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RWANDA

FOOD AND NUTRITION SECURITY MONITORING SYSTEM (FNSMS)

ROUND 11 - September-October.

Main Findings

FNSMS round 11 was conducted between 29th September and 14th October 2015, following the 2015 CFSVA, conducted in April and May 2015 in place of FNSMS round 10. Despite slight differences, the FNSMS round 11 found seasonal trends in food security, with higher levels of food insecurity in September compared to March-April, as shown by previous assessments. This is due to increased market prices and depletion of most households food stocks.

Based on the **Consolidated Approach for Reporting Indicators of Food Security (CARI)**, the percentage of food insecure households was 29% in September-October 2015. Among these households, 3% were severely food insecure and 26% moderately food insecure¹ (see Key Definitions).

The Western and Northern provinces, especially along the Congo-Nile Crest and Lake Kivu, reported the highest percentage of food insecure households.

Food insecure households remain poor and vulnerable as shown by previous rounds. These households are either landless, cultivate small plots of land (<0.5 ha), are without diversified livelihood activities or rely on precarious livelihood activities. The most reported shocks were irregular rains and dry spell (52%), serious illness or accident of a household member (36%).

Other reported shocks included reduced income, unusual crop and livestock diseases and high food prices.

FNSMS round 11 showed that while starches and pulses are consumed by all categories of households, fruits, meat and milk are rarely part of the weekly diet of food insecure households.

Apart from shocks, FNSMS round 11 found that the main causes of food shortage in households are low food production from last season, reduced income for a household member and unusually high food prices. Irregular rains/prolonged dry spell and unusually high level of crop pests and diseases were reported as the main causes of low food production by 82% and 4% of households, respectively. Most households reported that unusually high level of illness (15%) and loss of employment (6%) are the main causes of loss or reduction in income and assets.

FNSMS round 11 indicates a 'very high' prevalence of stunting in Rwandan rural area at 45%, the underweight prevalence within 'poor' limits at 13% and the acute malnutrition in 'acceptable' at 1%.

¹All FNSMS rounds exclude households in Kigali city.

Key Definitions

Food security exists when all people, at all times, have physical and economic access to sufficient food in both quantity and quality. In the FNSMS a household is considered to be food insecure if it has poor or borderline food consumption. Household food consumption is estimated with the food consumption score, a WFP corporate indicator that measures the frequency of household-level consumption of the main food groups.

The **Consolidated Approach for Reporting Indicators of Food Security (CARI)** is a global approach developed by WFP for assessing and reporting household food insecurity. CARI console requires data to be sourced entirely from a single household-level survey. Central to the CARI approach is also an explicit classification of households into four descriptive groups: food secure, marginally food secure, moderately food insecure, and severely food insecure (see details in Annex 1).

The Food Consumption Score (FCS) is a score calculated using the frequency of consumption of different food groups consumed by a household during the seven days before the survey to measure household food security. If the household FCS is below a threshold value of 21 the household has poor food consumption and is qualified as food insecure. If above a threshold value of 35, the household has acceptable food consumption and is food secure. A FCS between 21 and 35 means consumption is borderline and households are either food insecure or at risk of becoming food insecure.

The Coping Strategy Index (CSI) is an indicator of household food security behaviour that reveals how households manage or cope with shortages of food. The CSI measures the frequency and severity of actions taken by households in response to a perceived food shortage. A high CSI means more stress and potential declining food security in a household.

Food security remained stable

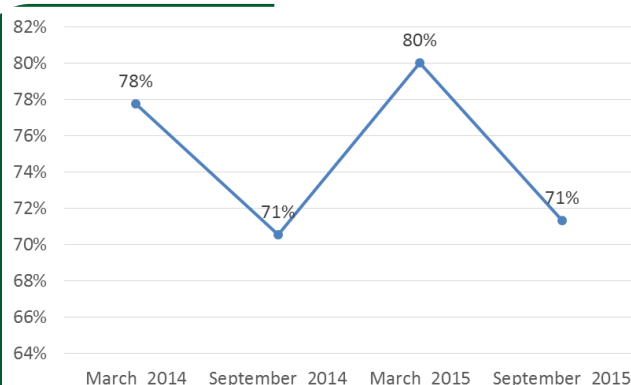


Figure 1: Food secure households from March 2014 to September-October 2015

Figure 2: Food security by province in September-October 2015

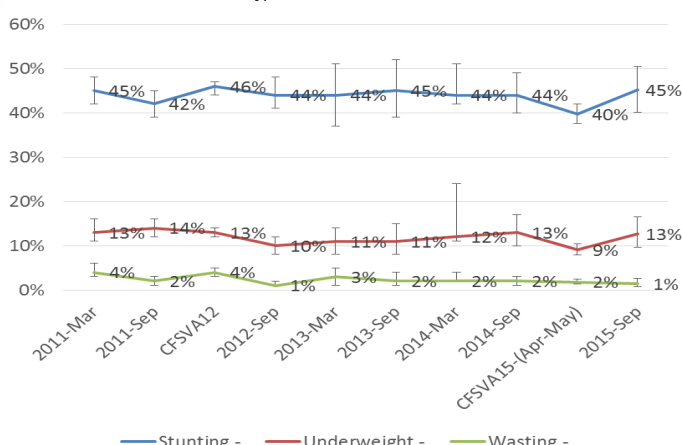
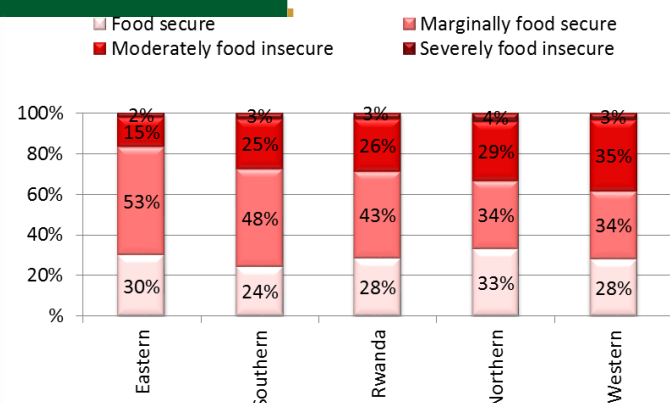


Figure 4: Prevalence of malnutrition in Rwandan rural area, FNSMS rounds 2-11

As shown in Figure 4, FNSMS round 11 indicates a 'very high' prevalence of stunting at 45% (CI 95%: 40%-50%) in Rwandan rural area. This stunting rate is in line with previous rounds of FNSMS but not with CFSVA 2015 that found 37% of stunting prevalence. This

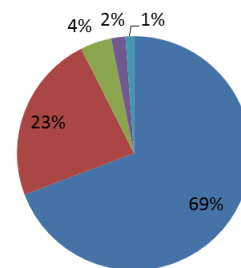


Figure 3: Food sources in September-October 2015

than in March (see figure 1). This seasonal pattern in food security is due to the fact that in September fewer households have remaining food stocks from their own production and are likely to face higher prices when purchasing food from markets. Regarding food consumption, FNSMS round 11 found that 67% of households had acceptable food consumption, while 26% had borderline and 7% had poor food consumption respectively

Based on seasonal pattern between March 2014 and September-October 2015, food security in rural areas of Rwanda remained stable with 71% of food secure households in September 2014 and September-October 2015, and 81% in March 2015 (see Figure 1).

In September-October 2015, Western Province had the highest percentage of food insecure households (38%), followed by the Northern Province with 31% and Southern Province with 28% of

food insecure households (see Figure 2).

When considering Rwanda livelihood zones, the highest percentages of food insecure households were found in the West Congo-Nile Crest Tea Zone, East Congo-Nile Highland Subsistence Farming Zone and in the Northwest Volcanic Irish Potato Zone (see Figure 10). According to the 2012 and 2015 CFSVAs, the high percentage of food insecure households in these areas is linked to lower levels of household crop diversity, small household food stocks, relative isolation from markets, steeply sloped land and less fertile soil than other areas of the country.

As shown by previous rounds of FNSMS and CFSVA, markets remained households' primary source of food (providing 69% of food) while 23% of households rely on their own food production (see Figure 3). 42% of household budget is spent on food.

Stunting is high among children under 5 years of age

difference might be due to the fact that CFSVA used a large sample size compared to FNSMS and covered both urban and rural areas. CFSVA 2015 showed that food security is much better in urban than in rural areas of Rwanda. Taking out households in urban areas from the CFSVA 2015, stunting rate becomes 40%, close to this from FNSMS

According to the FNSMS round 11, the underweight prevalence was

13% (CI 95%: 10%-17%), within 'poor' limits. The prevalence of acute malnutrition was 1% (CI 95%: 1%-3%), within 'acceptable' limits. These remain in line with results of previous FNSMS rounds. Since March 2011, small variations have been seen in the prevalence of underweight (10-13%) and wasting (1-4%), but the changes observed have not been statistically significant.

Food insecure households are poor and vulnerable

Similar to CFSVA 2015 and previous FNSMS rounds, FNSMS round 11 shows that the more a household is poor and vulnerable, the more it is food insecure. Food insecure households are mostly poor households owning little land and relying on precarious, less diverse livelihoods.

Considering the status of the head of household, households headed by an elderly, single, widowed or divorced person were found more likely to be food insecure. 30% of households headed by elderly people over 60 years old were found food insecure compared to 28% of households headed by people under 60 years of age. Contrary to previous FNSMS rounds, FNSMS round 11 showed that there is no difference in household food security based on the sex and marital status of the head of household.

Households with less diverse and more precarious livelihoods were found more vulnerable to food insecurity. 30% of household relying on one activity were food insecure compared to 28% of those practicing a combination of livelihood activities. Households relying on precarious activities such as daily labour, gifts and aid were significantly less likely to be food insecure compared to others (see Figure 5). Also, the less land households had, the more likely they were to be food insecure. Households who owned more than 0.5 ha of land were more likely to report acceptable food consumption

than those with less than 0.5 ha (see Figure 6).

The lower the household's monthly expenditure was, the more likely the household was to be food insecure. FNSMS round 11 found that the average monthly expenditure in rural areas was 55,865 RWF. On average food secure households spend 154,720 RWF per month while food insecure households spend 28,837 RWF only.

Households whose head can read and write (55% of the sample) showed better food consumption patterns than households whose head could not read or write. However, the level of education of the head of household was not reported as factors of difference in food security based on the FNSMS round 11.

Shocks are also among factors affecting households' food security. Among households that reported to be affected by shocks, 34% were found food insecure compare to 22% that were not affected. 57% of the sampled households were affected by shocks. The most reported shocks were irregular rains and dry spell (52%), serious illness or accident of a household member (36%) and other shocks such as reduced income, unusual crop and livestock diseases and high food prices.

Apart from shocks, FNSMS round 11 found that low production from last

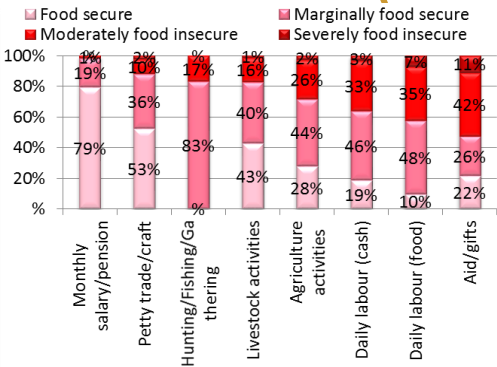
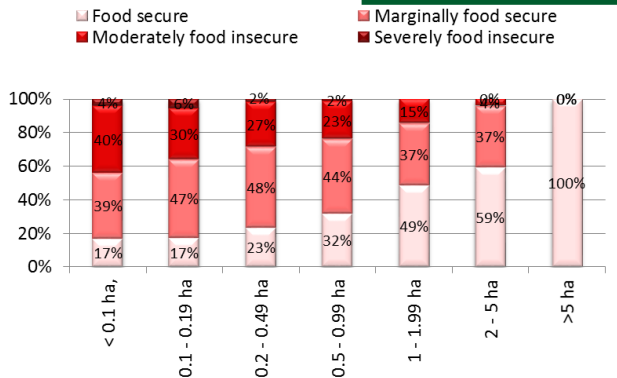


Figure 5: Food consumption groups by livelihood activities

season, reduced income for a household member and unusually high prices for food are the main causes of food shortage in households. Irregular rains/prolonged dry spell and unusually high level of crop pests and diseases were reported as the main cause of the low food production by 82% and 4% of households, respectively. Most households reported that unusually high level of human disease (15%) and loss of employment (6%) are the main causes of loss or reduction in income and assets.

Figure 6: Food security status of households by land ownership



Food insecure households have less diversified diet

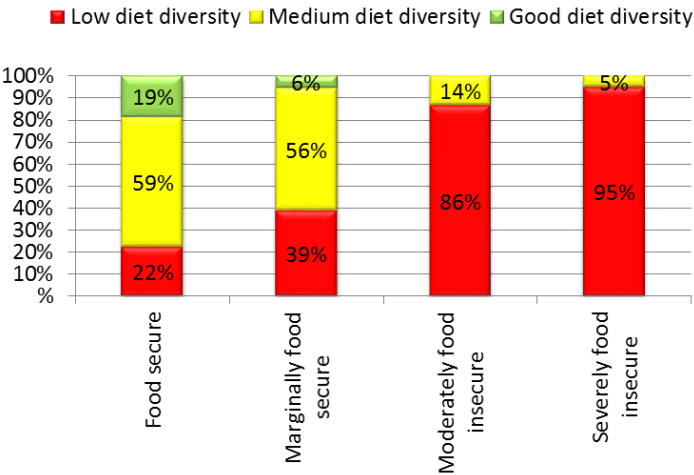


Figure 7: Type of food consumed by household food consumption

As shown in figure 7, food insecure households report low dietary diversity (95% of severely food insecure and 86 of moderately food insecure) compared to food secure ones (only 19% of food secure and 6% of marginally food secure). As indicated by previous rounds of FNSMS, round 11 found that starches* and pulses remain the primary staple food in Rwanda. As in previous rounds, FNSMS round 11 shows that the diet of food insecure households is of poor nutritional quality. Food insecure households rarely consume sugar, oils, legumes and pulses (0 to 3 days per week). Fruits and animal proteins (meat and milk) were consumed primarily by food secure households and were not part of the weekly diet of food insecure households.

(*) Starches include cereal and tubers

Conclusion and recommendations

Based on the Consolidated Approach for Reporting Indicators of Food Security (CARI), FNSMS round 11 showed that 29% of households in Rwanda (excluding Kigali City) could be considered food insecure. The survey shows that food security has remained stable since March 2015. As shown by previous rounds of FNSMS, FNSMS round 11 found that a lower percentage of households are food secure in September than in March. This seasonal pattern in food security is due to the fact that in September fewer households have remaining food stocks from their own production and are likely to face higher prices when purchasing food in markets. In regard to food consumption, 67% of households had acceptable food consumption, while 26% and 7% had borderline and poor food consumption respectively in September-October 2015.

As in September 2014, Western and Southern Provinces reported higher percentages of food insecure households than other provinces.

Food insecure households remained poor, 'vulnerable' households, owning little land, and relying on precarious livelihoods.

In the Rwandan rural area, the level

of stunting remained very high (45%) while underweight and wasting remained within 'poor' and 'acceptable' limits respectively.

Based on the findings of the FNSMS round 11, more effort might be put on assistance in creating income-generating activities, assistance to vulnerable people, access to agro-inputs and assistance in irrigation services while tackling the issue of food insecurity. In particular, the following recommendations can be formulated:

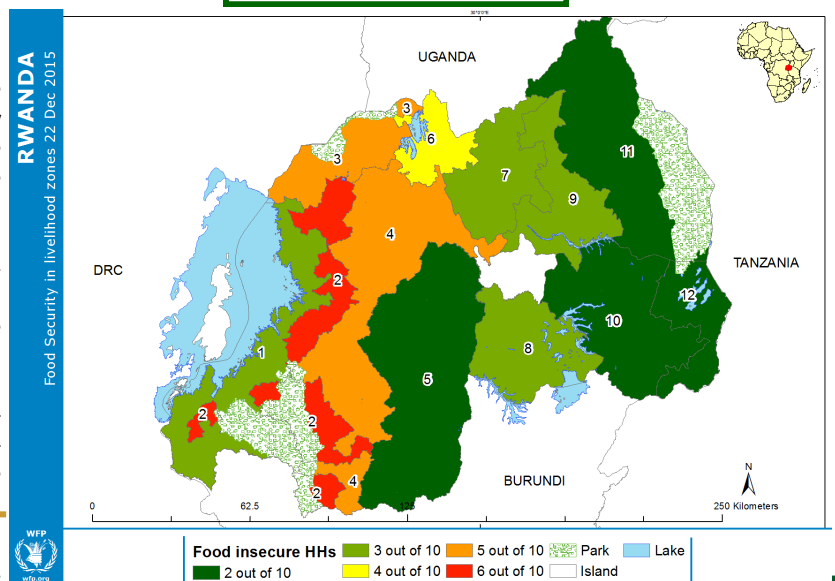
- Collaborate with existing government, ONE UN and other partners to design and implement specific interventions to reduce chronic malnutrition in Rwanda.
- Strengthen and increase the coverage of timely safety nets for the most vulnerable households.
- Focus on Southern and Western Provinces, especially in areas along the Congo-Nile Crest, which need special attention to address food insecurity. As shown by the

2012 CFSVA, these areas are characterised by high rates of soil erosion (over 10 tons/ha/year) and a low soil fertility index (0.3 compared with 0.7 in Eastern Rwanda).

- Strengthen livelihood opportunities for households owning little land and relying on precarious livelihoods such as daily labour.

Nr	Livelihood zone
0	Kigali city
1	Lake Kivu coffee and food crop
2	West Congo-Nile Crest tea and food crop
3	Northwest volcanic Irish Potato
4	East Congo-Nile Highland subsistence farming
5	Central Plateau cassava and Coffee
6	Northern Highland beans and wheat
7	Cent-North High Irish Potato, Bean and Veg
8	Bugesera Cassava
9	Eastern Plateau Mixed Agriculture
10	Southeastern Plateau Banana
11	Eastern Agropastoral
12	Eastern Semi-Arid Agropastoral

Figure 10: Prevalence of food insecurity by livelihood zone in September–October 2015



Background and methodology

The FNSMS was set up in 2010 by the Ministry of Agriculture and Animal Resources (MINAGRI) and the World Food Programme. This round was coordinated through a Technical Committee composed of MINAGRI (chair), WFP (co-Chair), the National Institute of Statistics (NISIR), FEWSNET, the Swiss Agency for Development and Cooperation (SDC) and World Vision. Since September 2010, the FNSMS has been conducted in March and September of every year.

For FNSMS round 11, data was collected in September-October 2015. Round 11 used the same sample as rounds 8 and 9, which were different to previous rounds. 1344 households were interviewed with a closed questionnaire. The households were selected for interviews through a two-stage sampling approach within 16 strata (groups of districts): 96 enumeration zones (see Figure 11) were randomly selected (cells at the administrative level). Within each cell 14 households were interviewed. Anthropometric measurements were taken for 655 children under five (weight and height, and MUAC for

those older than 6 months) and 1087 women aged 15 to 49 (only MUAC) found in sampled households designed for food security.

Ten teams composed of three enumerators and one team leader collected data. They underwent two days of refresher training on food security, data collection tools and the use of Personal Digital Assistants. Data analysis was done using SPSS for food security and ENA (using 2006 WHO standards) for nutrition calculations. Data is representative in all provinces excluding Kigali City, as it only targets rural areas. When comparisons were made between groups (demographic, geographical or other) the statistical significance of the differences were tested using SPSS tests.

Food security information and nutrition indicators calculated by the FNSMS largely concur with previous reports on food security and nutrition (e.g. 2012 and 2015 CFSVAs) and the demographics of the sampled households are in line with population demographics as reported by

the 2012 census. Households living in Kigali City were excluded from the sample and no micronutrient deficiencies were tested.

The methodology remained the same as FNSMS rounds 3, 5, 6, 7 and 8. The use of Android Tablets allowed for data to be collected using electronic questionnaires programmed under Open data Kit (ODK). GPS was used to locate villages where interviews were conducted.

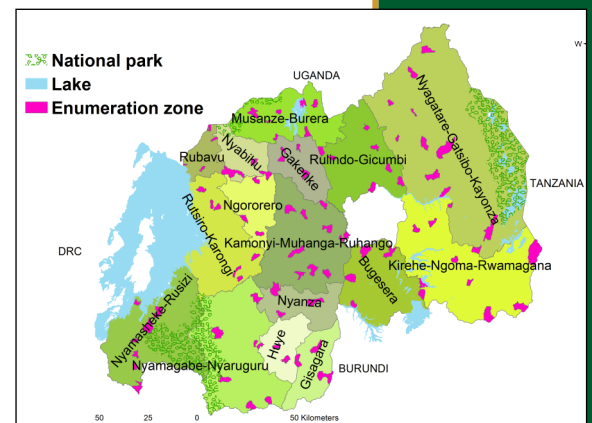


Figure 11: Distribution of the sampled FNSMS enumeration zones in Rwanda

Annex 1: Consolidated Approach for Reporting Indicators of Food Security (CARI)

The World Food Programme began a corporate project in 2012 to develop a standardized global approach for assessing and reporting household food insecurity in its country-level reports. The project was initiated in response to the wide diversity of methods that had been used previously. The newly established approach — *hereafter referred to as the Consolidated Approach for Reporting Indicators of Food Security (CARI)* — developed a **food security console** which supports the combining and reporting of food security indicators in a systematic and comprehensive way, using information typically collected in food security surveys and food security monitoring systems.

In consistence with the CARI methodology, the FNSMS CFSVA classifies each surveyed household into one of the four food security categories based on the household's current status of food consumption and coping capacity. The **food consumption** score is used to classify the households into food consumption groups. Coping capacity domain employs indicators which measure households' **economic vulnerability** and **asset depletion**, namely food expenditure share and livelihood coping strategies respectively.

Each of the three indicators is converted into a four-point scale and for each indicator households are given a score from one to four. By taking the average of the scores from the two domains, current food consumption and coping capacity, these scores are combined into a summary indicator, called the Food Security Index (FSI) - which represents the overall food security status.

Table 1: Overview of the indicators included in the CARI and the scores used

Domain		Indicator	Indicator score			
			Food secure 1	Marginally food secure 2	Moderately food insecure 3	Severely food insecure 4
Current status	Food consumption	Food consumption group	Acceptable food consumption		Borderline food consumption	Poor food consumption
Coping capacity	Economic vulnerability	Food expenditure share	Low food expenditure share < 50%	Medium food expenditure share 50-65%	High food expenditure share 65-75%	Very high food expenditure share >75%
	Asset depletion	Livelihood coping strategy categories	No livelihood coping strategies used	Stress coping strategies used	Crisis coping strategies used	Emergency coping strategies used

The overall prevalence of 'food insecurity' in the population is calculated by summing up the rates of the two most severe categories ('moderately food insecure' and 'severely food insecure').

Food secure	Able to meet essential food and non-food needs without engaging in atypical coping strategies. These households have an acceptable food consumption and use a low share of their budget to cover food needs.	Food secure
Marginally food secure	The vast majority have an acceptable diet although a considerable number of households use a high share of their budget to cover food needs and sometimes engage in negative coping strategies in order to acquire enough food.	
Moderately food insecure	Significant food consumption gaps. These households use a high share of their budget to cover food needs and the majority of households have to use negative coping strategies in order to make a living, although only a few use the more serious coping strategies.	Food insecure
Severely food insecure	Poor food consumption and the majority of households are using a very high share of their budget to acquire food. Almost half of these households have used one of the most serious irreversible coping strategies with the resulting risk of further deteriorating their food security situation.	