food insecurity) and then what percentage of those households are affected by HIV since this study and Badiel et al (2008, AFSR No. 24) have found that a higher percentage of PLHIV households are in the most food insecure category based on MAHFP than for general populations.

<sup>ix</sup> In August, 2005, Health and demographic survey estimated three percent of the national population is HIV/AIDS positive (3.6 for female and 2.3% for male). Some provinces are harder hit than others; there is an especially high HIV prevalence rates in Nyamagabe estimated at 12.5 percent (between 2002 and 2006) among people who frequented Africare CVT center in Nyamagabe. During FY07, 15,609 people including 8,790 female have been counseled and tested at the Africare VCT Center and the other 9 public VCT centres located in intervention area. In total 993 people, including 571 female tested positive giving 6.36 percent in HIV/AIDS sero-prevalence rate.

<sup>x</sup> ACIDI/VOCA is pursuing activities under SO1 and SO3, while Africare is focusing on activities under SO2.

Mid-term Survey Vulnerability Analysis Based on the Project Specific Vulnerability Index

<sup>xi</sup> State structures in Rwanda are completely decentralized. The administration of the district is vested in a mayor (*Maire*). Each district is composed of several sectors and each sector (*secteur*) is comprised of several cells (*cellules*) and each cell is comprised of several villages. The Africare project was launched in October 2005 and is operational in 11 of the 17 sectors of Nyamagabe District in the southern province of Rwanda; the 11 sectors are subdivided into 56 cells.

<sup>xii</sup> The extension agents did not use a standardized point system for calculating the ultimate vulnerability ranking of the households; rather they recorded the information for each household for each variable and then made a subjective decision about the category of vulnerability for each household.

<sup>xiii</sup> An initial pre-test of the FSCCI tool was conducted with one PLWHA association in each of the major zones where the project intervenes just prior to the mid-term quantitative survey. These different pre-tests permitted the staff to become familiar with the different tools. This pre-test was conducted in conjunction with a staff training workshop (that included, four supervisors, one monitoring and evaluation (M&E) specialist, five extension agents and two food distribution agents. This “hands on” training helped familiarize the staff with the tool and to adapt it to the project intervention area. Once the FSCCI tool was adapted to the zone it was applied to 29 associations.

<sup>xiv</sup> This information was not collected in the Burkina survey (see Badiel et al. 2008, AFSR No. 24).

<sup>xv</sup> The cost of medical insurance (*Mutual of Health or Mutuelle de Santé*) is 1000 francs Rwandais, almost \$US 2 per individual. If the household has five people, the household pays 1000 francs for each of them, an equivalent of \$US 10. It is very difficult for the most vulnerable households to pay this amount.

<sup>xvi</sup> It is recognized that the midterm survey sample included some households of PLHIV; however the percentage was only 28 based on membership in a PLHIV association, which the project feels is fairly accurate given the general popularity of HIV-positive individuals being members of PLHIV associations and the fact that in Rwanda there is much less stigma association with HIV (Maslowsky et al. 2008; AFSR No. 11).

<sup>xvii</sup> However, there is a statistically significant difference between the least vulnerable households and the most vulnerable households in the general population in terms of participation in IGAs.

<sup>xviii</sup> Both the USAID Food for Peace Office strategic plan (USAID/FFP/DCHA 2005) and the USAID-funded FANTA project (Gervais 2004: 29-30) highlight Africare’s FSCCI as a best practice tool for building and tracking local capacity. This application of the FSCCI to PLHIV associations is a new use of the index.