Public Disclosure Authorized

Public Disclosure Authorized

Measuring self-reliance of refugees in Rwanda[1]

Abstract

This note is part of a study to measure self-reliance of refugees in Rwanda. The study comprises: (i) the development of a measurement tool to track a refugee household's movement toward self-reliance; (ii) two rounds of panel survey data to pilot and refine the tool; and (iii) quantitative and qualitative analysis to identify key factors driving progress towards self-reliance. This note discusses some of the challenges of measuring self-reliance, especially of refugees, describes different approaches to defining and measuring self-reliance, and proposes a measure of self-reliance of refugees in Rwanda. The main objective of this note is to provide clarity on the definition of self-reliance of refugees in the context of Rwanda to help generate consensus among key partners, including government, and humanitarian and development partners.

Background

As of March 2025, Rwanda hosted 135,952 displaced persons, including 114,804 refugees, most of them residing in five camps around the country and three cities (Kigali, Nyamata and Huye). DRC and Burundi are two main countries of origin for refugees in Rwanda.[2]

The MINEMA-UNHCR Joint Strategy on Economic Inclusion of Refugees and Host Communities in Rwanda 2021-2024[3] (hereafter the Joint Strategy) was developed in 2021 to ensure by 2030, that all refugees and neighboring communities living in Rwanda are able to fulfil their productive potential as self-reliant members of the Rwandan society.[4] The strategy has 4 strategic objectives: Livelihoods, socio-economic inclusion, promotion of self-reliance, and promotion of results and evidence-based programming. However, the strategy does not propose a way to measure self-reliance. Achieving self-reliance is important for several reasons: (a) it reduces the cost of refugee management; (b) it enhances prospects for durable solutions; (c) it unlocks the ability of refugees to not only stand on their own two feet but to contribute to the economy of their host countries; and (d) most importantly, it helps refugees to live independent and dignified lives.

Promoting self-reliance is also important in a context of dwindling long-term humanitarian assistance. Furthermore, development agencies need a tool to measure self-reliance to help assess whether long-term development approaches to forced displacement are meeting the self-reliance goal of the Global Compact on Refugees (GCR) and the aim of funding mechanisms like the IDA Window for Host Communities and Refugees (WHR). Self-

[1] This note was prepared by Juan Carlos Parra under the "Enhancing Self-Reliance and Preparedness for Forced Displacement in the Great Lakes Region (P500793)" ASA. It benefitted from comments by Matthew Stephens, Mariko Yamamoto, Johannes Hoogeveen and Robert Hopper.

[2] https://www.unhcr.org/us/where-we-work/countries/rwanda, accessed on June 16, 2025.

[3] https://www.minema.gov.rw/fileadmin/user_upload/Minema/Publications/Laws_and_Policies/MINEMA-UNHCR_Joint_Strategy_of_economic_inclusion_of_refugees_and_host_communities_2021-2024.pdf

[4] The Ministry in Charge of Emergency Management (MINEMA) leads the management of refugee affairs in Rwanda.

reliance has become a priority outcome of refugee support around the world and was recently highlighted in the GCR in 2018 as one of its four objectives.

The government of Rwanda has a National Strategy for Sustainable Graduation and it will soon produce a Refugee Sustainable Graduation Strategy with a target to "graduate" 50 percent of refugees by 2030. The concept of graduation in the National Strategy is equivalent to increasing household consumption permanently over and above the official poverty line. The measurement of household consumption is done through the Integrated Living Conditions Survey (known as EICV, the French acronym), which is then used in a social registry for targeting and monitoring of changes in consumption. The National Graduation Strategy provides a comprehensive framework to promote graduation for Rwanda nationals, building on the graduation approach developed by the NGO BRAC in 2002 and rolled out in more than fifty countries worldwide. Evidence from multiple contexts suggests that the graduation approach, which provides holistic livelihood support for ultra-poor households, has lasting positive impacts on a range of outcomes. The approach combines different activities designed to complement each other to help households start and continue with a self-employment activity.[5] Two rigorous assessments of the use of the graduation approach in refugee populations are ongoing: one for the Rwamwanja refugee settlement and its surrounding area in Uganda, and one for the Maratane Refugee Camp and its host community in Mozambique.[6]

The National Graduation Strategy highlights the importance of understanding poverty dynamics and complexity since the design of solutions likely to be successful needs to be based on an understanding of this complexity. The poverty analysis for the Graduation Strategy is done using the Integrated Household Living Conditions Survey (EICV) and its panel component. However, similar analysis is not possible for refugees since they are not included in the household surveys in Rwanda, and there is a lack of socio-economic and household consumption data on refugees.[7] There have been some assessments/surveys done in specific areas (e.g., financial inclusion, market, agriculture, etc.) to support the design of individual projects/programs but these assessments are not comprehensive in terms of coverage of topics and geographic areas. There is an urgent need to include refugees in the household surveys in Rwanda to collect representative and frequent socioeconomic data to provide the government with a comprehensive understanding to inform the targeting of humanitarian assistance, and to inform development programming to focus on self-reliance.

In contrast to the National Strategy that clearly defines graduation as increasing household consumption permanently over and above the official poverty line, there is no clear measure for graduation or self-reliance for refugees. Current practice considers all refugees living outside camps "self-reliant", not needing humanitarian aid. Those within camps –or who register themselves as living in camps– receive aid. For the camp-based refugees, UNHCR

[5] See Banerjee et. al, 2015.

[6] See Brune et. al, 2023, for a description of the Uganda study, and Beltramo and Sequeira, 2022, for a description of the Mozambique case.

[7] Refugees were included in the 2022 Population and Housing Census.

categorizes refugee vulnerability mostly based on protection needs and household size and composition, and targets assistance accordingly. Humanitarian and development partners are looking for a better system for targeting of dwindling humanitarian aid, and MINEMA needs a measure for refugee graduation to measure progress against its targets.

Measuring self-reliance

Measuring self-reliance in a context where refugees receive considerable aid -in cash or in kind- is especially challenging. In the absence of aid, traditional measures of well-being, both monetary and multidimensional, could be used as proxies to assess the ability of refugees to meet their essential needs. In Rwanda, however, most refugees live in camps (more than 85 percent), where many services are either subsidized or provided free of charge, including housing, education, health services, and water. In this context, a measure of self-reliance should shed light on the ability of these refugees to meet their essential needs in the absence of aid, which cannot be observed. Even if the services that are currently subsidized or provided for free could be costed, the current levels of household income might depend not only on the cost of the needs that are not covered, but also on what needs are covered. For instance, some households might exert more effort to increase their incomes if fewer needs are covered by humanitarian agencies or other partners, while some households' income could be negatively affected if, say, childcare or education is not covered, since this would prevent caregivers to work outside the household. Reductions in overall aid could also reduce the purchasing power of refugees in camps, hurting business owners.[8]

While it is true that receiving aid and assistance might reduce the incentives for some refugees to start businesses or get a job, the barriers that refugees face to access finance, jobs, services and markets need to be taken into account. If it is more difficult for refugees to start businesses due to lack of access to finance or due to lack of access to markets for their products, or if it is more difficult to get jobs due to discrimination (less than a third of host community members have positive feelings toward refugees), lack of skills or access to markets where jobs are needed (only 13 percent of refugees are employed), current aid and assistance might be the safety net to prevent them from falling into poverty.[9] In the case some of the aid or assistance is removed, will refugees have access and the means to afford the services and resources to fulfill their aspirations and achieve sustainable livelihoods? The sections below describe some of the different strategies used by different organizations and experts to measure refugee self-reliance.

On the other hand, despite progress in improving the enabling conditions for both refugees and host communities to enhance their socioeconomic inclusion, major gaps remain, particularly with respect to job creation and income-generation. Data from the census and the first round of a survey collected to pilot a self-reliance measure for refugees, show that

[8] For instance, according to a tailor who participated in focus group discussions facilitated by UNHCR in the Kigeme camp "We will not be able to sustain ourselves without humanitarian assistance. Even those of us who are working depend on refugees who depend on cash assistance to patronize our services".

[9] Figures from Jya Mbere project baseline and mid-term surveys reports, CIBA.

refugees generally enjoy good access to basic services such as education, health and water, but lag behind the host communities with respect to employment and income. For instance, the employment to population ratio for refugees is 15 percent as against 46 percent for the total population. According to the survey, just 24 percent of refugees reported doing paid work in the previous seven days (though this increases to 45 percent for refugees living in Kigali) and only eight percent run a business or are engaged in farming. Low income is reflected in poor food security, with almost 60 percent of refugee households reporting that they typically eat only one meal per day. Other reasons include the need for further investments in roads and connectivity, as low market access of agricultural producers and traders leads to post-harvest crop losses, high input costs, low diversification of crops, and reduced competitiveness.

The goal of refugee self-reliance is extremely ambitious.[10] On the one hand, consider for instance, that the non-monetary poverty of all districts where camps are located in Rwanda is higher than the nationwide poverty rate according to the latest population census.[11] If the same metric was used to assess the self-reliance of refugees in Rwanda, it would require refugee households not to be deprived independently of aid, which is not the case for non-refugee households. For non-refugee households, the indicators for non-monetary poverty are measured regardless of whether they receive support (in cash or in kind) from the government and/or NGOs that allows them to have better outcomes on those indicators.

Existing approaches to defining and measuring self-reliance

One of the most used measures of self-reliance, the self-reliance index (SRI)[12] by RefugePoint and the Women's Refugee Commission, initially focused on refugees living in urban areas, where less assistance is typically available. The index was developed through consultations with a large number of stakeholders and has been used in more than 30 countries. The index has 12 dimensions[13] focused on households' basic needs, resources and sustainability. An important drawback of the index is that some of its indicators are not independent from aid. Since the indicators for housing, food, education, and health care do not distinguish between households who have to pay for these services and those who receive it for free, a household that is provided with more free services scores higher (is considered more self-reliant) than a household that receives fewer free services, which goes against the definition of self-reliance.

Alexander Betts and co-authors conceptualize self-reliance as a process through which relevant inputs or enabling factors lead to self-reliance socioeconomic outcomes along six

[10] See Betts, 2021, page 164.

[11] See Ministry of Finance and Economic Planning and National Institute of Statistics of Rwanda, 2023. A household is considered poor if it is deprived in at least 1/3 of the weighted indicators. The headcount rate for non-monetary poverty for Rwanda is 30.4%, 34.3% for the district of Karongi (Kiziba camp), 34.4% for Kirehe (Mahama camp), 37.4% for Gatsibo (Nyabiheke camp), 38.8% for Nyamagabe (Kigeme camp), and 45.2% for Gisagara (Mugombwa camp).

[12] https://www.refugeeselfreliance.org/sri, accessed on October 10, 2024.

[13] Housing, food, Education, health care, employment, financial resources, assistance, debt, savings, safety, social capital, and health status.

dimensions, and to independence from aid.[14] They propose that full self-reliance is only achieved once households have both acceptable socioeconomic outcomes and independence from aid. As is the case for the SRI, the measurement of socioeconomic outcomes in this framework does not take into account dependence on aid. This dependence is measured using a single question on the perception of overall dependence, without linking aid to the achievement of specific socioeconomic outcomes.

Hoogeveen and Hopper propose to measure self-reliance by comparing the refugees' self-earned income to the national poverty line.[15] This proposal focuses on monetary well-being, excluding socioeconomic outcomes (needs) that are integral to the definition of self-reliance. It requires availability of income (or consumption) data for refugees, which is not the case for Rwanda since refugees are not included in national surveys.[16]

In Rwanda, the monetary measure of self-reliance proposed by Hoogeveen and Hopper would be broadly consistent with the *Graduation Strategy*, which aims to reduce monetary poverty and defines graduation as "a situation whereby a previously poor household increase their household productivity and resilience to the extent that their consumption permanently remains over and above the official poverty line".[17] To track progress towards the goal of the government of Rwanda to fully integrate refugees into society, the inclusion of refugees in national household surveys should be a priority to have comparable and timely data.

The self-reliance measures mentioned above are similar to multidimensional well-being measures, and there are good reasons for that to be the case. Rephrasing slightly the definition proposed by UNHCR, self-reliance is the ability to sustainably meet essential needs. The definition (and inclusion) of essential needs across multidimensional well-being measures varies widely, from a small set (6 indicators) used in the World Bank Multidimensional Poverty Measure (MPM), to a much larger set in the EU social indicators.[18] For instance, most dimensions and indicators included in the SRI and the framework proposed by Betts -even dependence on aid- are included in the EU social indicators.[19]

Instead of trying to delineate the boundaries of each of these measures, we propose that the key distinction between multidimensional well-being and self-reliance measures is that the latter explicitly tries to assess the degree to which essential needs are/would be met in the absence of aid or government transfers.[20] The widely used global multidimensional poverty index (MPI) developed by Alkire and colleagues at the Oxford Poverty and Human

[14] See Betts, Omata and Sterck, 2020. The six self-reliance outcomes are food, water, shelter, protection/personal safety, health and education.
[15] See Hoogeveen and Hopper, 2024.
[16] Refugees were included in the 2022 Population and Housing census. The census questionnaire did not include questions on income or consumption.
[17] See Government of Rwanda, 2022.
[18] The World Bank MPM is briefly described in Diaz-Bonilla et al., 2024. On the EU social indicators, see Directorate-General for Employment, Social Affairs and Inclusion (European Commission), 2022.
[19] Dependency on aid (government transfers) in the EU social indicators is captured through the indicator "Impact of social transfers by age", calculated as the percentage difference between the at-risk-of-poverty rate before and after social transfers.
[20] The SRI and the measure proposed in this note also include factors that affect the sustainability of self-reliance as part of the measure.

Development Initiative (OPHI), and most of the national multidimensional poverty measures adopted by more than 40 countries, do not consider whether achievements (or deprivations) along the different indicators depend on the receipt of aid from governments or NGOs.

The Commission on the Measurement of Economic Performance and Social Progress (also known as the Stiglitz-Sen-Fitoussi commission) identifies eight key dimensions that should be included in a multidimensional definition of well-being: material living standards (income, consumption and wealth), health, education, personal activities including work, political voice and governance, social connections and relationships, environment (present and future conditions), and economic and physical insecurity.[21]

One issue to address is whether to have a dashboard of indicators or a composite index that provides a score and a determination if a person is "self-reliant" or not. Among the arguments for composite indices are: (i) the generation of a complete ordering of countries and individuals (households), even when the rankings conflict across individual dimensions;[22] and (ii) the power of summarizing data in many dimensions for dissemination of findings to broad audiences and mobilization of public support to end poverty in all its dimensions.[23] Some of the main criticisms to composite indices include: (i) the arbitrariness of weights for different dimensions; and (ii) the fact that the resulting specific tradeoffs between dimensions are rarely stated and discussed explicitly.[24]

Proposed measure of self-reliance of refugees in Rwanda

The measure is based on a slightly modified definition of self-reliance proposed by UNHCR[25] as the ability of a household to meet its essential needs in a sustainable manner, with dignity, and independent of aid. In terms of essential needs, the measure includes access to basic services like education, food security, and housing. A few indicators try to capture issues of (or barriers to) sustainability including the presence of chronic health conditions or disabilities, and the quality and stability of employment. The measure includes social capital as a proxy for dignity, and most indicators in the proposed measure are independent of aid.

The multidimensional measure (the Rwanda Self-Reliance Measure or RSRM) is inspired by the SRI and fully tailored to the Rwandan refugee context. The different dimensions and indicators in the measure were produced by a technical working group with staff from MINEMA, UNHCR and the World Bank.

The self-reliance measure proposed in this note can be used both as a dashboard of indicators and as a composite index. Individual indicators in the dashboard can inform specific sectoral programming (humanitarian and development) in certain locations, be

[21] See Stiglitz, Sen and Fitoussi, 2009.
[22] See Ferreira and Lugo, 2013.
[23] See Global Coalition to End Child Poverty, 2015.
[24] See Ravallion, 2011.
[25] See UNHCR, 2005.

used to assess the impacts of specific policies or interventions or be used as additional criteria to define self-reliance.

We calculate a composite measure by setting weights that reflect the relative importance that the government of Rwanda assigns to each dimension in the definition of self-reliance. We recommend complementing its analysis using achievements across individual dimensions, as well as a direct representation of the dependency structure across dimensions. The latter can be presented in terms of the extent of the overlap between individuals who are identified as self-reliant in different dimensions.[26]

We set minimum scores (cutoffs) 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.

Dimensions and indicators

Based on consultations and joint analysis between MINEMA, UNHCR and the World Bank The proposed measure covers seven (7) dimensions (six for camp-based refugees), and the indicators in each dimension aim to answer the guiding questions below:

1. Housing (only for refugees not based in camps): is the dwelling adequate? Does the household have access to improved sanitation? Does the household live in overcrowding?
2. Food security: does the household have physical and economic access to sufficient food? Is food consumption, measured by the frequency of consumption of different food groups, appropriate? Does the household face hardship due to a shortage of food?
3. Education: are all school-age children in the household attending school? What is the highest level of education of adults in the household?
4. Health: does any member of the household suffer from a chronic illness? Does any member of the household have a health condition that interferes with income-generation activities, including disabilities?
5. Labor: how many household members work compared to those members who do not (economic dependency rate)? Are all working members of the household engaged in non-daily (longer duration) labor contracts?
6. Income: is the monthly total household income at least FRW 60,000? Does the household save at least 10 percent of its estimated income? Did the household receive aid in the last 6 months? Only for refugees not based in camps: did the household have problems paying rent in the last 6 months?
7. Social capital: do household members participate actively in community activities and decisions?

[26] See Ferreira and Lugo, op. cit.

Housing. Housing is assigned to refugees in camps based on the household size and composition, according to UNHCR shelter standards. Housing is provided free of charge as long as refugees live in the camps. Refugees in urban areas choose and pay for their housing. Given that housing is not a choice for refugees, the indicators in this dimension only apply to refugees not based in camps. This dimension includes indicators on (self-reported) adequacy of housing, overcrowding, and access to improved sanitation. More adequate housing, less overcrowding and access to better quality sanitation receive higher scores. Housing is considered an essential need in the RSRM.

Food security. Food intake captures the typical number of daily meals consumed by the household in the last 7 days. A higher number of meals per day receives higher scores. The food consumption score (FCS), a composite score based on households' dietary diversity, food consumption frequency, and relative nutritional value of different food groups, is used to assess food security. Finally, the reduced coping strategy index (rCSI) is used to measure the hardship faced by the household due to food shortages, with lower scores denoting lower hardship. Food security for refugees in camps might depend on aid received by households, and 70 percent of households report receiving aid in cash.[27] Food security is considered an essential need in the RSRM.

Education. Public primary and secondary education are free in Rwanda, and the policy allows refugees to attend public schools. Given this, we expect refugee children to attend school even in the absence of aid. The indicators included in the proposed measure combine input indicators (children attendance) with outputs (highest number of years completed by a household member). Higher shares of children attending school and higher education attainment among adults receive higher scores. Education is considered an essential need in the RSRM.

Health. Refugees in camps have access to essential health care through camp-based primary health facilities, and UNHCR covers the cost of referrals to secondary and tertiary care at national hospitals. Urban-based refugees are included in the national Community-Based Health Insurance (CBHI) scheme. Since health care is provided free of charge (in camps) or heavily subsidized (in urban areas), instead of simply measuring access to health care, the indicators in this dimension capture health conditions that interfere with income-generating activities, including disabilities.[28] Lower incidence of such health conditions or disabilities receive higher scores. Health status is a key factor for the sustainability of self-reliance in the RSRM.

Labor. The law makes refugees in Rwanda eligible to work and run businesses, but partly due to lack of connection to markets and discrimination, employment rates are much lower than those for nationals. Indicators in this dimension include the economic dependency rate for the household (calculated as the number of persons not working divided by the number of persons working) and the type of labor contracts under which the employed

[27] According to the first round of panel survey collected for this study.

[28] We use the questions and definition of disability proposed by the Washington group.

persons in the household work. Lower economic dependency rates and non-daily work contracts receive higher scores. Labor is a key driver of self-reliance in the RSRM.

Income. Measuring household income accurately is challenging. Capturing income from self-employment, including very small businesses, is notoriously difficult. Even for labor income, the high prevalence of irregular jobs under daily contracts (around 50 percent of all employees in Rwanda work under daily contracts), presents challenges to measure what can be considered typical earnings. In addition, it is plausible to expect households to underreport income if they believe higher incomes might result in reductions in aid (or increases in taxation in other settings). Despite these challenges, given the importance of income to the concept of self-reliance, we collect data on total household income.[29] Indicators in this dimension also include whether the household received any type of transfers in the last 6 months (if so, the household is deemed to depend on aid), whether the household had problems paying the rent in the last 6 months (only for urban refugees), and whether the household saves at least 10 percent of its estimated total income. Higher household income, independence from transfers, no problems paying rent and being able to save at least 10 percent of the total household income receive higher scores. Income is directly related to the achievement of self-reliance in the RSRM.

Social capital. Active community participation is related to higher subjective wellbeing, gives people a sense of community, and creates networks for mutual help. Higher levels of community participation receive higher scores. Social capital is used as a proxy for dignity in the RSRM.

Weights

The weight assigned to each indicator reflects the contribution that the score in that indicator has for self-reliance, relative to scores of the other indicators. Atkinson and co-authors recommend choosing indicators (or, possibly, dimensions) such that their weights are roughly equal to facilitate policy interpretations.[30] In consultation with MINEMA, weights were set in a way that reflects the relative importance that the government of Rwanda assigns to each dimension in the definition of self-reliance. All indicators in the same dimension are assigned equal weights. The proposed measure includes seven dimensions for refugees not based in camps, and the dimension of housing is excluded from the measure for camp-based refugees (table 1).

Table 1. Dimensions, indicators and weights for the self-reliance measure

		Non-camp weight		Camp-based weight	
Domain	**Indicator**	**Dimension**	**Indicator**	**Dimension**	**Indicator**
Housing	Access to improved sanitation	15.0%	5.0%	0.0%	0.0%

[29] The minimum score (3.0) in the income dimension is achieved if the monthly total household income exceeds FRW 60,000 (or FRW 720,000 per year). For comparison, the official poverty line in Rwanda is FRW 560,127 per adult equivalent per year in prices of January 2024 (see NISR, 2025). Taking into account that poor households in Rwanda have on average 3.27 adults equivalent, the poverty line expressed as total household income for the poor households is around FRW 1,830,000.

[30] Atkinson et al., 2022.

	Overcrowding (persons per sleeping room)		5.0%		0.0%
	Housing conditions		5.0%		0.0%
Food security	Typical meal consumption per day	20.0%	6.7%	22.5%	7.5%
	Balanced food consumption		6.7%		7.5%
	Reduced coping mechanism		6.7%		7.5%
Education	Share of persons between 6 - 11 years of age not attending school	10.0%	3.3%	12.5%	4.2%
	Share of persons between 12 - 17 years of age not attending school		3.3%		4.2%
	Highest education levels attended by households' members of 18 years and above		3.3%		4.2%
Health	At least one person in the household that currently have a physical or psychological health condition that interferes with any income-generating activities	10.0%	3.3%	12.5%	4.2%
	At least one person in the household has a disability (Cannot do at all or with a lot of difficulty)		3.3%		4.2%
	At least one person in the household has a chronic disease		3.3%		4.2%
Labor	Household's economic dependency ratio	20.0%	10.0%	22.5%	11.3%
	Employment modality of household's members		10.0%		11.3%
Income	Household received any type of transfer in the last 6 months	20.0%	5.0%	22.5%	7.5%
	Household able to save at least 10 percentage of its estimated household income		5.0%		7.5%
	Households that were able to pay rent in the last 6 months		5.0%		0.0%
	Estimated household monthly income		5.0%		7.5%
Social Capital	Highest level of participation in a community group within the household (population over 16 yrs old)	5.0%	5.0%	7.5%	7.5%

Scoring and cutoffs

We score each indicator using a scale from 1 (lowest) to 5 (highest), with higher scores indicating better performance/achievement, and in a way that is feasible using the data collected in the second round of the panel survey (table 2). For some indicators (like access to improved sanitation) it is possible to have intermediate scores between 1 and 5, while for others with a binary definition (like the presence of health conditions interfering with income-generating activities), it is only possible to assign scores at each end of the scale.

The proposed scores for each indicator are normative and should be broadly consistent with the cutoff (minimum score) that will be used to determine whether a household is self-reliant in each indicator. We set a minimum score of 3.0 for every indicator.

We use scores to track progress over time for each indicator and dimension, but translate these scores into self-reliance markers to benefit from the desirable properties of the Alkire-Foster counting methodology.[31]

Table 2. Scores for the self-reliance measure

Domain	Indicator	Options	Score
Housing	Access to improved sanitation	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
	Overcrowding (persons per sleeping room)	<= 3 members per room	5
		>3 & <= 5 members per room ratio	3
		> 5 members per room ratio	1
	Housing conditions	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
Food security	Typical meal consumption per day	Two or three meals	5
		One meal	2
	Balanced food consumption	Acceptable	5
		Borderline	2
		Poor	1
	Reduced Coping Mechanism (RCM)	Low (<4)	5
		Moderate (4 to 19)	2
		High (Above 19)	1
Education	Share of persons between 6 - 11 years of age not attending school	0%	5
		>0% & < 33%	4
		>=33% & < 50%	3
		>=50 % & < 100%	2
		100%	1
	Share of persons between 12 - 17 years of age not attending school	0%	5
		>0% & < 33%	4
		>=33% & < 50%	3
		>=50 % & < 100%	2
		100%	1
		At least one member completed University education	5

[31] See Alkire et al., 2015.

	Highest education levels attended by households' members of 18 years and above	At least one member completed Vocational training	4
		At least one member completed Secondary education	4
		At least one member completed Primary education	2
		No education	1
Health	At least one person in the household that currently have a physical or psychological health condition that interferes with any income-generating activities	No	5
		Yes	1
	At least one person in the household has a disability (Cannot do at all or with a lot of difficulty)	No	5
		At least one person in the household has a disability (with a lot of difficulty)	3
		At least one person in the household has a disability (Cannot do at all)	1
	At least one person in the household has a chronic disease	No	5
		Yes	1
Labor	Households that have a ratio of 1 person working to X persons not working or more	>=0 & <=2	5
		>2 & <=3	4
		>3 & <=4	3
		>4	2
		No members working	1
	At least one household member working per employment modality	Employment contract covering one year or more	5
		Weekly or monthly contract and more than 36 hours worked in the last month	4
		Weekly or monthly contract and less than 36 hours worked in the last month	3
		Daily contract	2
		Not working	1
Income	Households receiving any type of transfer in the last 6 months	Yes	1
		No	5
	Household able to save at least 10 percentage of its estimated household income	Yes	5
		No	1
	Households that were unable to pay rent in the last 6 months	No	5
		Yes	1
	Estimated household monthly income	>=90,000	5
		>=60,000 to < 90,000	3
		>=30,000 to < 60,000	2
		0 to <30,000	1
Social capital	Highest level of participation in a community group within the household (population over 16 yrs old)	Very active	5
		Moderately active	4
		Occasionally active	3
		Rarely active	2
		No member participating in community groups	1

Following the Alkire-Foster counting methodology, having set minimum scores and weights for each indicator, we calculate the weighted sum of achievements for each household, which can be called his or her self-reliance score. As a next step, a self-reliance cutoff needs

to be (normatively) set, namely, the minimum self-reliance score a household needs to meet in order to be considered self-reliant. We set three different self-reliance scores or degrees of self-reliance: 50, 60 and 70.[32] Those households with self-reliance score greater than or equal to 70 are considered highly self-reliant. Those with scores between 60 and 70 are labeled moderately self-reliant, and those with scores between 50 and 60 are considered to have low self-reliance.

We refer to the proportion of households (or individuals) who meet or exceed the minimum self-reliance score as the incidence of self-reliance. We then compute the average number of weighted indicators in which households are self-reliant (add up the number of self-reliant indicators for the self-reliant households and divide them by the total number of self-reliant households). We refer to this as the intensity of self-reliance.

Self-reliance panel survey

To implement and refine the proposed self-reliance measure, two rounds of a panel survey of refugee households were collected. The sample for the survey was designed to be representative for each of the five active refugee camps (Kigeme, Kiziba, Mahama, Mugombwa and Nyabiheke), and for the urban area of Kigali, using UNHCR ProGres database as a sampling frame. A total of 2,000 households were interviewed for the first round between end-January and early-March, 2024. The second round was collected in April 2025. Results of the survey and values for the RSRM are included in a separate report.[33]

[32] To compare with non-monetary measures of well-being in Rwanda, a household is considered poor if it is deprived in at least 1/3 of the weighted indicators (or has minimum levels of achievement in at least 2/3 of the weighted indicators). See Ministry of Finance and Economic Planning and National Institute of Statistics of Rwanda, 2023.

[33] World Bank, 2025.

References

Alkire, S., Foster, J., Seth, S., Santos, M.E., Roche, J., and P. Ballon. 2015. Multidimensional Poverty Measurement and Analysis: Chapter 5 – The Alkire-Foster Counting Methodology. *OPHI Working Paper* 86.

Atkinson, A.B., Cantillon, B., Marlier, E., and B. Nolan. 2002. *Social Indicators: The EU and Social Inclusion*. Oxford University Press, Oxford.

Banerjee, A., Duflo, E., Goldberg, N., Karlan, D., Osei, R., Parienté, W., Shapiro, J., Thuysbaert, B., and C. Udry. 2015. "A multifaceted program causes lasting progress for the very poor: Evidence from six countries", *Science* 348. DOI: 10.1126/science.1260799

Beltramo, T., and S. Sequeira. 2022. Compelling evidence that the graduation approach promotes economic and social integration in displacement settings: the case of Mozambique. UNHCR blog (accessed on October 15, 2024).

Betts, A. 2021. *The Wealth of Refugees: How Displaced People Can Build Economies*. Oxford University Press, UK.

Betts, A., Omata, N., and O. Sterck. 2020. "The Kalobeyei Settlement: A Self-reliance Model for Refugees?", *Journal of Refugee Studies*, 33(1): 189-223.

Brune, L., Goldberg, N., Karlan, D., Parkerson, D. and C. Udry. 2023. The Impact of a Graduation Program on Livelihoods in Refugee and Host Communities in Uganda. Innovations for Poverty Action. Link, accessed on October 15, 2024.

Diaz-Bonilla, C., Sabatino, C., Aron, D., Haddad, C., Nguyen, M., and H. Wu. 2024. April 2024 Update to the Multidimensional Poverty Measure. World Bank Group.

Directorate-General for Employment, Social Affairs and Inclusion (European Commission). 2022. Portfolio of EU social indicators for the monitoring of progress towards the EU objectives for social protection and social inclusion (2022 update).

Ferreira, F., and M. A. Lugo. 2013. "Multidimensional Poverty Analysis: Looking for a Middle Ground", *World Bank Research Observer*, 28(2): 220-235.

Global Coalition to End Child Poverty. 2015. Submission to the Commission on Global Poverty.

Government of Rwanda, 2022. *National Strategy for Sustainable Graduation*.

Hoogeveen, J. and R. Hopper. 2024. "Using poverty lines to measure refugee self-reliance", *World Bank Policy Research Working Paper* 10910.

Ministry of Finance and Economic Planning and National Institute of Statistics of Rwanda. 2023. *Measure and Mapping of Non-Monetary Poverty*.

National Institute of Statistics of Rwanda (NISR). 2025. *Seventh Integrated Household Living Conditions Survey (EICV7) – Poverty Profile Report*.

Ravallion, M. 2011. "On Multidimensional Indices of Poverty", *Journal of Economic Inequality,* 9(2): 235–48.

Stiglitz, J., Sen, A., and J-P. Fitoussi. 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress*.

UNHCR. 2005. *Handbook for self-reliance*.

World Bank. Forthcoming. *Sustainable livelihoods of refugees in Rwanda: Results from a survey and self-reliance measure*.