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Sustainable livelihoods of refugees in Rwanda: Results from a survey and self-reliance measure

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Introduction

This report summarizes the findings from a survey on sustainable livelihoods of refugees in Rwanda. The survey was designed to assess the living conditions, economic status, and overall well-being of refugees, and structured around the indicators included in a self-reliance measure for refugees in both urban and camp settings. The survey covered various topics: household demographics, education, health, employment, community relations, well-being, and access to public services, as well as income, savings, debts, and housing.

The analysis presented in this report aims to provide guidance for ongoing and future initiatives towards creating inclusive, effective, and sustainable support systems for refugees. The data is also used to calculate a self-reliance measure that will inform targeting of humanitarian assistance and the formulation and implementation of policies and programs aimed at improving the lives of refugee communities in Rwanda, particularly the upcoming Government of Rwanda *Refugee Sustainable Graduation Strategy 2025-2030*.

The following sections describe the survey's objectives and methodology, and the proposed self-reliance measure, as well as key findings.

1. The Survey

Two rounds of a household panel survey were collected, each round representative[1] for each of Rwanda's five refugee camps, the Kigali urban area, and the country of origin of refugee population.

The UNHCR proGres database was used as a sampling frame and data collection took place during the first quarter of 2024 (first round) and in April 2025 (second round). The targeted number of interviews for each round was 280 households in Kigeme, Kiziba, Mugombwa and Nyabiheke, 560 in Mahama (half from Burundi and half from DRC), and 320 in Kigali.

Table 1.1 shows the distribution of the respondents in each of the five camps and the Kigali urban area. The total sample size is 2,020 and 2,025 households respectively for each round, representing around 23,000 households (after expanding using weights). At the individual level, each round collected information for around 11,000 individuals which represents approximately 117,000 refugees (after expansion using weights).

Table 1.1. Sample distribution across camps in the two survey rounds.

	First Round (2024)				Second Round (2025)			
	Households		Individuals		Households		Individuals	
Camp	**Sample size**	**Weighted Sample**	**Sample size**	**Weighted Sample**	**Sample size**	**Weighted Sample**	**Sample size**	**Weighted Sample**
Kigali	326	4,324	1,090	14,187	320	4,130	991	12,847
Kigeme	282	2,225	1,785	14,045	280	2,217	1,649	13,058
Kiziba	280	2,456	1,571	13,702	281	2,467	1,548	13,599
Mahama	564	10,416	2,919	52,886	583	11,088	3,011	54,632
Mugombwa	280	1,716	1,667	10,206	280	1,716	1,768	10,827
Nyabiheke	286	2,039	1,723	12,278	281	2,004	1,714	12,233
Total	**2,020**	**23,176**	**10,755**	**117,303**	**2,025**	**23,622**	**10,681**	**117,195**

The survey was originally designed as a panel, meaning that the same households would be interviewed in both rounds to track living conditions over time. Due to households relocating outside the camps or the country, changes in phone numbers, and attrition, only 71 percent of the households interviewed in the second round were also interviewed in the first round. Replacement was used in the second round to ensure that results were representative for each of the 6 domains (5 camps and the Kigali), as was the case for the first round.

Table 1.2. Households interviewed in both survey rounds.

	Households		Individuals	
Camp	**Sample in panel**	**Weighted panel**	**Sample in panel**	**Weighted panel**
Kigali	235	3,017	750	9,673
Kigeme	197	1,559	1,243	9,838
Kiziba	182	1,590	1,049	9,165
Mahama	428	8,053	2,298	42,363
Mugombwa	208	1,273	1,364	8,343
Nyabiheke	204	1,453	1,285	9,164
Total	**1,454**	**16,945**	**7,989**	**88,547**

[1] With margins of error of approximately 5.5 percent.

If the analysis is restricted to the observations in the panel, the results would not be representative for each of the domains, as originally intended. In addition, after reviewing the results of the first round and consultations with MINEMA, UNHCR and WFP, some indicators were revised and others added in the second round, making it impossible to compare with the first round. For these reasons, this report only includes results from the second round of the survey.

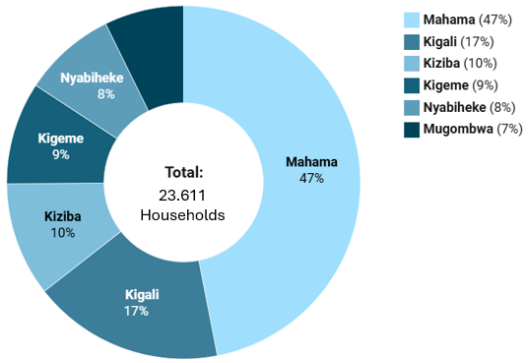
2. Findings

2.1. Demographic profile

Out of the 23,000 refugee households (in the expanded sample), the Mahama camp hosts nearly half, while Kigali hosts 17 percent (Figure 2.1). Combined, these two locations are home to almost all refugees originating from Burundi. In contrast, most refugees residing in Kiziba, Kigeme, Mugombwa, and Nyabiheke camps almost exclusively originate from the Democratic Republic of Congo (DRC).

Women constitute a majority of the population in Mugombwa (56 percent) and Kiziba (54 percent) while 54 percent of the refugee population in Kigali are men (Figure 2.2). Other camps have a sex distribution that is comparable to the national estimates (around 51 percent female).

Figure 2.1. Share of refugee households by location.



Source: Round 2 of the survey.

Figure 2.2.Distribution of the refugees by sex and camp.

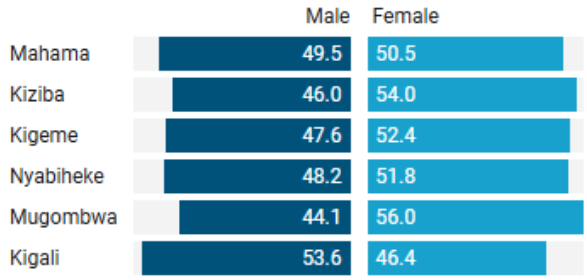


Figure 2.3. Distribution of the population by age group

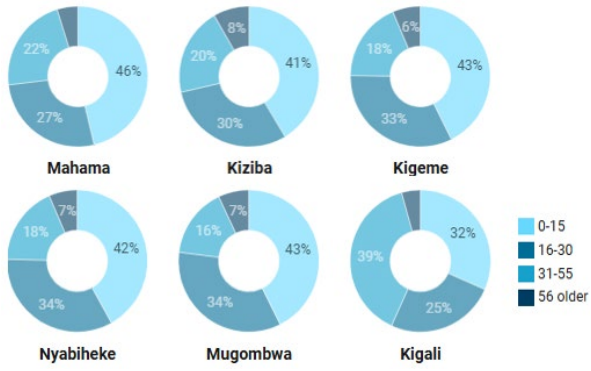
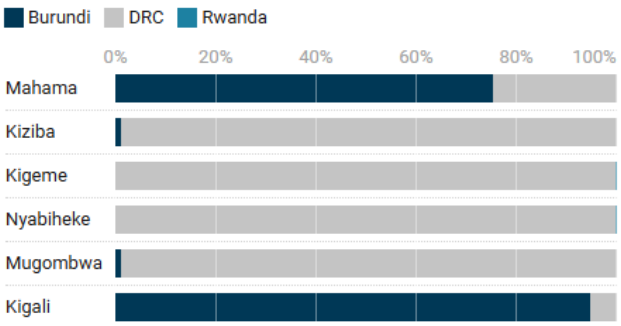


Figure 2.4. Distribution of the refugees by country of origin



Source: Round 2 of the survey.

Children (0-15 years old) are the largest age group in (40-46 percent) in every camp, but it is the second largest in Kigali (32 percent), where 39 percent of the population is in the age group of 31-55 years old, representing roughly twice as high as in the camps (Figure 2.3). Compared to non-refugee households, refugee households in camps tend to have more children (0-15) and fewer elderly members (56+). The share of children for non-refugee households is 5-10 percentage points lower than for refugee households in camps, and the share of elderly members is 7-10 percentage points higher.[2]

Figure 2.5. Household size composition by camp

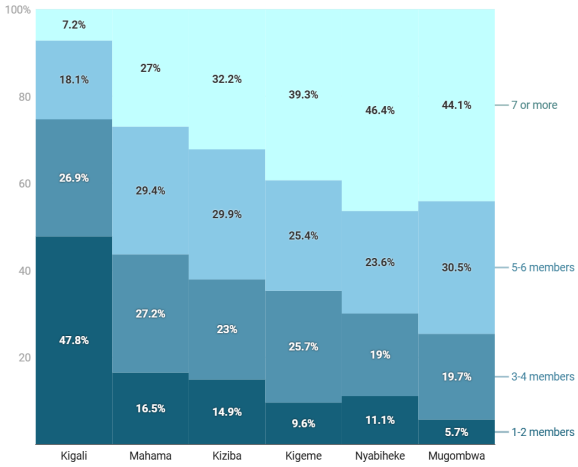
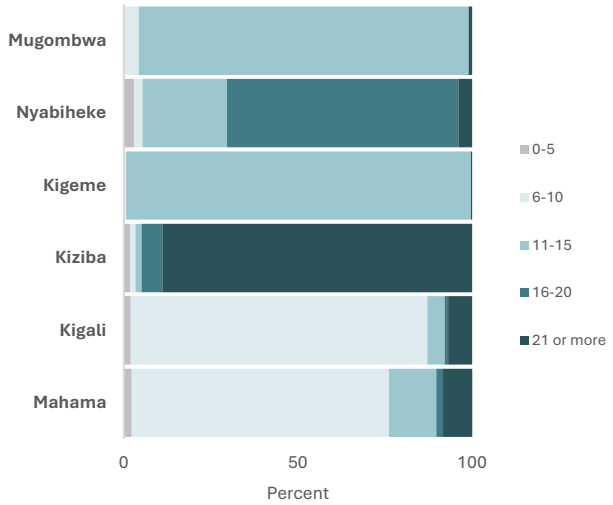


Figure 2.6. Distribution of households by years living in Rwanda



Source: Round 2 of the survey.

Refugee households in Kigali not only have fewer children but also fewer members, with nearly half of the households comprising just 1-2 members and a relatively small proportion of large households (7.2 percent with 7 or more members). In contrast, the refugee camps host a significantly higher percentage of larger households (Figure 2.5). Mugombwa and Nyabiheke have the highest shares of

[2] Figures for non-refugee households use data from the Integrated Living Conditions Survey 2023/24 (EICV7).

very large households (7 or more members) at 44.1 percent and 46.4 percent, respectively. Similarly, households with 5 or more members collectively represent a substantial share in camps like Mugombwa (74.6 percent), Nyabiheke (70 percent), Kiziba (62.1 percent), Kigeme (64.7 percent), and Mahama (56.4 percent). Compared to non-refugee households, refugee households in camps tend to be much larger.[3] The largest share of non-refugee households with 7 or more members in districts hosting refugee camps is 13 percent, compared to shares ranging from 27 percent in Mahama to 46 percent in Nyabiheke. In contrast, the share of non-refugee households with 1-2 members in districts hosting is 22 percent, compared to shares between 6 and 17 percent in refugee camps.

The duration of stay for refugees in Rwanda reflects different waves of displacement over the years. Refugees in Kiziba have the longest average duration of stay, with 89 percent of the refugees having been in Rwanda for 21 years or more (Figure 2.6).

Very few refugees have been in the country for less than 5 years. In Mahama (73.9 percent) and Kigali (85.1 percent) most refugees have lived in Rwanda for 6-10 years. Almost all refugees in Kigeme and 95 percent in Mugombwa have resided in the country for 11-15 years. 66 percent of refugees in the Nyabiheke camp have lived in the country for 16-20 years.

2.2. Welfare indicators

Education

Refugees in Kigali are on average more educated than refugees in camps, and refugees have similar levels of education than non-refugees.[4] Around one-third of the refugee population 16 years and older have attained at least secondary school, very similar to the share for the non-refugee population. Between 13 to 20 percent of the population 16 years and older in camps have no education (10 percent for non-refugees), compared to less than 3 percent in Kigali, and less than 7 percent of the camp refugees have tertiary education (5 percent for non-refugees), compared to 22 percent in Kigali. Almost 60 percent of refugees in Kigali who are 16 or over have at least upper secondary education, compared to 30-35 percent in camps (Figure 2.7).

School attendance for children aged 6 to 17 years old is relatively high across camps and higher than for non-refugees. On average, only 3 percent of children in school age are not currently attending (Figure 2.8) compared to 10 percent for non-refugees. Most households with non-attending children reported financial constraints as the main reason for not sending children to school.

[3] Estimates for non-refugees are based on data from the Integrated Living Conditions Survey 2023/24 (EICV7).
[4] Ibid.

Figure 2.7. Highest level of education attained by population ages 16 and older.

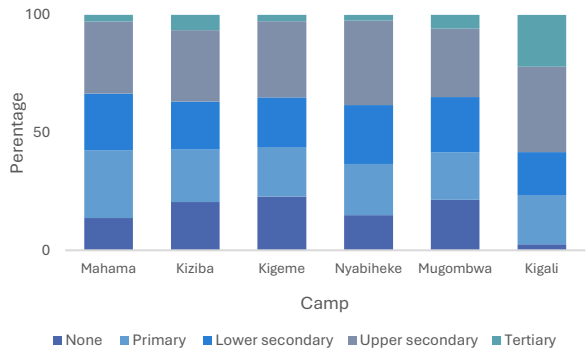
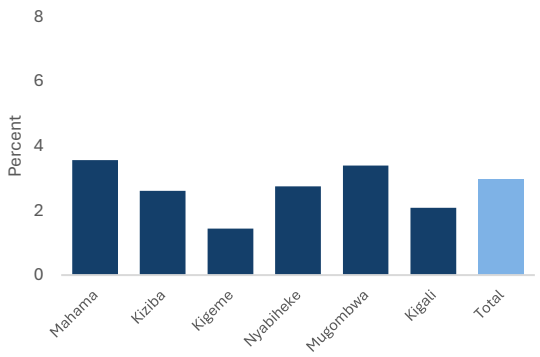


Figure 2.8. School non-attendance of a population aged 6-17 years old.



Source: Round 2 of the survey.

Health

The refugee population suffering illness or injury that requires medical assistance was on average 15 percent at the time the survey was conducted. Kigeme and Nyabiheke camps experienced the largest share of health issues among its population, 22 and 19 percent, respectively.

Figure 2.9. Share of the population by type of health insurance.

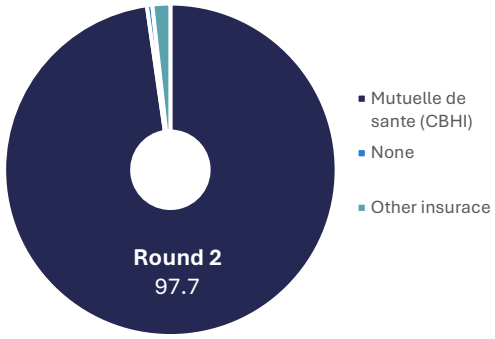
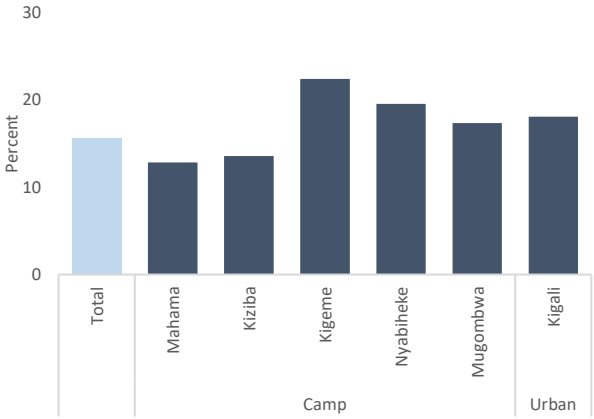


Figure 2.10. Share of the population suffering illness or injury requiring medical assistance by camp.



Source: Round 2 of the survey.

The total share of the population suffering illness or injury and facing barriers accessing healthcare is 19 percent. In Mahama and Kigali around one quarter of the population faced barriers, compared to less than 10 percent in Kigeme and Mugombwa.

Figure 2.11. Share of the population facing challenges accessing health care after a medical issue by area.

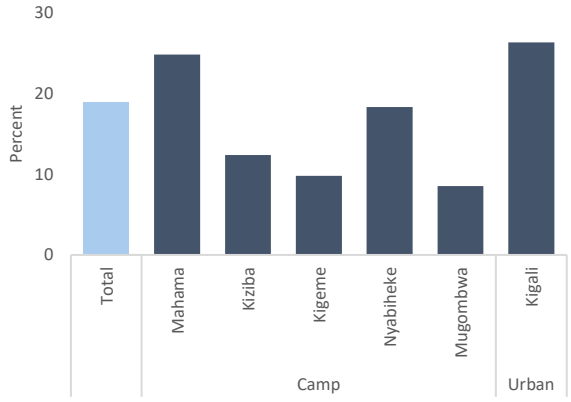
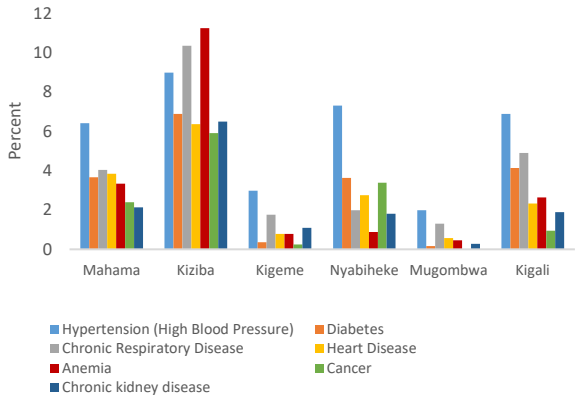


Figure 2.12. Share of the population diagnosed with a chronic illness

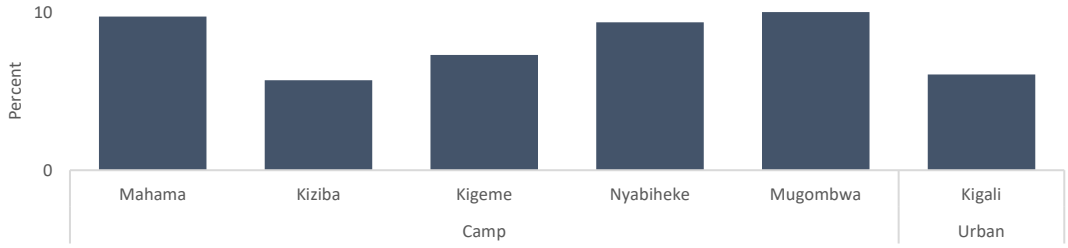


Source: Round 2 of the survey.

Regarding chronic illnesses, Kiziba records the highest percentages of people that have been diagnosed with chronic medical conditions, including anemia at 11 percent and chronic respiratory disease at 10 percent. Compared to other conditions, hypertension often ranks among the more prevalent conditions, with relatively high values in Mahama, Kiziba, Nyabiheke and Kigali. The share of households that reported at least one chronic illness among their members is 35 percent.

The share of the working-age population who report that health conditions interfere with their income-generating activities is around 10 percent in Mahama, Nyabiheke and Mugombwa. The smallest share is observed in Kiziba, where 5.7 percent of its population reported limited income generation due to health problems.

Figure 2.13. Share of the population (16 years and over) reports that a physical or psychological health condition interferes with income-generating activities.



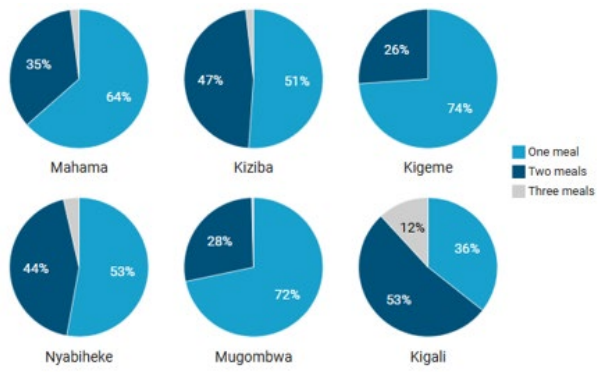
Source: Round 2 of the survey.

Food Security

Consuming a low number of meals per day, especially if it is only one, can lead to insufficient daily calorie and nutrient intake, potentially resulting in malnutrition and other diet-related diseases like anemia. A significant portion of households typically consume only one meal a day across camps (Figure 2.14), with 74 percent in Kigeme, followed by Mugombwa (72 percent) and Mahama (64

percent). This share is lower in Kigali at 36 percent, where 12 percent typically consume three meals a day, compared to negligible shares in camps consuming three meals.

Figure 2.14. Share of households by number of typical meals consumed per day.



Source: Round 2 of the survey.

Skipping meals is also a problem in terms of food intake since it makes it even more difficult to meet the daily nutritional requirements. In Kigeme, around one out of five households reported skipping meals during the seven days before the interview (Figure 2.15). The lowest proportion of households skipping meals were found in Kigali and Kiziba (around 12 percent).

Figure 2.15. Share of households skipping meals in the last 7 days by camp

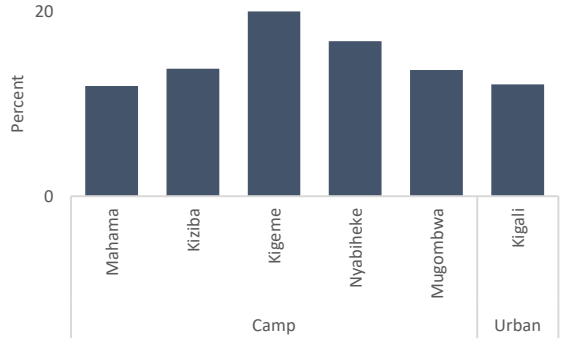
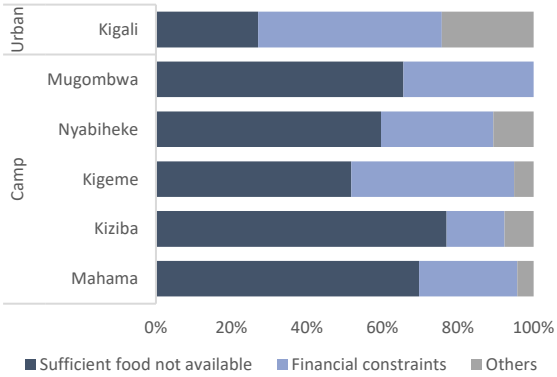


Figure 2.16. Distribution of reason for skipping meals



Source: Round 2 of the survey.

The most frequently cited reason for skipping meals is the lack of sufficient food (Figure 2.16), with the largest shares in Kiziba (77 percent), Mahama (70 percent) and Mugombwa (65 percent). In Kigali, financial constraints are cited as the primary reason for skipping meals (49 percent).

Labor

Labor force participation and employment rates for the refugee population are at 28 and 21 percent,[5] with rates twice as high in Kigali than in the camps, a sign of much better economic opportunities for refugees outside camps. Compared to non-refugee individuals, refugees have much lower labor force participation and employment rates.[6] Labor force participation rates for non-refugees in districts hosting refugees are around 55-65 percent, compared to 20-25 percent for refugees. Employment rates for camp refugees vary from 10 percent in Kigeme to 21 percent in Mahama (Figure 2.18), compared to 45-55 percent for non-refugees living in districts that host refugee camps.

Figure 2.17. Labor force participation rate (>15 yrs old)

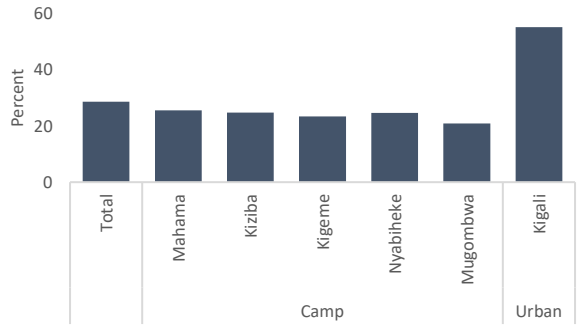
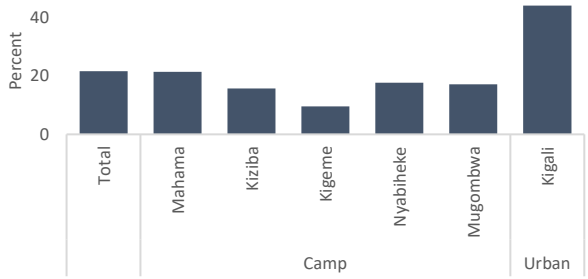


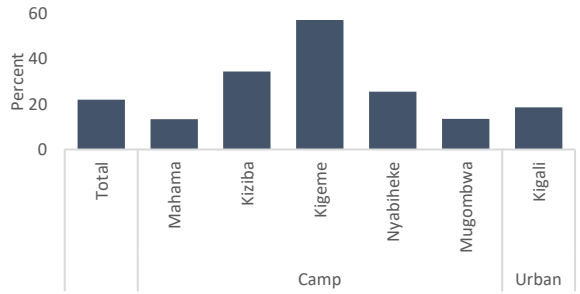
Figure 2.18. *Employment rate (>15 yrs old)*



Source: Round 2 of the survey.

There is a wide variation in unemployment rates across camps. From 57 percent in Kigeme to 18 percent in Kigali and 13 percent in Mugombwa and Mahama (Figure 2.19). Despite having more lower participation rates than non-refugees, unemployment rates for camp refugees are much higher in the same districts in Kiziba (34.4 percent for refugees vs 20.2 percent for non-refugees in the same district), Kigeme (57.1 percent vs 12.8 percent) and Nyabiheke (25.5 percent vs 13.5 percent).[7]

Figure 2.19. *Unemployment rate (>15 yrs old)*

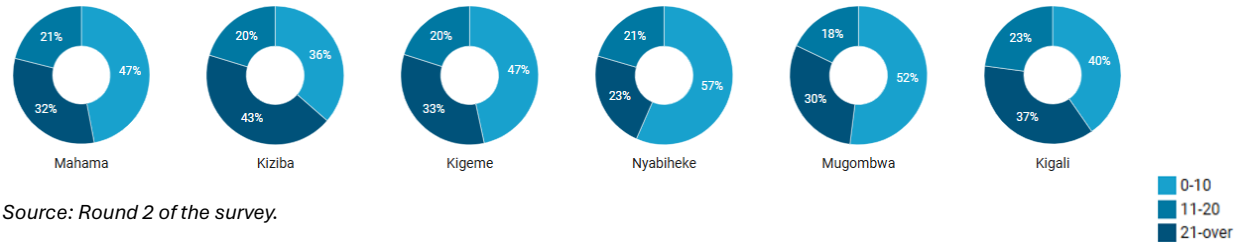


Source: Round 2 of the survey.

[5] Notably lower than for the overall population in Rwanda, with participation rate at 63 percent and employment rate at 53 percent in 2024.
[6] Estimates for non-refugee individuals are taken from the Labor Force Survey 2024 annual report.
[7] Ibid.

Even upon securing employment, large shares of individuals work a low number of days per month (Figure 2.20) and less than 10 hours a week (Figure 2.21), resulting in large rates of labor underutilization and low labor income. More than half of all workers work less than 10 days per month in Nyabiheke and Mugombwa; the share is lowest in Kigali (40) and Kiziba (36). Around 57 percent of workers in Nyabiheke reported working less than 10 hours a week, and even in Kiziba with the lowest share, one out of three workers work less than 10 hours a week. In comparison, less than 16 percent of non-refugee individuals in districts hosting refugee camps work less than 10 hours a week.[8]

Figure 2.20. Distribution of days worked per month of the employed population (16 years and older)



Source: Round 2 of the survey.

Figure 2.21. Employed population (>15 yrs old) working less than 10 hours.

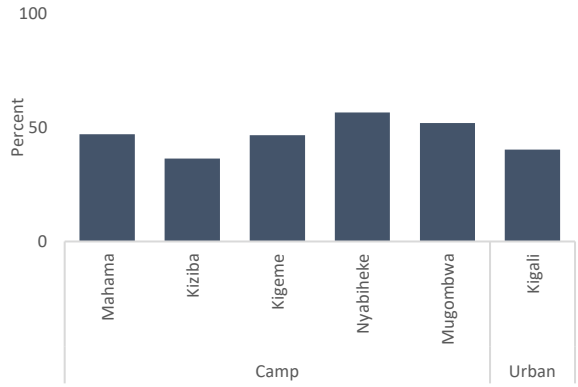
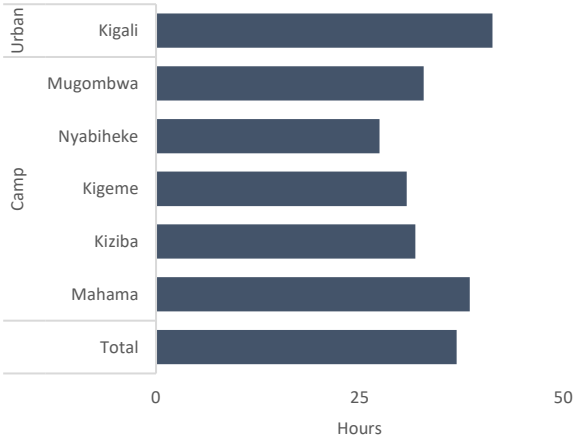


Figure 2.22. Average worked hours per week.

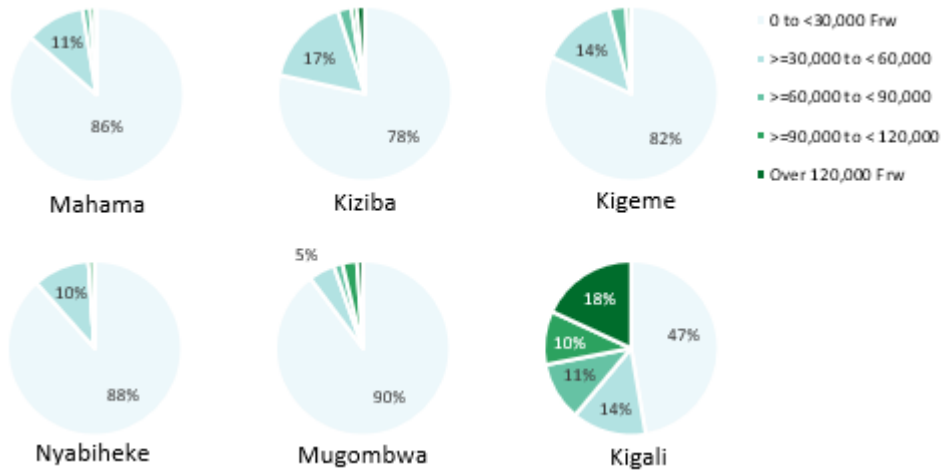


Source: Round 2 of the survey.

Most refugee households face challenges to generate income, especially in camps, where self-reliance is threatened by low earnings. The share of households earning less than RFW 30,000 a month are consistently above 78 percent and as high as 90 percent in Mugombwa (Figure 2.23).[9] Per capita earnings are much higher in Kigali, with higher household earnings and smaller household size. However, income-generating opportunities are still insufficient for refugee households to sustain themselves without assistance.

[8] Ibid.
[9] This is equivalent to approximately USD 20 a month.

Figure 2.23. Distribution of monthly household income (excluding assistance) by camp



Source: Round 2 of the survey.

3. Refugee Self-Reliance Measure (RSRM)

In close collaboration with the Ministry in Charge of Emergency Management (MINEMA) and UNHCR, and with inputs from the World Food Program (WFP), a Rwanda Self-Reliance Measure (RSRM) was developed and refined over the two survey rounds. The RSRM is a composite measure designed to assess the degree to which refugee households can meet their own basic needs sustainably and with dignity, without depending on humanitarian aid.

3.1. Methodology

The RSRM is a multidimensional measure that includes both monetary and non-monetary indicators. The different dimensions and indicators in the measure were produced by a technical working group with staff from MINEMA, UNHCR and the World Bank. Most indicators in the proposed measure are independent of aid, and some of the indicators apply only to refugees not based in camps.

We set minimum scores (cut-offs) for each indicator that defines a minimum acceptable level of access/quality to be considered self-reliant. The value of the measure for each dimension is the average number of indicators for which the household is self-reliant. The composite value of the measure is the weighted average of the value of each dimension, which is the weighted average number of indicators for which the household is self-reliant. The RSRM takes values between zero (the household is not self-reliant in any indicator) and 100 (the household is self-reliant in all dimensions).[10] The last step is to set a minimum value for the RSRM above which a household is considered to be self-reliant. At the request of MINEMA, we establish different degrees of self-reliance by choosing different minimum values for the RSRM.

[10] The RSRM is expressed as a percentage, and this is why its maximum possible value is 100.

The RSRM combines indicators across seven dimensions: income, labor, education, health, food security, housing and social capital. Each dimension has a few indicators and different weights that were set in consultation with MINEMA (see Figure 3 below). The weights reflect the relative importance that the government of Rwanda assigns to each dimension in the definition of self-reliance.

In practice, the procedure begins by assigning numerical scores ranging from 1 to 5 for each indicator (see Table A.1), where a score of 5 indicates the best and 1 the poorest achievement. Based on these scores, households are categorized as not self-reliant in each indicator if the score is less than 3. The next step aggregates the number of indicators for which the household is not self-reliant using the dimension/indicator weights (see Table A.2) to calculate a self-reliance score for the household, where a higher score indicates greater self-reliance.

Figure 3.1. Dimensions and indicators of the RSRM

Source: World Bank in consultation with MINEMA and UNHCR, and with inputs from WFP.

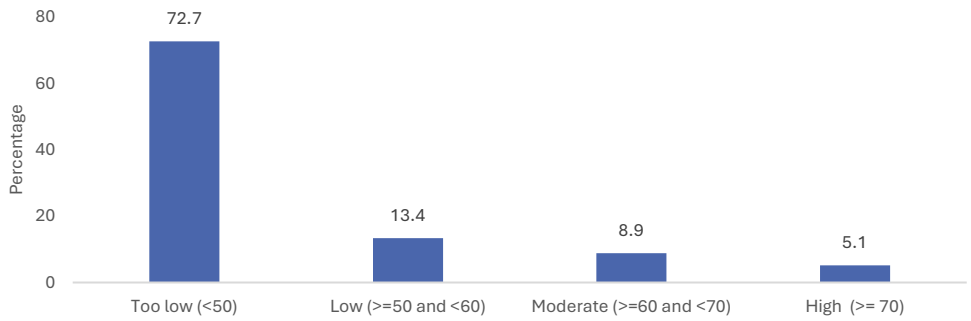
3.2. Results

To analyze different degrees of self-reliance we use three different thresholds for the RSRM: 50, 60, and 70, which correspond to low, moderate, and high self-reliance, respectively. A value of 50 for low

self-reliance means that a household has a minimum acceptable level of access or achievement for 50 percent of the indicators in the RSRM.

Overall, 5.1 percent of refugee households are highly self-reliant (RSRM>=70), 8.9 percent are moderately self-reliant (60=<RSRM>70), and 13.4 percent have low self-reliance (50<=RSRM>60) (Figure 3.2). This means that 27.4 percent of the households have at least low self-reliance and the rest (72.7 percent) have levels of self-reliance that are too low or are simply not self-reliant.

Figure 3.2. Share of self-reliant households for different thresholds.



Source: Authors' calculations using data from round 2 of the survey.

Table 3.1. Share of self-reliant households by threshold, area and country of origin.

		Camp					Urban	Country of origin	
	Total	Kigeme	Kiziba	Mahama	Mugombwa	Nyabiheke	Kigali	Burundi	DRC
Too low (<50)	72.7	86.7	78.8	79.1	82.5	87.0	32.8	62.5	83.6
Low (>=50 and <60)	13.4	7.2	11.0	12.1	11.1	9.8	24.2	16.8	9.7
Moderate (>=60 and <70)	8.9	4.7	8.2	7.4	4.7	2.2	20.5	12.2	5.3
High (>= 70)	5.1	1.4	2.1	1.4	1.8	1.1	22.5	8.5	1.4

Source: Authors' calculations using data from round 2 of the survey.

Household in camps have consistently lower levels of self-reliance when compared to the refugees in Kigali, and 87 percent of households in Kigeme and Nyabiheke have levels of self-reliance that are considered too low (are not self-reliant). The share of households with low self-reliance (50<=RSRM<60) varies from 7.2 percent in Kigeme and Nyabiheke to 12.1 percent in Mahama. Similarly, the percentage of moderately self-reliant households (60<=RSRM<70) ranges from 2.2 percent in Nyabiheke to 8.2 percent in Kiziba. The share of households in the high self-reliance category (RSRM>=70) does not exceed 2.1 percent in camps (Table 3.1).

In the urban area of Kigali, the share of self-reliant households is higher when compared to the camps. 22.5 percent of households in Kigali were classified as highly self-reliant (RSRM >= 70), 20.5 percent were moderately self-reliant (60<=RSRM<70), 24.2 percent were categorized in the low self-reliance range (50<=RSRM<60), and the other 32.8 percent have levels of self-reliance that are considered too low and are not self-reliant.

Self-reliance levels for households from the Burundi are higher across all categories, in good part because many live in the Kigali urban area: 62.5 percent are not self-reliant, 16.8 percent have low

self-reliance, 12.2 percent have moderate self-Reliance, and 8.5 percent have high self-reliance, compared to originally DRC households with shares of 83.6, 9.7, 5.3 and 1.4 percent, respectively.

3.3. Self-reliance dimensions

This section presents the situation of refugee households in terms of having minimum acceptable levels of access and achievement across selected indicators of the RSRM (Figure 3.3). In summary, the most substantial challenges for refugee households in Rwanda include the dimensions of *Food Security, Income* and *Labor*. In contrast, access and achievement appear comparatively better in certain aspects of *Social Capital* and *Education*, particularly primary school attendance, and some indicators within *Housing* and access to *Health* services, although challenges still exist.

Refugee households in Rwanda are facing significant difficulties in meeting their food needs through normal means and are regularly using coping strategies that can have negative long-term impacts on their health, nutrition, well-being, and livelihoods. RSRM food-related deprivations are notably high, with the majority of the refugee households typically consuming only one meal or less per day (58 percent) and with 90.8 percent having a borderline or poor food consumption score. Practically all households (99.7 percent) reported moderate or high reduced coping strategies (according to the reduced coping strategy index [rCSI] - see annex B).

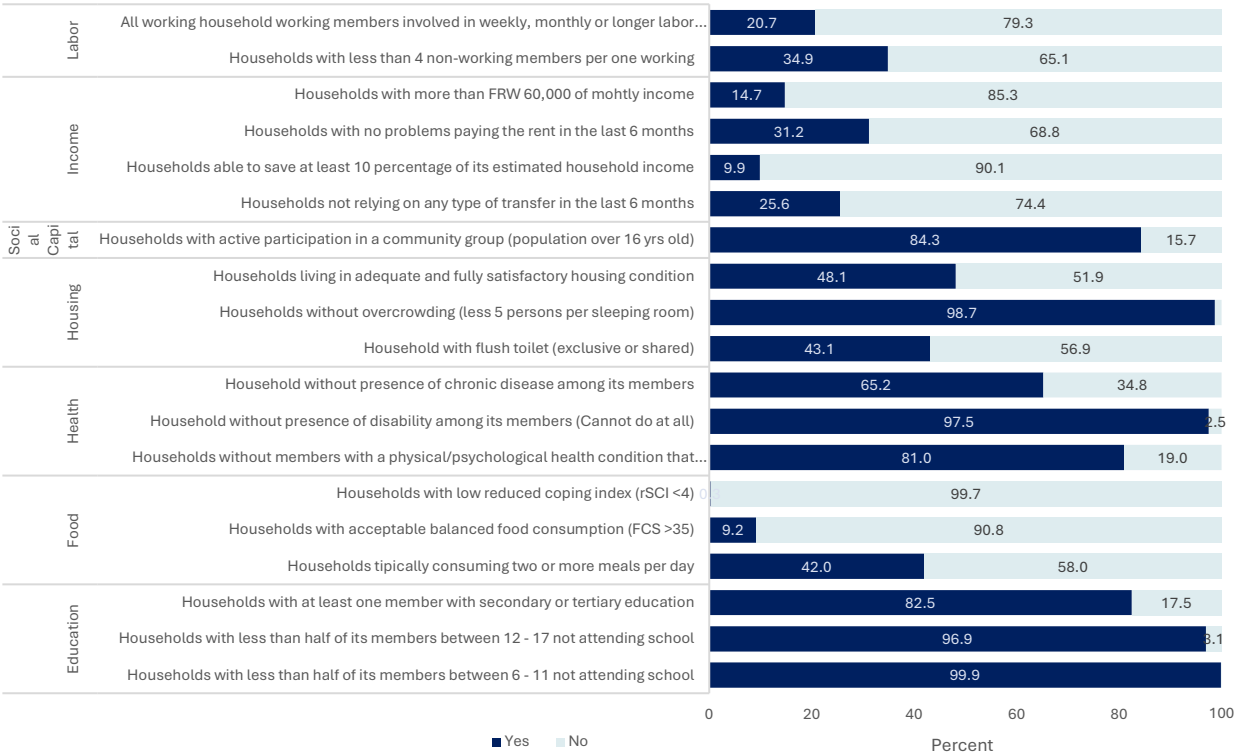
Income generation is one of the dimensions where refugees face more difficulties, with only around 15 percent of households having an income of more than FRW 60,000 per month, which places pressure over the household budget, resulting in only 10 percent of households being able to save at least 10 percent of their monthly income. Only one out of three refugee households in Kigali report that they had not faced difficulties to pay their rent in the past 30 days.

In terms of health, 35 percent of households have at least one person with a chronic illness, and 2.5 percent have at least one person with a severe disability. Health problems can limit the capacity towards self-reliance since one out five interviewed households have at least one member with health conditions that interfere with income-generating activities.

The access and achievement in education indicators are relatively high. Most households send their children to school. However, the low education level is still a challenge, 17.5 percent of households have no members with secondary education or higher.

Households are resorting to moderate or high-severity coping mechanisms to feed themselves. Every single household surveyed in Kiziba, Mahama, and Kigeme is regularly engaged in actions like skipping meals entirely, limiting adult consumption for children, selling off assets, or borrowing just to get food. The figures are only slightly lower in Nyabiheke (99.3 percent) and Mugombwa (99.6 percent).

Figure 3.3. Share of households achieving minimum thresholds by RSRM dimension and indicator (Round 2 of SLRS).



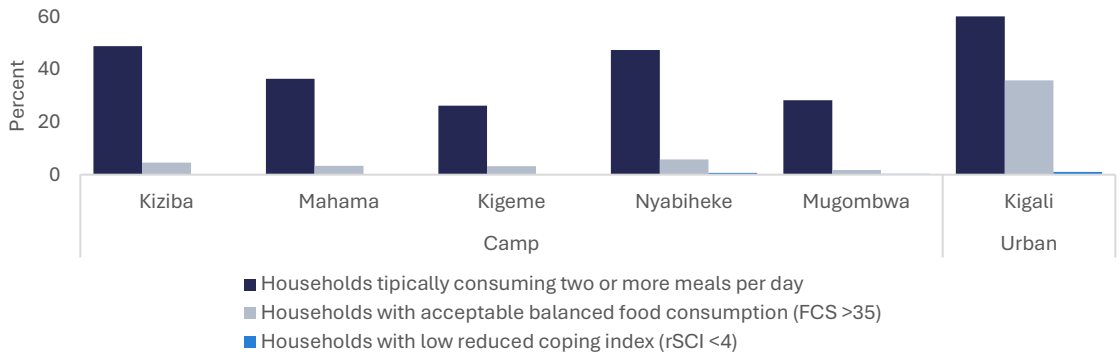
Source: Authors' calculations using data from round 2 of the survey.
Note: The figures for the Housing dimension and the indicator regarding problems paying rent in the Income dimension apply only to refugee households based in Kigali.

Food security

A substantial majority of households have poor or borderline diets, lacking diversity and nutritional value (Figure 3.4). The percentages range from 94.2 percent in Nyabiheke to a peak of 98.2 percent in Mugombwa, compared to the highest share for non-refugees in the West province at 44 percent.[11] On the other hand, while over half of households in Kiziba (49 percent) and Nyabiheke (47 percent) consume two or more meals in a typical day, the situation is considerably worse in Mahama (36 percent), and particularly dire in Mugombwa and Kigeme, where nearly three-quarters of households are reduced to eating just one meal or less daily.

[11] Estimates for non-refugees come from the Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2021.

Figure 3.4. Food security indicators



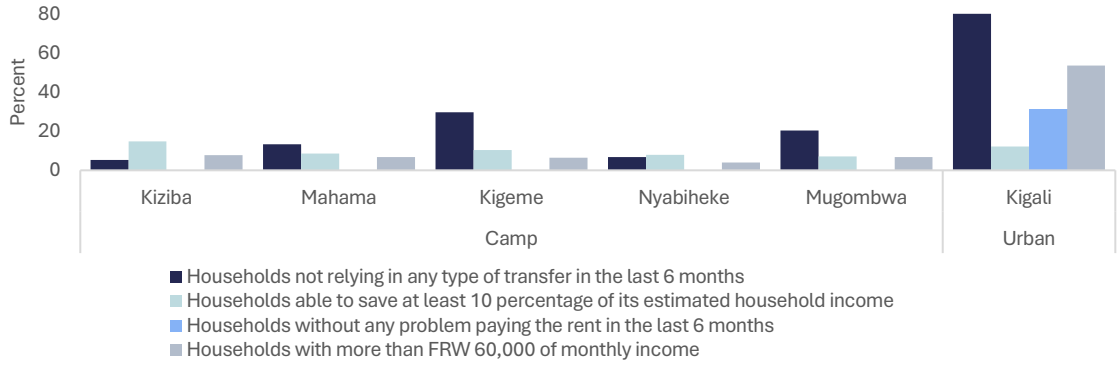
Source: Authors' calculations based on Round 2 of the survey.

Income

Insufficient income generation is likely contributing to low food security, limiting the economic self-reliance of refugees. Very few households in camps can generate more than FRW 60,000 per month (which is the minimum acceptable amount for that indicator), which is particularly severe considering that, on average, households have 5 members. This is a challenge across camps, with fewer than 8 percent of household generating more than FRW 60,000 a month, and a much better situation in Kigali, where around half of the households generate that much income (Figure 3.5).

Households are heavily dependent on aid transfers, particularly in the camps, savings are not feasible for most of the refugees and around two out of three households in Kigali face problems paying their rent.

Figure 3.5. Income indicators



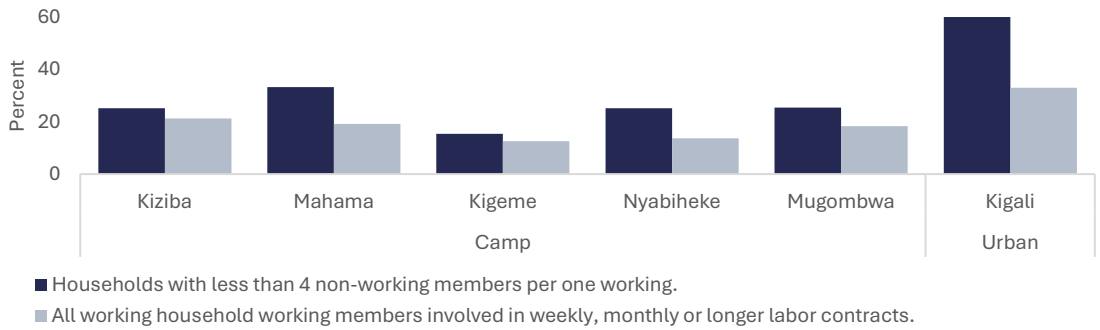
Source: Authors' calculations based on Round 2 of the survey.

Labor

Limited access to and quality of jobs drive the low levels of income generation for households. A high dependency ratio means that a larger number of non-working individuals (such as children, the elderly, or those unable to work due to health or disability) rely on a smaller number of working household members. In the camps, the share of households with a ratio below four non-working members to one working member is notably low, ranging from 33.3 percent in Mahama to 15.4 percent in Kigeme (Figure 3.6).

The quality of jobs is low, with most workers depending on daily contracts, which typically provide irregular and low pay. Less than 20 percent of households in camps have no members working under daily contracts, with a higher share in Kigali at 33 percent (Figure 3.6).

Figure 3.6. Labor indicators

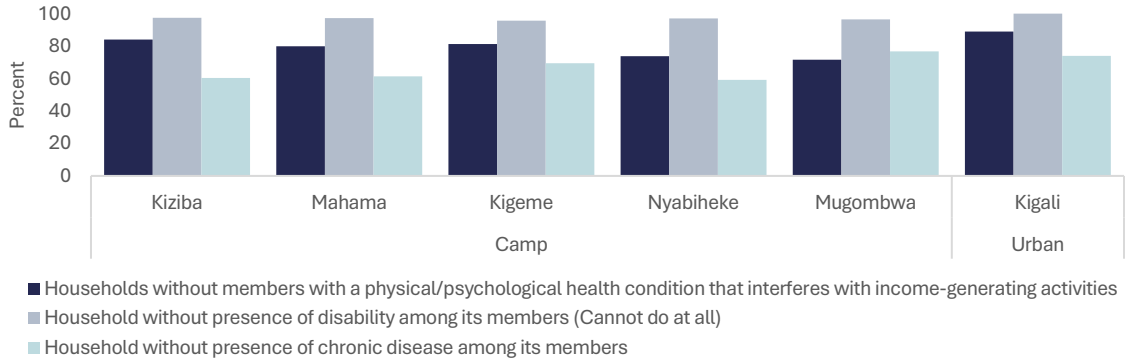


Source: Authors' calculations based on Round 2 of the survey.

Health

Health conditions can also pose constraints to the generation of income within the household. For instance, almost one-third of refugee households in Mugombwa have at least one person suffering from a physical/psychological condition that interferes with income generation activities (Figure 3.7). Chronic illnesses affect around 40 percent of households in most camps, with the exception of Mugombwa and the Kigali urban area (around 25 percent). Although severe disabilities are a significant barrier to the economic self-reliance of households, their incidence is relatively low, with Kigeme reporting the highest share (4.3 percent).

Figure 3.7. Health indicators

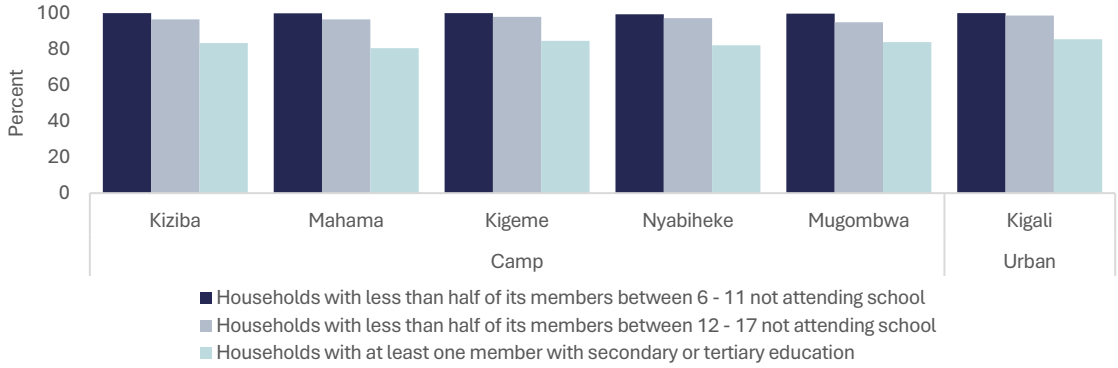


Source: Authors' calculations based on Round 2 of the survey.

Education

School attendance of children in refugee households is quite high. Attendance in the 6-11 age group is almost universal, and it is around 95 percent for children in the 12-17 age group. Educational attainment among refugees is relatively high with 80-85 percent of households having members who have completed secondary or higher (Figure 3.8).

Figure 3.8. Education indicators

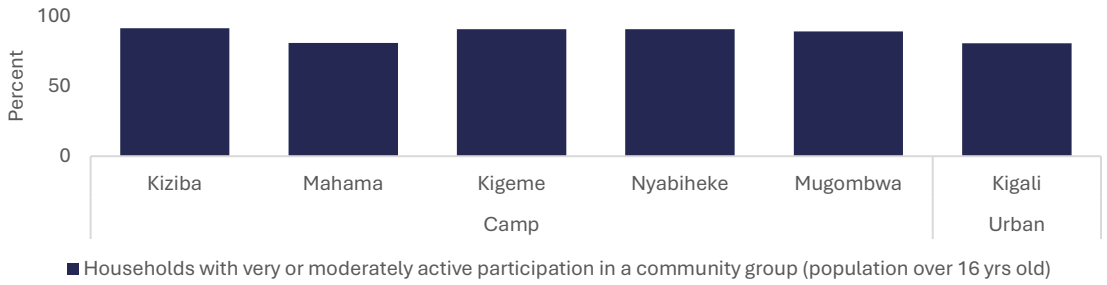


Source: Authors' calculations based on Round 2 of the survey.

Social capital

There is a relatively strong community involvement by refugees. This includes involvement in organized social, religious, educational, recreational, camp management, savings, and other community activities. The share of households with at least one member involved with a very or moderately active participation (participating in most meetings and activities or regularly but not all activities) is above 80 percent in all camps (Figure 3.9).

Figure 3.9. Social capital indicators



Source: Authors' calculations based on Round 2 of the survey.

Conclusion

Data from a household survey, representative for each of the five active camps and the Kigali urban area, provide evidence of the socioeconomic condition of refugees in Rwanda. The survey confirms a situation of protracted displacement, with very few refugees who have been in the country for less than five years, and for instance, most refugees in Kiziba living in the country for more than 20 years.

Refugees have good access to education and health, but incidence of chronic health conditions is high, with 35 percent of households reporting at least one chronic illness among members. The survey also finds very active community participation among refugees.

The situation in terms of food security, labor and income is dire. More than 50 percent of households in camps typically have only one meal a day, and between 10 and 20 percent of households are forced to skip meals due to unavailability of food or lack of income. Participation and employment rates are very low, and unemployment in three of the five camps exceeds 25 percent. Among those who have jobs, the vast majority work under daily contracts, with a low number of days and hours worked per week. More than 80 percent of households in camps make less than FRW 30,000 per month (about USD 20), that with an average household size of 5, yields a per capita income of about USD 4 per month. Outcomes are better overall in Kigali, which might suggest the importance of providing incentives for refugees to move out of the camps and into the cities. However, according to econometric estimations, most of the differences in outcomes are explained by the fact that refugees in Kigali tend to be more educated, with fewer children and smaller households, which suggests that certain types of refugees might need assistance for some time if they move out of the camps.

In close collaboration with MINEMA and UNHCR, a self-reliance measure (the Rwanda self-reliance measure – RSRM) was developed and tailored to the Rwanda context. The RSRM has been adopted by government as the basis for future targeting of humanitarian assistance and the main monitoring tool of the upcoming *Refugee Sustainable Graduation Strategy 2025-2030*. The tool was piloted using the data from the first round of the panel survey, and revised before the second round. Some of the indicators were revised, others added, and the weights were adjusted to reflect the relative importance that the government of Rwanda assigns to each dimension in the definition of self-reliance. The measure allows to set different thresholds to define different levels of self-reliance.

Using a conservative value of 50 as minimum score to achieve self-reliance, the survey finds that only 27.4 percent of all refugee households can be considered self-reliant.[12] The situation is worse in camps, where less than 20 percent of households are self-reliant. The World Bank team will continue to work with MINEMA to refine the tool, the weights and the thresholds as necessary.

For each household, the RSRM provides information not only about self-reliance but also about access or achievement along the different dimensions and indicators, which can be used to inform and assess both humanitarian and long-term development programming to enhance self-reliance.

[12] The minimum self-reliance value is the weighted average of the number of indicators for which a household has minimum acceptable levels of access or achievement.

Annexes

Annex A. RSRM calculation

Table A. 1 Scoring by indicator categories for households (weights in parenthesis).

Domain	Indicator	Description	Score	
			Camps	Kigali
Education (L)	Share of people between 6 - 11 years of age not attending school	0_ percent	5	5
		>1 percent & < 33 percent	4	4
		>=33 percent & < 50 percent	3	3
		>=50 percent & < 100 percent	2	2
		100_ percent	1	1
	Share of people between 12 - 17 years of age not attending school	0_ percent	5	5
		>1 percent & < 33 percent	4	4
		>=33 percent & < 50 percent	3	3
		>=50 percent & < 100 percent	2	2
		100_ percent	1	1
	Highest education levels attended by households' members of 18 years and above	At least one member completed University education	5	5
		At least one member completed Vocational training	4	4
		At least one member completed Secondary education	4	4
		At least one member completed Primary education	2	2
		No education	1	1
Food Security (H)	Households' typical consumption of meals per day	Two or three meals	5	5
		One meal	2	2
	Food Consumption Score	Acceptable	5	5
		Borderline	2	2
		Poor	1	1
	Reduced Coping Mechanism Index	Low (<4)	5	5
		Moderate (4 to 19)	2	2
		High (Above 19)	1	1
Health (L)	At least one person in the household has a physical or psychological health condition that interferes with any income-generating activities	No	5	5
		Yes	1	1
	At least one person in the household has a disability (Cannot do at all or with a lot of difficulty)	No	5	5
		At least one person in the household has a disability (with a lot of difficulty)	3	3
		At least one person in the household has a disability (Cannot do at all)	1	1
	At least one person in the household has a chronic disease	No	5	5
		Yes	1	1
Housing (M)	Households with no access to improved sanitation (pit latrine without constructed floor slab)	Flush toilet used by one Household	-	5
		Flush toilet used by several Households	-	4
		Pit Latrine with constructed floor slab used by one HH	-	3
		Pit Latrine with constructed floor slab used by several HH	-	2

		Pit Latrine without constructed floor slab used by one or several HH	-	1
	Households overcrowding (persons per sleeping room)	<= 3 members per room	-	5
		>3 & <= 5 members per room ratio	-	3
		> 5 members per room ratio	-	1
	Households living in inadequate and uncomfortable or extremely poor and unsuitable situation	Fully satisfactory and comfortable	-	5
		Adequate but with some minor issues	-	4
		Just manageable, but with notable deficiencies	-	3
		Inadequate and uncomfortable	-	2
		Extremely poor and unsuitable	-	1
Social Capital (L)	Highest level of participation in a community activity within the household (population over 16 yrs old)	Very active	5	5
		Moderately active	4	4
		Occasionally active	3	3
		Rarely active	2	2
		No member participating in community groups	1	1
Income (H)	Households receiving any type of transfer in the last 6 months	Yes	1	1
		No	5	5
	Households able to save at least 10 percent of their estimated household income	Yes	5	5
		No	1	1
	Households that were unable to pay rent in the last 6 months	No	-	5
		Yes	-	1
	Estimated household monthly income (in FRW)	>=90,000	5	5
		>=60,000 to < 90,000	3	3
		>=30,000 to < 60,000	2	2
		0 to <30,000	1	1
Labor (H)	Households that have a ratio of 1 person working to X persons not working	>=0 & <=2	5	5
		>2 & <=3	4	4
		>3 & <=4	3	3
		>4	2	2
		No members working	1	1
	At least one household member working per employment modality	Employment contract covering one year or more	5	5
		Weekly or monthly contract and more than 36 hours worked in the last month	4	4
		Weekly or monthly contract and less than 36 hours worked in the last month	3	3
		Daily contract	2	2
		Not working	1	1

Table A. 2. Weights for Dimensions and Indicators by area.

	Kigali		Camp	
Domain	Dimension weight	Indicator Weight	Dimension weight	Indicator Weight
Housing	0.15	0.050	0.0	0.000
Food security	0.20	0.067	0.23	0.075
Education	0.10	0.033	0.13	0.042
Health	0.10	0.033	0.13	0.042
Labor	0.20	0.100	0.23	0.113
Income	0.20	0.067	0.23	0.113
Social capital	0.05	0.050	0.08	0.075

Source: World Bank in consultation with MINEMA and UNHCR.

Annex B. Food security indicators

The Reduced Coping Strategies Index (rCSI) is calculated using the following formula:

$$rCSI = (f_1 * 1) + (f_2 * 2) + (f_3 * 3) + (f_4 * 4) + (f_5 * 5)$$

Where:

- $(f_1 * 1)$ = Number of days households relied on less preferred/less expensive food (weight = 1)
- $(f_2 * 2)$ = Number of days households borrowed food or relied on help from others (weight = 2)
- $(f_3 * 3)$ = Number of days households reduced portion sizes at meals (weight = 3)
- $(f_4 * 4)$ = Number of days households reduced the number of meals eaten per day (weight = 4)
- $(f_5 * 5)$ = Number of days households restricted consumption by adults to allow children to eat (weight = 4)

The Balanced Food Consumption can be determined using the Food Consumption Score (FCS):

$$FCS = (f_{staple} * 2) + (f_{protein} * 4) + (f_{veg} * 1) + (f_{fruit} * 1) + (f_{dairy} * 4) + (f_{fat} * 0.5) + (f_{sugar} * 0.5)$$

Where:

- $(f_{staple} * 2)$ = Number of days staple foods (cereals, tubers) were consumed (weight = 2)
- $(f_{protein} * 4)$= Number of days protein-rich foods (meat, fish, eggs, pulses) were consumed (weight = 4)
- $(f_{veg} * 1)$ = Number of days vegetables were consumed (weight = 1)
- $(f_{fruit} * 1)$ = Number of days fruits were consumed (weight = 1)
- $(f_{dairy} * 4)$ = Number of days dairy products (milk, yogurt, cheese) were consumed (weight = 4)
- $(f_{fat} * 0.5)$ = Number of days oils and fats were consumed (weight = 0.5)
- $(f_{sugar} * 0.5)$ = Number of days sugar was consumed (weight = 0.5)

Thresholds for the FCS:

- Poor consumption: $FCS < 21$
- Borderline consumption: $21 \leq FCS \leq 35$
- Acceptable consumption: $FCS > 35$