



COMPACT
2025



RWANDA

ENDING HUNGER & UNDERNUTRITION
CHALLENGES & OPPORTUNITIES

MARCH 2016

SCOPING REPORT FOR ROUNDTABLE DISCUSSION

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[Compact2025](#), launched in November 2015, is a bold new initiative for ending hunger and undernutrition by 2025. It brings stakeholders together to set priorities, innovate and learn, fine-tune actions, build on successes, and synthesize shareable lessons in order to accelerate progress. A version of this document was drafted to inform the Compact2025 roundtable discussions held in Kigali, Rwanda, on March 24, 2016. The document has been subsequently revised and updated according to inputs from the roundtable discussions.

Preface

Compact2025, launched in November 2015, is a bold new initiative for ending hunger and undernutrition by 2025. It brings stakeholders together to set priorities, innovate and learn, fine-tune actions, build on successes, and synthesize shareable lessons in order to accelerate progress.

Eliminating hunger and undernutrition in 10 years is a huge task, but it can be accomplished. Brazil, China, Thailand, Peru, and Vietnam have each dramatically reduced hunger and undernutrition in a relatively short time. Learning from their and others' experiences and leveraging strong commitments from the global community to end hunger and undernutrition make it possible to accelerate progress even further. Compact2025's approaches include

Engaging countries: Success in ending hunger and undernutrition depends on country-owned and country-led strategies and investments. Compact2025 begins with an initial focus on four countries—Bangladesh, Ethiopia, Malawi, and Rwanda—and will then scale up to include additional countries.

Stimulating knowledge and innovation: Compact2025 will create a Knowledge and Innovation Hub, which will have four areas of focus: Stimulating innovation, communicating research on what works, synthesizing lessons, and collecting data and monitoring progress.

Supporting existing initiatives and partnerships: Compact2025 will not compete with but rather complement and support existing global, regional, and national initiatives to accelerate progress with data, knowledge, capacity, communications expertise, innovation, and research support.

Compact2025 is designed to accelerate progress. It assists countries to refine and implement their road maps for action toward ending hunger and undernutrition by 2025. It is for this reason that Compact2025 starts the process in each focal country with a scoping study that serves as input for a roundtable discussion. The scoping study provides an overview on where the country stands, who the major stakeholders are, and where the key gaps are that hold back progress.

Accordingly, Compact2025 and partners organized a roundtable discussion in Kigali, Rwanda, on March 24, 2016 to set the critical groundwork for assessing how to end hunger and undernutrition in Rwanda by 2025. The roundtable identified key knowledge, policy, and implementation gaps as well as opportunities, potential synergies, and priority areas for action. This finalized scoping report includes input received during the event.

As articulated during the meeting by the Right Honorable Prime Minister of Rwanda and Compact2025 Leadership Council member Anastase Murekezi, all stakeholders must work together to reach the 2025 goal. Bringing together over 140 government and nongovernment stakeholders across several key sectors, the roundtable discussion is a first step for Compact2025 to support Rwanda in accelerating progress toward ending hunger and undernutrition.

Executive summary

Rwanda has made significant gains in reducing hunger and undernutrition and in addressing some of the underlying issues that hold back progress. However, despite improvements in productivity of staple food production, hunger remains a challenge. Furthermore, undernutrition persists and results in severe human and economic costs—for example, in 2012 Rwanda lost an estimated 11.5 percent of GDP due to undernutrition. In order for Rwanda to meet its goals, including reducing prevalence of child stunting to 18 percent by 2018 and ending hunger and undernutrition by 2025, progress must be accelerated.

Rwanda's policy environment for food security and nutrition has evolved in recent years. Boosting agricultural productivity and improving food security is a priority under Rwanda's Vision 2020, which includes child undernutrition as a key indicator. Further, food security and nutrition are considered foundational issues in the Economic Development and Poverty Reduction Strategy (EDPRS 2) for 2013–2018. Many stakeholders within the Government of Rwanda (including the Ministries of Agriculture, Health, Local Government, Gender, Education, Youth and ICTs, and many others), as well as outside of government, are working to end hunger and undernutrition.

This scoping report was prepared to inform the Compact2025 roundtable discussion by providing an overview of the food security and nutrition challenges and opportunities in Rwanda. It includes the current food security and nutrition policy landscape across key sectors and actors in Rwanda as well as critical knowledge, policy, and implementation gaps. Additionally, the scoping report presents a SWOT-analysis (strengths, weaknesses, opportunities, and threats) that crystallizes the main elements that drive or hamper food security and nutrition in the country. To determine what is holding back progress, this report identifies several key research and action gaps, including the need for better coordination both horizontally (within and across ministries, donors, and other actors) and vertically (across tiers of government down to community-level implementation); continued investment in agricultural research and development (R&D) and innovation; and improved targeting and coverage of food security and nutrition actions.

As informed by the roundtable discussion held on March 24, 2016, this report identifies five major recommendations for accelerating progress to end hunger and undernutrition in Rwanda:

- Fill data and knowledge gaps
- Improve coordination
- Enhance successful policies and programs
- Communicate and advocate for better nutritional outcomes
- Strengthen capacity

To help implement these recommendations and to support the acceleration of progress toward ending hunger and undernutrition in the country, Compact2025 will establish a Knowledge and Innovation Hub in Rwanda.

Overview of Rwanda’s food security and nutrition challenges

Rwanda has made progress in reducing hunger and, to a lesser extent, undernutrition. Recent reports on Rwanda such as the 2014–15 Demographic Health Survey (DHS) (DHS Program 2015), the fourth Integrated Household Living Conditions Survey (EICV4) (National Institute of Statistics of Rwanda 2015) and the Comprehensive Food Security and Vulnerability Analysis (WFP 2015) provide valuable insights into trends in food insecurity and undernutrition in the country over the last decade (2005 to 2015). Data from the above-mentioned reports show an overall improving trend for food security and nutrition in Rwanda. This is a testament to the country’s commitment and priority action plans to address food insecurity and undernutrition, discussed in subsequent sections.

However, undernutrition remains a big challenge that Rwanda must address in order to achieve food security and nutrition for all. While over the past 20 years, poverty has been steadily decreasing and incomes and agricultural production have been rising, child stunting is still high. These results point to a disconnect between the traditional focus of food security, namely agricultural production, and improved nutrition. Beyond agriculture, sectors such as sanitation, education, women's empowerment, and youth and information and communication technologies (ICTs) play key roles in improving nutrition.

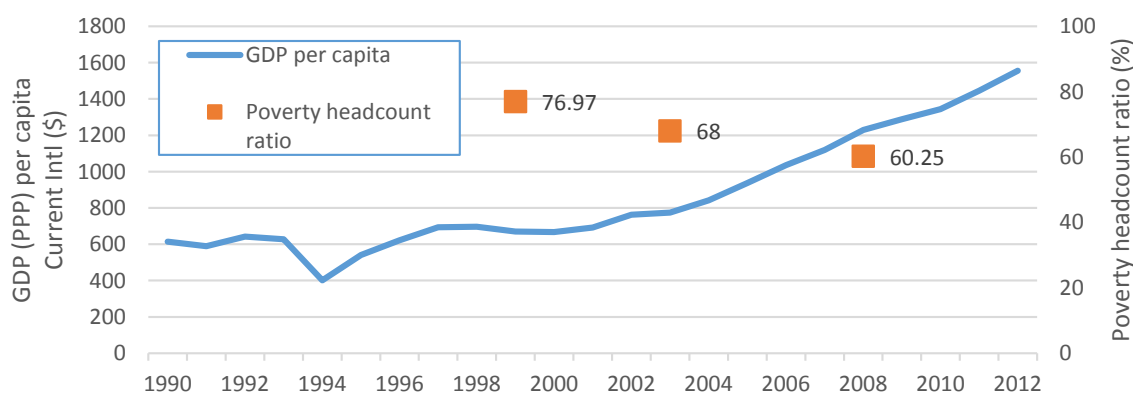
This section of the scoping report discusses the current poverty, food security, and nutrition situation in Rwanda, along with past trends and progress.

Poverty

Rwanda is a low-income country with high—yet declining—rates of poverty. The proportion of the population living under \$1.90 a day fell from 77 percent to 60 percent between 1999 and 2009 (Figure 1). Nearly three-quarters of the population live in rural areas and the majority are employed in agriculture (World Bank 2016). These groups experience the highest levels of poverty and hunger in the country (WFP 2015).

Underlying the reduction in poverty has been impressive economic growth; Rwanda's is one of the fastest growing African economies. From 2000 to 2014, Rwanda averaged a gross domestic product (GDP) growth rate of 7.2 percent (World Bank 2016). GDP per capita has been steadily rising: In 2012, GDP per capita was US\$1,556 (in purchasing power parity). Yet, this figure is less than half of the average GDP per capita in Africa south of the Sahara in the same year.

Figure 1: Gross domestic product per capita (PPP, current international dollar) and poverty headcount ratio at \$1.90 a day (2011 PPP, % of population)



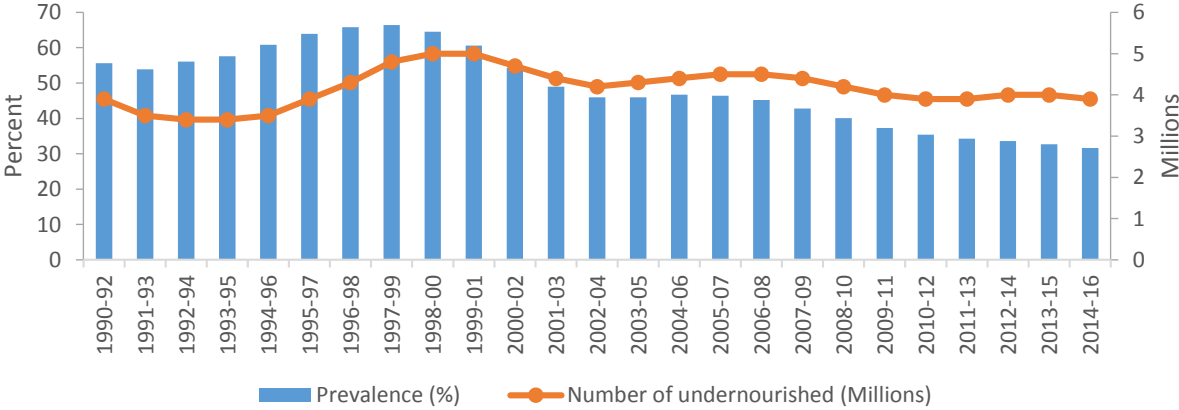
Source: IMF (2015); World Bank (2016).

In 2007, Rwanda signed the Comprehensive Africa Agriculture Development Programme (CAADP) compact, with the goals of raising public agriculture spending to 10 percent and agricultural growth to 6 percent.¹ The average annual share of agricultural expenditures in total expenditure in Rwanda was 5.6 percent from 2007 to 2014, and has trended upward especially since 2011 (World Bank 2016). In comparison, the share of Africa’s agricultural expenditures in total public expenditure was only 3 percent from 2007 to 2014. Rwanda’s agricultural growth rate averaged 5.3 percent from 2007–2014. This relatively high average rate of growth (Africa-wide agricultural growth rate was 4 percent in the same period) was a result of expansion of food production due to scaled-up public investments in production of priority crops (World Bank 2014).

Food security

The country has made great strides in improving food security and reducing hunger. From 1990 to 2015, prevalence of undernourishment fell by nearly half, from 56 percent to 32 percent—a sign of strong, yet incomplete progress (Figure 2). The total number of undernourished people in Rwanda has remained at around 4 million since 2002.

Figure 2: Undernourishment in Rwanda



Source: FAO, IFAD, and WFP (2015).

According to the Comprehensive Food Security and Vulnerability Analysis (WFP 2015), 19 percent of Rwandans are food insecure. The highest percentage of food insecure households is found in the Western province, while the lowest percentage is found in Kigali City. More than a third of all food-insecure households reside in districts in the Western Province. This is also the province with the highest percentage of severely food-insecure households (6 percent).

Food production and productivity have increased in Rwanda. Food crop yields grew rapidly—roots and tubers, for example, doubled in yield from 1995 to 2013. Similarly, plantain, a main component in the Rwandan diet, increased in yield by 35 percent in the same time period, covering a third of land area, and is no longer imported (FAO 2016). Cassava and potato production have also ramped up in recent years.

¹ The national target for agricultural growth rate as articulated in Rwanda’s Vision 2020 is 8.5 percent.

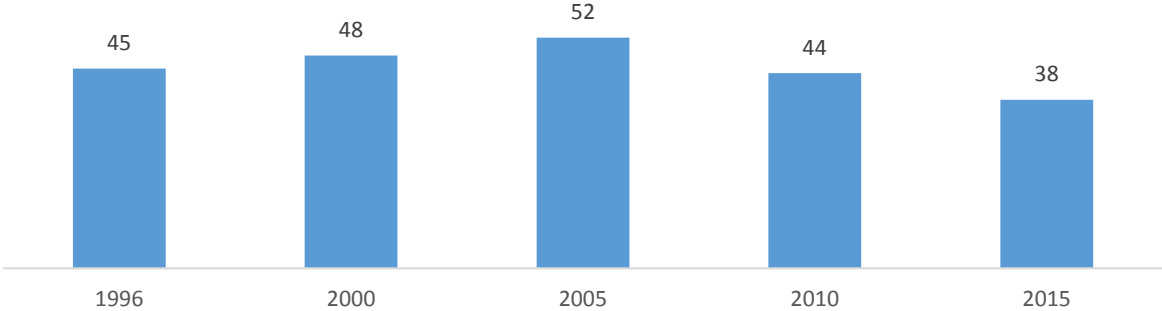
Yet overall food availability in Rwanda remains a challenge. Rwanda has made progress in reducing its food deficit, but as of 2015 the average undernourished person would require 232 kilocalories more per day (according to the average dietary energy requirement estimated by FAO) to be lifted out of hunger. Furthermore, poor Rwandans are challenged by the lack of financial access to food; as of 2009, the lowest income quintile of the population spent nearly 60 percent of their income on food (FAO, IFAD, and WFP 2015). Low-income farmers, unskilled daily laborers, and daily agricultural laborers—groups with the highest prevalence of food insecurity—spend roughly 75 percent of their income on food (WFP 2015).

Nutrition and diet outcomes

While Rwanda has made strides in improving food security, the country faces severe challenges with regards to nutrition, particularly among children under 5 years of age. Child undernutrition in the form of stunting—low height for age—is associated with adverse outcomes related to slow physical and cognitive development. As a result, stunted children experience both short- and long-term consequences such as low school attainment, low productivity as an adult, and low lifetime earning potential (Hoddinott et al. 2013).

In Rwanda, the prevalence of child under-5 stunting, or low height for age, has fluctuated over time, and dropped from 45 to 38 percent between 1996 and 2015 (Figure 3). Prevalence of child stunting varies by demographics and region: it is more prevalent in rural areas (41 percent) than urban areas (24 percent), and across regions is most prevalent in the Western region (45 percent) (National Institute of Statistics of Rwanda).

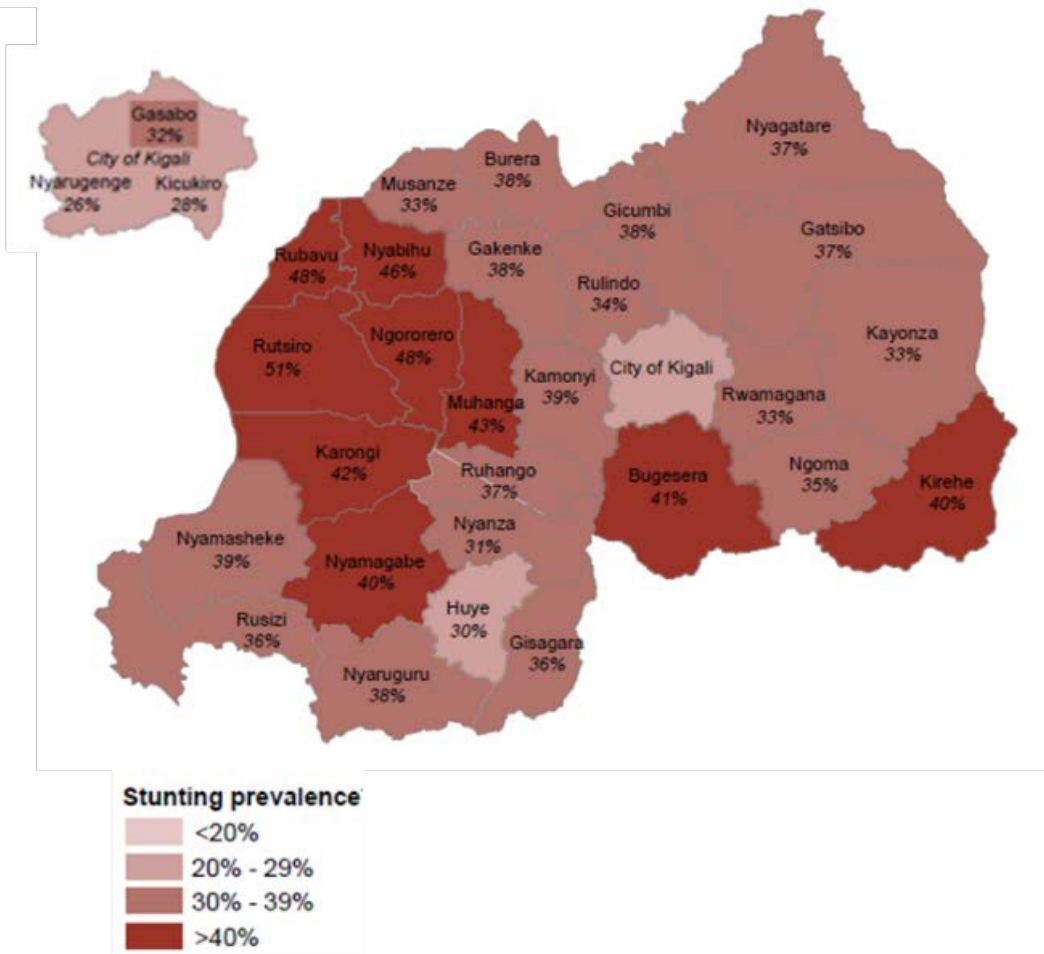
Figure 3: Prevalence of under-5 stunting (%)



Source: UNICEF, WHO, and World Bank (2015).

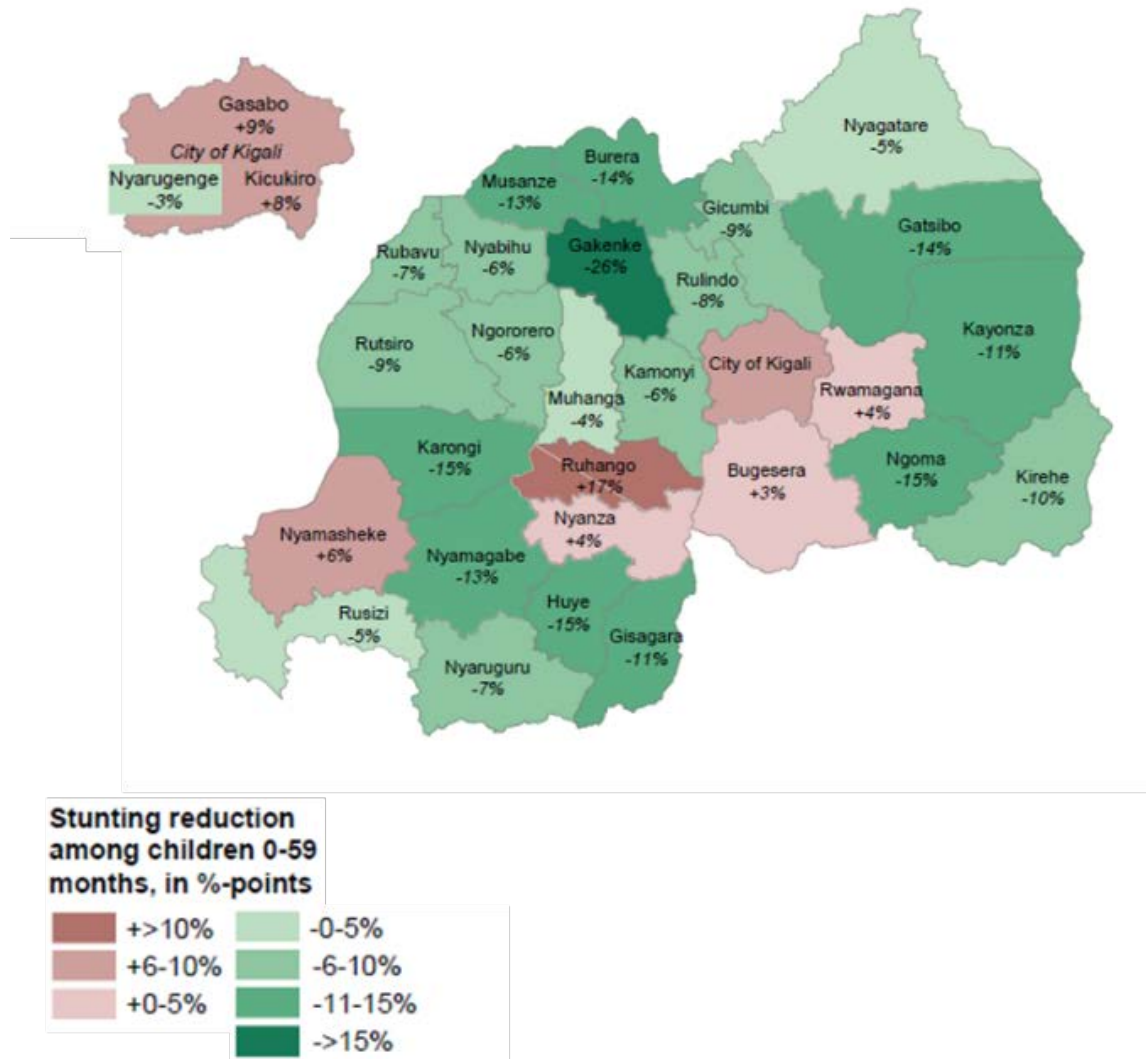
At a district level, stunting is concentrated in the Western and South Eastern regions, with the highest prevalence of stunting in Rutsiro and Ngororero, and the lowest prevalence of stunting in the City of Kigali (Figure 4a). However, progress from 2010 to 2014 has been uneven across districts. Ruhango as well as the City of Kigali experienced increases in child stunting, whereas most other districts saw reductions in child stunting. The greatest gains were seen in the Gakenke district (Figure 4b).

Figure 4a: Prevalence of under-5 stunting (2014) by district



Source: REACH 2015.

Figure 4b: Change in prevalence of under-5 stunting (2010–2014) by district



Source: REACH 2015.

Rwanda has done well in other indicators of undernutrition: As of 2015, only 2 percent of children under 5 are wasted (low weight for age). Furthermore, only 17 percent of women of reproductive age are affected by anemia—well below Africa-wide prevalence of 37.6 percent (WHO 2015). However, 40 percent of districts in Rwanda report child anemia levels above 40 percent (REACH 2015). Additionally, 38 percent of Rwandan children under 5 are iron deficient. Rwanda does not face an imminent obesity problem, although Rwandans are at risk; currently 20 percent of adults are overweight.

There are severe social and economic costs to undernutrition in Rwanda. According to the Cost of Hunger in Rwanda study, the total losses associated with undernutrition are estimated at US\$820 million—equivalent to 11.5 percent of GDP in 2012 (WFP 2014). The loss in potential productivity as a result of undernutrition-related mortalities represented the highest costs. Further, Rwanda loses nearly US\$50 million annually due to vitamin and mineral deficiencies (World Bank 2013).

Nutritional outcomes depend on several key underlying determinates, including diet diversity and quality. In Rwanda, the proportion of calories available from nonstaple crops hovered at around 50

percent from 1991 to 2012—above benchmarks for Africa south of the Sahara (37 percent) and below that of developed countries (around 70 percent). Availability of fruits and vegetables increased from 473 to 614 grams per capita from 2000 to 2011, exceeding the 2011 average for low-income food deficit countries (324 grams per capita).

Access to improved water, sanitation, and hygiene (WASH) infrastructure is highly associated with better nutrition, especially reductions in child stunting (Spears and Haddad 2015). Access to safe drinking water and sanitation has improved significantly in Rwanda. From 1990 to 2015, safe drinking water coverage increased from 58 percent to 76 percent. Within the same period, sanitation coverage increased from 38 percent to 75 percent (WHO/UNICEF JMP 2015). The 2010 WHO/UNICEF Joint Monitoring Program notes that access to sanitation facilities in rural Rwanda has increased faster than in any other country in Africa south of the Sahara (Jain 2011). By 2020, the Government of Rwanda aims to achieve 100 percent coverage for both water supply and sanitation. To accelerate the attainment of these targets, Rwanda adopted a seven-year program to reach this goal even earlier—by 2017. In addition, a management information system through the Energy, Water, and Sanitation Authority (now the Water and Sanitation Corporation—WASAC) was established in 2012 to monitor progress (WaterAid 2012).

Parental education—and particularly maternal education—is also associated with lower rates of child stunting (Semba et al. 2008). In Rwanda, 47 percent of children from families whose mothers had no formal education were stunted in 2015, whereas only 19 percent of children from families whose mothers had at least secondary education were stunted (UNESCO 2015). From 2009 to 2013, female secondary education enrollment only increased from 25 percent to 34 percent in the country. Women’s empowerment has also been shown to improve nutrition (Malapit and Quisumbing 2015). By several measures, Rwanda has done well in promoting gender equality, and in 2015 the country ranked sixth out of 145 countries in the World Economic Forum Global Gender Gap Index (WEF 2015).²

Strategies, policies, and programs to address food security and nutrition

This section highlights strategies, policies, and programs being implemented by the Government of Rwanda and its partners. It also provides an overview of the various stakeholders working to address hunger and undernutrition in Rwanda.

National development frameworks

The national development frameworks in the context of this study include both Rwanda’s Vision 2020 and the Second Economic Development and Poverty Reduction Strategy (EDPRS 2). Rwanda’s Vision 2020 sets the policy objective of transforming Rwanda into a middle-income country and includes goals regarding agricultural production (from 1,612 to 2,600 kcal/day/person from 2000 to 2020) and improved food consumption scores. The Second Economic Development and Poverty Reduction Strategy articulates the strategy for achieving middle-income status and identifies food security and nutrition among the long-term foundational issues requiring attention. Table 1 (see Annex) provides a summary of national development frameworks as well as action plans relevant to food security and nutrition.

Sector Strategic Plans (SSPs) also figure into the national development framework as they set objectives, define indicators, and establish targets for monitoring progress. Examples of key Sector Strategic Plans (SSPs) include:

² Developed by the World Economic Forum, the Global Gender Gap Index ranks economies on how well they leverage their female talent pool based on economic, educational, health-based, and political indicators.

- Strategic Plan for the Transformation of Agriculture in Rwanda (SPAT-Phase III, 2013–2018), led by the Ministry of Agriculture and Animal Resources. Its policy objective is to transform Rwandan agriculture from a subsistence sector to a market-oriented, commercialized, value-creating sector to boost production, increase rural incomes, and reduce poverty. Through the Strategic Plan, the Ministry of Agriculture and Animal Resources sets targets on coverage of programs such as the “one cup of milk per child” program in schools, as well as goals on food consumption standards, consumption of biofortified foods, and boosting maize and bean production, among others.
- The Health Sector Strategic Plan (HSSP-Plan III, 2013–2018), led by the Ministry of Health, aims to ensure universal access to quality health services for all Rwandans. Under the Health Sector Strategic Plan, the Ministry of Health identifies nutrition outcome indicators and sets targets, including reducing prevalence of child stunting from 44 to 18 percent and child underweight from 11 to 4 percent from 2013 to 2018.
- The Social Protection Sector Strategic Plan (SPSSP, 2013–2018), led by the Ministry of Local Government (MINALOC), aims to reduce social and economic vulnerability of poor, vulnerable, and marginalized groups. Through the Strategic Plan, the Ministry of Local Government establishes specific targets on stunting for vulnerable groups, as well as targets on child feeding standards.

Table 1 in the Annex includes further details on relevant Sector Strategic Plans.

There are additional subsectoral strategies relevant to food security and nutrition. The agriculture subsectors that have guiding strategies are dairy, small animals, fisheries, poultry, meat, and horticulture (see Table 2 in Annex).

Cross-cutting policies and action plans

The key nutrition policies and programs related to food security and nutrition are the Rwanda National Food and Nutrition Policy (NFNP) and the National Food and Nutrition Strategic Plan (NFNSP). Their development is a priority of the Health Sector Strategic Plan, and both the policy and the plan integrate with many other Sector Strategic Plans. The seven main strategic directions of National Food and Nutrition Strategic Plan are

1. Advocacy for food and nutrition, resource mobilization
2. Reducing child stunting
3. Enhancing household food security
4. Preventing and managing all forms of malnutrition
5. Improving food and nutrition in schools
6. Assuring healthy food and nutrition in emergencies
7. Supporting activities and services

To lead implementation and monitor progress, the Social Cluster Food and Nutrition Steering Committee (SCF&NSC) was set up with the Ministries of Health, Agriculture and Animal Resources, and Local Government serving as cochairs. Together, they coordinate and implement the National Food and Nutrition Policy and the National Food and Nutrition Strategic Plan, with the support of the Ministries of

Education, Gender and Family Promotion, Disaster Management and Refugees, and Public Service and Labor.

In order to achieve food security and nutrition targets, several multistakeholder platforms have been established at both central and local levels. The National Food and Nutrition Technical Working Group (NF&NTWG) set up in 2013 is Rwanda’s multisectoral nutrition coordination platform. This Group includes representation from the Social Cluster Food and Nutrition Steering Committee, donors, UN agencies, civil society, academia, and the private sector. Table 3 (see Annex) discusses the government and partners’ cross-cutting policies and action plans relevant to food security and nutrition.

The Scaling Up Nutrition (SUN) Movement has played a crucial role in shaping the Rwanda National Food and Nutrition Policy, and helps to guide and coordinate national efforts. The United Nations’ REACH initiative (Renewed Effort against Child Hunger and Undernourishment) is working as the convener for the UN Network for SUN, and the European Union (EU) convenes SUN’s Donor Network. The private sector has established the SUN–National Food Fortification Alliance under the auspices of the National Food and Nutrition Technical Working Group within the Ministry of Health. However, private sector participation in food and nutrition coordination platforms is still limited. On biofortification, HarvestPlus supports the Rwanda Agriculture Board (RAB) to breed, test, and release varieties of iron beans in partnership with IFPRI and the International Center for Tropical Agriculture (CIAT). HarvestPlus’s goal is that one million Rwandan farming households will be growing iron beans by 2018 (HarvestPlus 2015). In the last five years, it is estimated that close to half a million rural Rwandan households have grown a High Iron Bean variety (Asare-Marfo et al. 2016).

Figure 5a: Key national stakeholders and platforms addressing hunger and undernutrition in Rwanda

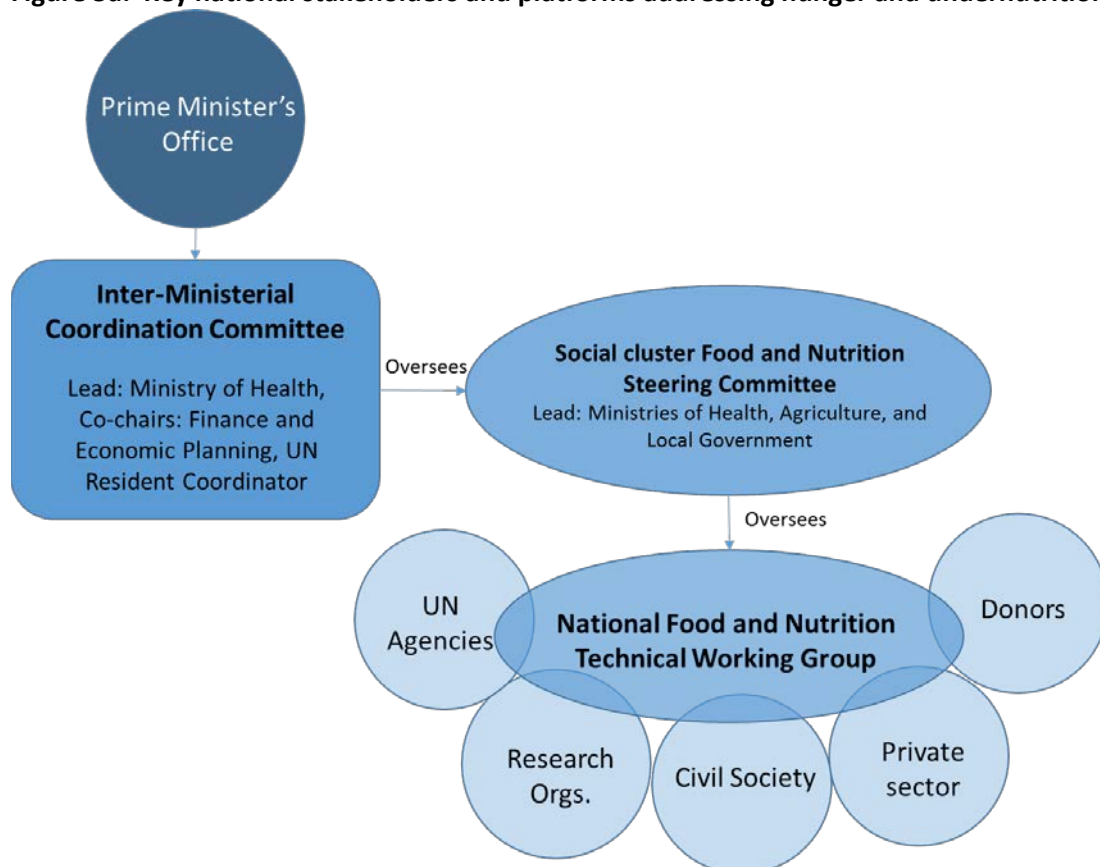
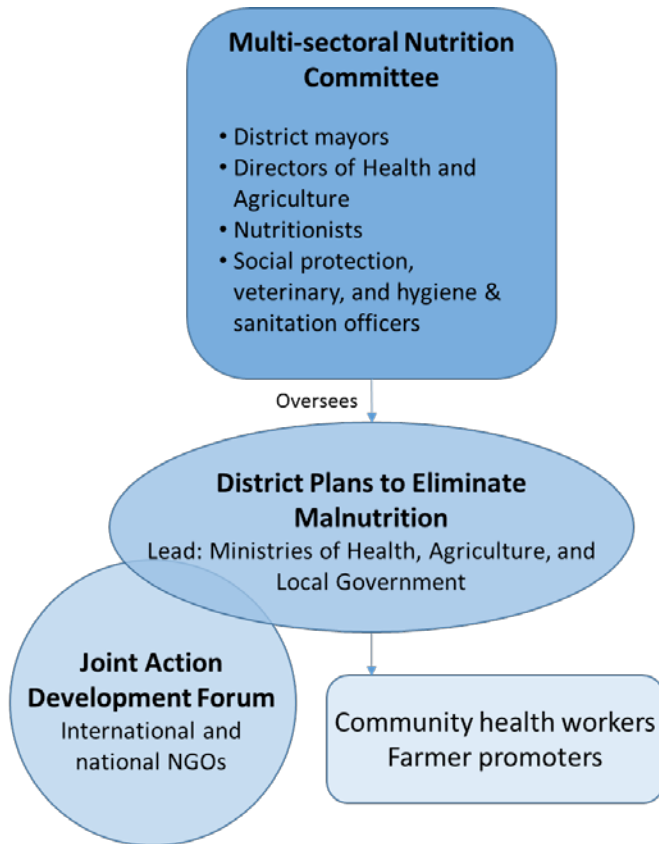


Figure 5b: Key district-level stakeholders and platforms addressing hunger and undernutrition in Rwanda



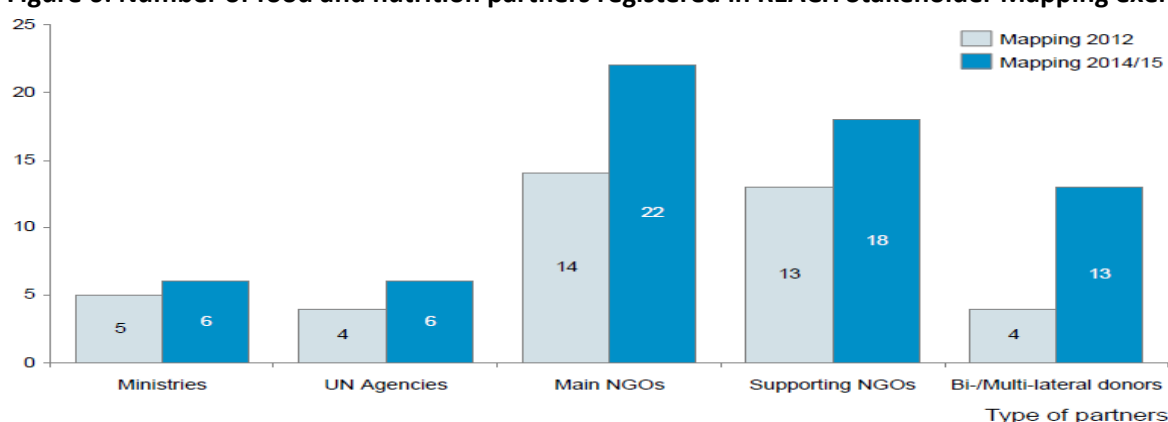
The Inter-Ministerial Coordination Committee (IMCC) is the highest level convening body under the leadership of the Minister of Health and cochaired by the Minister of Finance and Economic Planning and the United Nations Resident Coordinator. The committee brings together government and development partners working to address hunger and undernutrition. The Prime Minister’s Office, through the Inter-Ministerial Coordination Committee, reviews progress reports and receives advice from the Social Cluster Food and Nutrition Steering Committee. This Food and Nutrition Steering Committee is responsible for the National Food and Nutrition Technical Working Group, which provides technical advice and assists in coordinating and organizing national activities, and also provides technical assistance for decentralized activities.

Nutrition programs are decentralized through District Action Plans to Eliminate Malnutrition (DPEMs) and Joint Action Development Forums (JADFs). At the district level, multisectoral Nutrition Committees are composed of District mayors, Directors of Health and Agriculture, nutritionists, and social protection, veterinary, and hygiene and sanitation officers. The district-level committee oversees the implementation of District Action Plans to Eliminate Malnutrition. International and national nongovernmental organizations (NGOs) intervene at the district level through Joint Action Development Forum structures. At the local level, Community Health Workers (CHWs) as well as farmer promoters play an important role in implementing community-based food security and nutrition programs.

Stakeholder mapping

Overall, there is a growing number of stakeholders in Rwanda working to end hunger and undernutrition. According to the REACH Stakeholder and Action Mapping exercise, 65 food and nutrition stakeholders from government, UN agencies, research, civil society, bilateral and multilateral donors, private sector, and other development partners are working at national and subnational levels to advance food security and nutrition in Rwanda (REACH 2015, see Figure 6). Further details on select key stakeholders are provided in Table 4 (see Annex). In Table 5 (see Annex), a matrix illustrating ongoing programs and interventions in food security and nutrition, as well as stakeholders involved in their implementation, is presented. The matrix includes a list of updated government policies, programs, strategies, and action plans to address food security and nutrition, and when and where they are implemented, across key relevant sectors.

Figure 6: Number of food and nutrition partners registered in REACH Stakeholder Mapping exercise



Source: REACH (2015).

Knowledge and action gaps

Despite the existing wide range of policy tools, strategies, programs, and actions for addressing food insecurity and undernutrition in Rwanda, there are still challenges remaining. This section aims to identify gaps and opportunities in the areas of research, policy, and program implementation. Potential synergies and priority areas for research, policy, and investment in food security and nutrition are highlighted.

Knowledge gaps and opportunities

Child undernutrition

In spite of the progress made in reducing food insecurity in Rwanda, the consensus is that unacceptable rates of chronic undernutrition among children still prevail. Conceptual frameworks for understanding child undernutrition indicate that food, health, and care practices matter greatly for the nutritional status of children (UNICEF 1990; Black et al. 2013). To better address this paradox and thus fill a knowledge gap that holds back progress in Rwanda, research should address the following questions:

- What are the particular risk factors that enable the persistence of child undernutrition?
- What are the underlying and immediate determinants of child undernutrition?
- How can comprehensive and updated data be collected in order to track and monitor progress?

Cross-sectoral linkages

There are research gaps in how to achieve effective cross-sectoral linkages for better food security and nutrition outcomes. For example, agricultural production interventions that target and empower women can influence nutrition by enhancing gender equity, improving women's time use, and supporting efficient conservation of female energy expenditure. In ways such as this, agriculture remains key to any approach for ensuring food security and reducing undernutrition in Rwanda. However, several knowledge gaps remain within this context, particularly regarding how agriculture affects maternal and young child food consumption patterns. Opportunities for new research areas include:

- a. *Linkages between agriculture and nutrition:* Agricultural production affects nutrition outcomes primarily by influencing dietary intake and quality. At the same time, agricultural households that consume adequate and nutritious foods are more likely to be able to produce sufficient food for consumption. However, other factors such as features of food markets and household gender dynamics can change this expectation. Results from the 2015 Comprehensive Food Security Vulnerability Analysis tend to confirm this trend.
- b. *Linkages between agricultural markets and nutrition:* Increased market linkages for and commercialization of semi-subsistence agriculture are important elements of efforts to improve nutrition outcomes among resource-poor households. Food markets influence nutrition outcomes primarily through food access and agricultural incomes. Inadequate market access can take away food and nutrients from the household as agricultural incomes are not allocated toward food or healthcare.
- c. *Linkages between nutrition and gender in agriculture:* Empowerment of women in the agricultural sector is essential for nutrition. Understanding how gender influences the impact of agricultural production on maternal and child nutrition outcomes is an important research priority area for Rwanda. The 2015 Comprehensive Food Security Vulnerability Analysis showed that households headed by women are much more vulnerable to child undernutrition.³

Agricultural research

There are many other important research components that can contribute to sustainable production of sufficient food (in terms of quantity and quality). Currently, Rwanda still experiences huge research capacity gaps in terms of both infrastructure and qualified human resources in critical areas such as: plant breeding, animal genetic improvement/animal breeding, biotechnology, food technology (including fortification and food supplements), postharvest handling, storage and processing, nutrition, and horticulture value-chain development.

³ The forthcoming study carried out by various partners (CIAT, Government of Rwanda, WHO, WFP, UNICEF, and FAO) on “Nutrition, Markets and Gender Survey: An Integrated Approach toward Alleviating Malnutrition among Vulnerable Populations in Rwanda” will shed more light on knowledge, evidence, and data gaps as well as risk factors for poor food consumption and undernutrition among women and children in Rwanda.

Yet, agricultural research in Rwanda has strengths and opportunities that can be fully exploited to bridge inherent gaps such as:

- a. Clear national or sector strategies and priorities (EDPRS-2, PSTA-3 & Research and Extension Strategic Plan for RAB)
- b. Committed investment and support (through CAADP compact and investment plan)
- c. Favorable production conditions (several agroclimatic niches for diversified crop and livestock production)
- d. Shared vision of research and extension (integrated approach of research and extension within RAB)
- e. Vertical and horizontal linkages in a pluralistic network (agricultural extension system in Rwanda presents multi-actor and multiple-objective scenarios that make it efficient)
- f. Active stakeholders' involvement in the agricultural sector (active participation of development partners and nongovernmental organizations in agriculture development due to aid effectiveness and good governance)
- g. Regional integration of Rwanda's agriculture sector (the country's central location between west and eastern Africa allows for integration of national agricultural markets with the region through EAC and COMESA)

Policy gaps and opportunities

A key challenge will be for Rwanda to sustain its impressive economic growth. In general, economy-wide growth led by the agricultural sector has a greater effect on poverty reduction than does the same level of growth driven by the nonagricultural sector (Diao et al. 2010). Agriculture should be considered in the broad development strategy for its role not only in poverty (and hunger) reduction but also in economic growth (Diao et al. 2014).

Yet, access to productive land remains a problem for many households who rely on agriculture or livestock as their main source of livelihood, with implications for their food consumption—the smaller the cultivated plot, the more likely households are to have low food consumption scores. About 50 percent of households reported difficulty in accessing food in 2011–2012; these food insecure households are typically poor rural households, working plots of less than 0.5 hectares, often on steep slopes with infertile soil (FAO 2013). Efforts to ensure that land tenure policy helps to reduce poverty, food insecurity, and undernutrition for the rural poor will be critical. Implementing Green Revolution policies in Rwanda through induced innovation (that is, transformation for rural farmers from subsistence and local production to adoption of modern seed varieties, inputs, and credit) will need pro-poor forms of land tenure and cooperation to provide positive outcomes for vulnerable people in rural areas (Dawson et al. 2016).

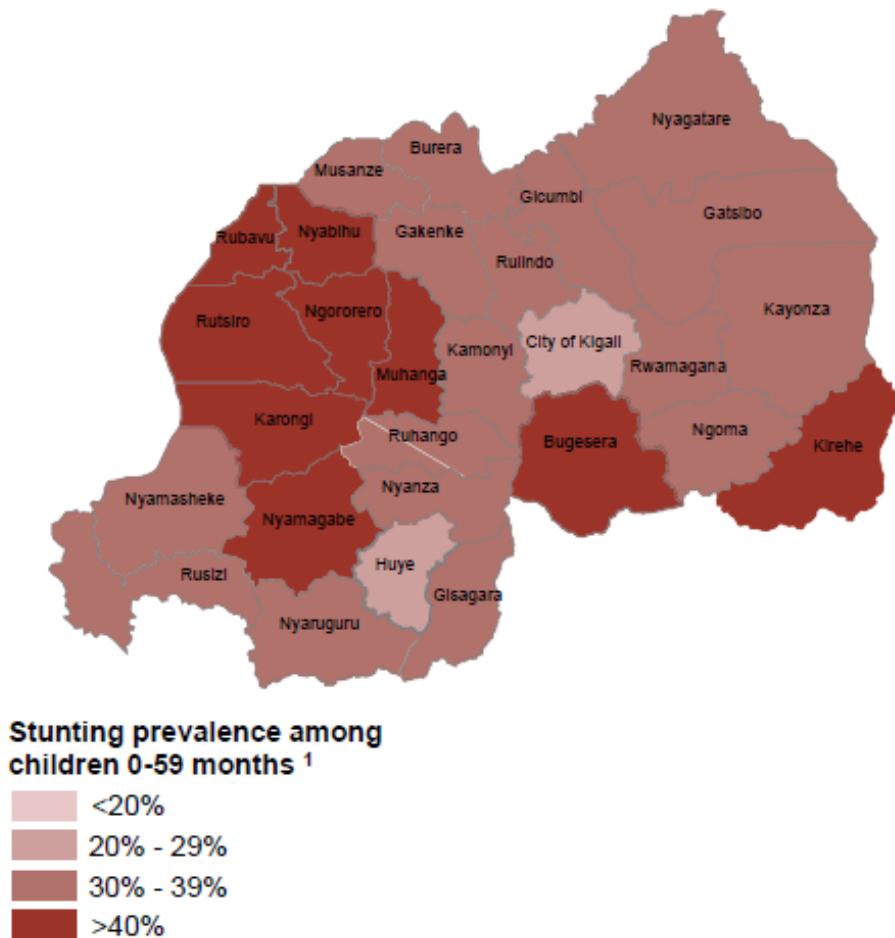
To accelerate reduction in child undernutrition, research shows that access to sanitation, women's education, and gender equality are key priorities that require attention in Africa south of the Sahara (Smith and Haddad 2015). Accordingly, to reverse the persistence of child undernutrition in Rwanda, policy strategies need to focus on:

- a. Improving food security by ensuring adequate quantity and quality of food
- b. Improving the quality of care practices for children by increasing women's education and promoting gender equality (including women's empowerment in agriculture)
- c. Improving health environments by increasing access to safe water and sanitation

Implementation gaps and opportunities

Current initiatives, programs, and interventions by various stakeholders in food security and nutrition cover the main undernutrition components as discussed earlier such as: household food security, maternal infant and young child nutrition, dietary diversity, hygiene promotion, school nutrition, supplementary feeding, micronutrient deficiency, and behavior change. However, implementation gaps with regard to targeting and service delivery remain. As shown in Figures 7a and 7b, districts where most core nutrition interventions (for example, nutrition education, vitamin A supplementation, biofortification) are being implemented are not always the districts with the highest rates of child stunting (REACH 2015).

Figure 7a: Prevalence of child stunting by district

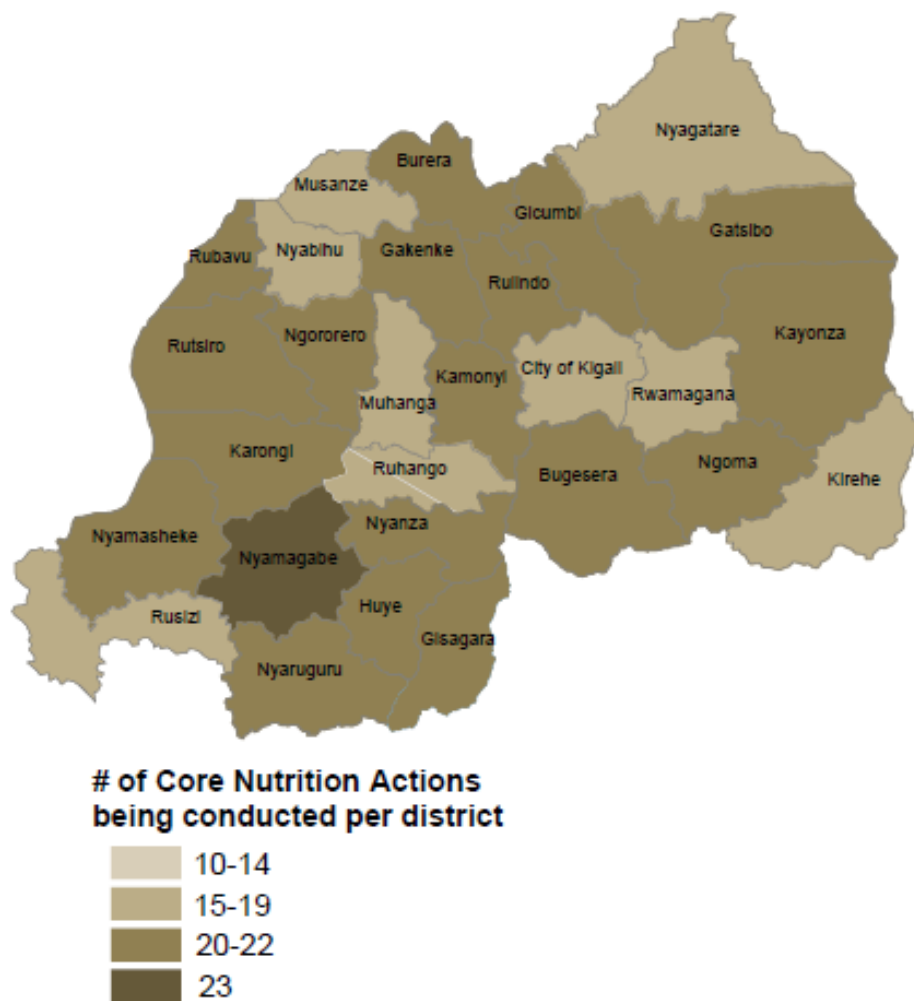


1. NB! Confidence intervals are rather large on a district level

Source: Rwanda National Nutrition Screening 2014, Rwanda Stakeholder & Action Mapping 2014/15

Source: REACH (2015).

Figure 7b: Core Nutrition Action implementation by district



Source: REACH (2015).

Furthermore, according to the Fourth Integrated Household Living Conditions Survey and 2015 Comprehensive Food Security Vulnerability Analysis findings as well as informal communications with various implementers at policy and implementation levels, the following actions require more attention:

- a. Scaling-up of existing interventions in the western, southern, and northern provinces for improving agricultural production at the household level (for example, crop productivity increases, one cow per poor family, small stock distribution to households with limited land assets, and small-scale poultry rearing initiatives)
- b. Continued expansion of social safety nets to include the poor, food insecure, and households with children affected by undernutrition
- c. Targeted support and protection programs to women-headed households
- d. Promotion of alternative livelihood development programs such as nonagricultural jobs, given the limits of land size among poor small farmers, especially in the western, southern, and northern provinces

- e. Continued support to ensure stable seasonal productivity and accumulation of household food stocks (for example, access to good quality seeds, water harvesting and irrigation, land terracing/erosion control, and fertility management)
- f. Enlarging and sustaining kitchen garden and mushroom production programs through appropriate technical support (for example, proximity of access to vegetable seeds and planting materials, and community know-how development)
- g. Increasing access to diversified food items through food market price regulation and market infrastructure improvement (for example, expanded feeder roads development, cold storage and transport facilities, produce collection centers, and market information access)
- h. Expanded and strengthened support to community health workers, farmer promoters, farmer field school facilitators, and other grassroots extension agents
- i. Regular evaluation and refinement of existing food security and nutrition interventions for more effectiveness
- j. Achieving potential for nutrition-driven agriculture in Rwanda—the country ranks first out of 81 countries suitable for investing in iron beans (HarvestPlus 2015)

SWOT analysis

Rwanda has strengths, weaknesses, opportunities, and threats (SWOT) to achieving the goal of ending hunger and undernutrition by 2025. This SWOT analysis includes Rwanda’s internal strengths and weaknesses relevant to achieving this goal, as well as the external or global opportunities that may be helpful, and threats that may impede progress.

Strengths <ul style="list-style-type: none"> • High level of political will for food security and nutrition • Enabling environment for business • Highly suitable for investment, for example in biofortification interventions • Community health workers/farmer promoters in place for intervention delivery 	Weaknesses <ul style="list-style-type: none"> • Lack of local coordination and uneven geographic coverage of nutrition programs • Low (but growing) investment/capacity in agricultural R&D • Agricultural growth not always pro-poor • Limited scale-up of many pilot projects
Opportunities <ul style="list-style-type: none"> • Momentum from Sustainable Development Goals, global initiatives supporting Rwanda • Regional integration of Rwanda’s agricultural sector • Suitable environment for "outside-the-box" innovations • Presence of coordination mechanisms 	Threats <ul style="list-style-type: none"> • Climate change • Population growth/changing demographics • Fragile neighboring states

Strengths

Throughout all levels of government, Rwanda has strong political will to tackle hunger and undernutrition, and targets and goals have been formalized in its development framework and key strategic plans. Further, Rwanda has demonstrated an enabling environment for business and investments, including those that will advance nutrition. For example, Rwanda has been identified as the

most suitable country for biofortification interventions in the form of iron beans (Harvest Plus 2015). Another of Rwanda's strengths is the framework for implementing current and potential interventions and programs. Community health workers and farmer promoters are already in place throughout the country.

Weaknesses

Rwanda must address certain weaknesses in order to achieve the elimination of hunger and undernutrition by 2025. First, it must address issues of coordination and implementation of nutrition interventions, particularly at the local level. In districts where the mayor's commitment is lacking, the multisectoral committees were reported as nonfunctional owing to weak linkages between implementers at district level and partners (CAADP 2013). Further, the uneven geographic coverage of nutrition-specific interventions, particularly in the districts with highest prevalence of stunting, should be addressed.

Rwanda can improve capacity and investments in agricultural R&D. In recent years, the country has increased investment in agricultural R&D, and should continue to do so as these investments can have high payoffs in achieving multiple wins, including increasing productivity and improving resilience and resource-use efficiency.

Lastly, Rwanda must ensure that agricultural policies and interventions are pro-poor. Recent research shows that boosting agricultural growth through induced innovations can exacerbate landlessness and inequality for poorer rural inhabitants. In order to mitigate the effects of the modernization process, recommendations for inventive pro-poor forms of tenure and cooperation (as well as improvements to input availability, market linkages, and infrastructure) are suggested to provide positive outcomes for rural people.

Opportunities

As discussed, there are many stakeholders across multiple sectors working to end hunger and undernutrition in Rwanda. The presence of coordination mechanisms allows for opportunities to bring together all relevant sectors and stakeholders to work together to eliminate undernutrition. While improvements in coordination across actors could help ensure greater geographic coverage, especially for districts with higher rates of undernutrition, attention from global initiatives, development partners, and academia to Rwanda is an opportunity to accelerate progress. Setting up systems for tracking and monitoring progress will be critical to ensure greater coverage and to evaluate impact. Lessons should be well documented, synthesized, and communicated in order to feed back and inform policy and program design.

Exploring regional market demand for agriculture is another opportunity to accelerate growth and progress. Rwanda's geographic location between east and central Africa is an advantage that can promote agricultural growth. The regional market differs significantly from the international market for Rwanda's agriculture but is close to the domestic market in nature. Most agricultural commodities traded in the region are similar to goods produced for local demand, such as maize, Irish potatoes, dry beans, and livestock and livestock products. The regional market is also less sensitive to the overvaluation of the real exchange rate that can hurt agricultural exports to international markets.

There are also opportunities to accelerate progress through "outside-the-box" thinking regarding new approaches, marketing methods, and other innovations. For example, ICTs can play a transformative

role in improving information flows to farmers, providing nutrition education, collecting data, engaging youth, and other uses. Pilots and experiments can help test proof of concept of innovations before wider scale-up of successes.

Threats

Recent climate change patterns have threatened ongoing economic improvements in Rwanda (Tenge et al. 2013). Climate-related events such as heavy rainfall or too little rainfall will occur more frequently than in years past. Droughts are often responsible for famine, food shortages, a reduction in plant and animal species, and displacement of people in search of food and pasture. In the past 10 years, these disasters have occurred throughout the country, exacerbated by poor farming practices, deforestation, and environmental degradation. These climatic events have affected health, water quality, transportation, and agriculture, leaving the country drained of its wealth and increasing the level of poverty. The poor are most vulnerable to climatic effects. Although the Rwandan government has drafted policies to address these disasters, assessing their impact is vital to the management, reduction, and mitigation of potential risks.

Five major recommendations

Recommendations resulting from the Rwanda roundtable discussion are summarized and discussed in this section. While not exhaustive, these recommendations have been identified to address challenges, fill gaps, and exploit opportunities to accelerate progress. Underlying these recommendations is the strong political will and commitment for ending hunger and undernutrition as expressed by all stakeholders at the meeting, beginning with the Right Honorable Prime Minister of the Republic of Rwanda.

1. Fill data and knowledge gaps

Participants identified the lack of evidence-based programs and interventions as a key constraint. In order to generate evidence to inform policies and programs, gaps in data and research, including research systems, must be filled. Collecting disaggregated data on food security and nutritional outcomes (including micronutrient deficiencies) as well as household data on under-five malnutrition and vulnerable groups (for example, elderly and sick people) is key. More data on climate change's impacts, WASH, and household food consumption are also recommended. To improve data collection, community health workers should be trained to collect anthropometric data, and ICTs can be used to collect data that will improve monitoring and evaluation.

Critical knowledge gaps include understanding underlying factors behind different demographics of undernutrition—for example, in Rwanda (as in the rest of Africa south of the Sahara) more boys are stunted than girls. Also important is research on the nutritional impacts of different interventions, as well as recommendations for a package of nutrition-specific interventions that have the greatest impacts on food security and nutrition. To boost agricultural productivity and further enhance food security, research on soil fertility mapping across zones and commodities on improving climate resilience should be conducted. Further, more information is needed on curbing overnutrition.

Filling data and knowledge gaps requires upgrades to research systems in Rwanda. Monitoring and evaluation systems that provide continuous feedback mechanisms to inform programs at all levels should be set up or improved. Creating systems for data and information sharing was recommended, and should include an accessible dashboard or portal of best practices for scaling up successful programs

or interventions. Through such a knowledge-sharing portal, Rwanda can learn from its own successes that have yet to be scaled up, as well as the experiences of other countries that have made big and rapid strides in reducing hunger and undernutrition.

The research system should conduct more and better assessments of policies and implementation strategies. More information on nutrition budgets and spending can also help to improve accountability and to track and monitor progress.

2. Improve coordination

While government alone cannot end hunger and undernutrition in Rwanda, it can play a role in improving coordination across the many players and sectors. The Government of Rwanda has set up institutional mechanisms for multisectoral collaboration, but there is significant room to improve coordination across sectors, stakeholders, and levels of government.

Participants identified a need for a secretariat with clear reporting mechanisms to champion food security and nutrition issues and to provide accountability. Such a secretariat could be hosted in the Prime Minister's office or the Ministry of Finance and Economic Planning State Ministry in charge of Strategic Planning, and could be in charge of joint planning and evaluation, as well as mandate topics for research and analysis. In addition, the secretariat would require dedicated capacity to ensure cross-sectoral coordination.

An operational plan for implementing the National Food and Nutrition Strategic Plan should be developed. Further efforts to improve coordination could include boosting the convening power of the Food and Nutrition Technical Working Group, which advises the Social Cluster Steering Committee. To improve coordination across levels of government, greater involvement of local government (districts, sectors, cells, and villages) in policy and program planning for food security and nutrition is key. For example, District Action Plans to Eliminate Malnutrition should be included in district development plans.

Improving coordination can help to integrate approaches to implementation and harmonize program interventions for greater synergies. It will also help to ensure alignment of programs with government priorities. Programmatic opportunities to coordinate across sectors include integrating nutrition into Imihigo (performance contract) and linking social protection to agricultural productivity.

3. Enhance successful policies and programs

Rwanda has several existing policies and programs that should be enhanced or scaled up in order to accelerate progress toward ending hunger and undernutrition. For example, the Crop Intensification Program (CIP), One Cow per Family program, and Imihigo accountability program were identified as being instrumental in reducing hunger and undernutrition in Rwanda. To scale up these programs, programmatic and geographic gaps in coverage should be filled. For example, the One Cow per Family program can extend its coverage to households with less than half a hectare of land, which are currently not eligible for a cow. Further, programs and interventions should be better targeted to the most vulnerable households and districts of most need. These include nutrition-specific interventions, such as micronutrient supplementation; promotion of optimal breastfeeding; complementary feeding and responsive feeding practices and stimulation; dietary supplementation; diversification and micronutrient supplementation or fortification for children; treatment of severe acute malnutrition; and disease prevention and management.

Furthermore, food fortification and biofortification programs should be promoted and targeted to Ubudehe categories 1 (poorest families who do not own their homes) and 2 (subsistence-level/underemployed families). Promoting shared responsibility between men and women in the household regarding nutrition and feeding was recommended. Improved access to WASH facilities was also recommended.

4. Communicate and advocate for better nutritional outcomes

Of particular importance is the role of communications and advocacy. Media, including TV, radio, and theater, are some of the new and innovative approaches suggested to promote nutrition education and awareness campaigns. Kitchen and cooking demonstrations, school nutrition sessions, and behavior change communication programs are crucial to improve utilization of nutritious foods. Further, a national guideline on diets, combined with a communication plan, can help to inform people about what constitutes a balanced diet.

Along with developing and implementing campaigns to communicate to households, it was recommended to improve policy makers' knowledge of (1) the cross-cutting nature of food security and nutrition issues, and (2) the impacts of improved food security and nutrition on a range of development outcomes.

5. Strengthen capacity

There is a need to strengthen in-country capacity at all levels, especially for nutrition knowledge. Capacity to plan and implement nutrition strategies should be strengthened within government. For example, nutrition specialists can be trained and placed in various ministries that engage in cross-cutting food security and nutrition issues (for example, Ministries of Local Government, Education, Health, Agriculture, and Gender).

Nutrition knowledge should be improved at district health centers in all districts. At universities, curriculums (for example, for agriculture and rural development) should mainstream nutrition coursework. Community health workers and farmer promoters should be supported to mobilize communities, deliver knowledge and services, and facilitate monitoring and evaluation of interventions.

At the household level, greater capacity, knowledge, and accountability can help to accelerate progress. Improving household knowledge on proper utilization of food, further institutionalizing Imihigo, and sharing knowledge on nutrition can help to fill this gap.

Conclusion and next steps

Rwanda has made good progress in reducing poverty, hunger, and undernutrition in recent decades. National commitments buttressed by support from numerous partners and stakeholders who work at national and subnational levels throughout the country help advance food security and nutrition. However, in order for Rwanda to meet its goals, including reducing prevalence of child stunting to 18 percent by 2018 and ending hunger and undernutrition by 2025, progress must be accelerated.

There are many opportunities to fill gaps in research, policy, and implementation in order to accelerate progress. More and better data on undernutrition, improved coordination across sectors, nongovernmental actors, ministries, and levels of government, capacity strengthening at all levels, more investments in agricultural R&D, and a strategic research agenda can better inform strategies and implementation both now and going forward. Further communicating and advocating for improved

nutritional outcomes, as well as enhancing successful policies and programs, can help to fill knowledge and program gaps in Rwanda.

Agricultural policies, technologies, and partnerships can help increase food production while achieving simultaneous wins of accelerated economic growth, poverty alleviation, resilience-building, climate-smart action, and resource-use efficiency. Implementation of nutrition policies and interventions must be rolled out to all districts, especially those that face higher rates of undernutrition. Systems for tracking and monitoring progress should be set up, and lessons should be synthesized and communicated to feed back into policy and program design. Innovation should be promoted in multiple sectors, such as agriculture and youth and ICTs, to find and experiment with new approaches that can help to accelerate progress toward ending hunger and undernutrition in Rwanda.

Responding to the needs identified at the Rwanda roundtable discussion, Compact2025 will set up a Knowledge and Innovation Hub in Rwanda, ideally within the Prime Minister's Office in partnership with relevant ministries and stakeholders. The hub will work to support country goals, processes and programs with demand-driven research for the purpose of accelerating progress. It will help to collect data, strengthen capacities, and enhance tracking and monitoring systems. The hub will stimulate innovation, synthesize lessons and compile, share and communicate information and best practices within Rwanda and beyond. It will also leverage existing networks, including the Rwanda Strategic Analysis and Knowledge Support System (SAKSS). Outputs of the hub will include a freely accessible website, which will be set up in such a way so that it can be accessed by farmers and individuals in local communities through their mobile phones. A follow-up roundtable will be held next year to reconvene stakeholders, evaluate progress, identify action gaps, and fine-tune next steps toward ending hunger and undernutrition by 2025 in Rwanda.

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Annex

Table 1: National Development Frameworks and Sector Strategic Plans relevant to Food Security and Nutrition

Policy/Strategy/Program/Action	Lead institution	Policy objective(s)	Key outcome indicators and targets for Food Security and Nutrition	Observation
Vision 2020 (2000–2020)	Government of Rwanda /Ministry of Finance and Economic Planning (MINECOFIN)	Transformation of Rwanda into middle-income country, including poverty reduction from 44.9% in 2011 to 20% in 2020	<ul style="list-style-type: none"> - Agricultural production kcal/day/person from 1,612 to 2,600 from 2000 to 2020 - Poor food consumption score from 4% to 0% and borderline from 17% to 5% by 2020 	Indicator 15 and 16 of the Vision 2020
Economic Development and Poverty Reduction Strategy (EDPRS 2, 2013–2018)	Government of Rwanda /Ministry of Finance and Economic Planning (MINECOFIN)	Accelerating progress to middle-income status, including accelerating poverty reduction to less than 30% of the population	Increased graduation from extreme poverty from 9.8% to 50% from 2012 to 2018 (% of category 1 or 2 households who move to category 3 poverty level)	<ul style="list-style-type: none"> - Indicator 9 of EDPRS-2 under Rural Development thematic area - In EDPRS-2, food security and nutrition is highlighted among the long-term foundational issues that need attention
Strategic Plan for the Transformation of Agriculture (SPTA-3, 2013–2018)	Ministry of Agriculture and Animal Resources (MINAGRI)	<ul style="list-style-type: none"> - To transform Rwandan agriculture from a subsistence sector to a market-oriented, value-creating sector - To grow as rapidly as possible, both in relation to production and commercialization, in order to increase rural incomes and reduce poverty 	<ul style="list-style-type: none"> - Number of school children in one cup of milk program from 74,728 to 200,000 - Percent of rural households with functional kitchen gardens from 58% to 80% - Percent of households that reach acceptable food consumption scores from 70% to 90% - Percent of food insecure households that consume biofortified foods to reach 50% - Percent of food insecure households from 21% to 14% - Percent of households with poor and borderline FCS during the lean season from 21% to 15% - MT of maize and beans existing as food reserve from 15,909 to 100,909 MT 	Indicators 1 to 7 of Sub-Program 1.7 of SPAT-3 on nutrition and household vulnerability
Health Sector Strategic Plan	Ministry of Health (MoH)	To ensure universal accessibility (in geographical and financial terms) of quality health services for all Rwandans	<ul style="list-style-type: none"> - Prevalence of stunting among 6–59 month children from 44% to 18% - Prevalence of underweight children under 5 from 11% to 4% 	Indicators 1 to 5 of subcomponent 1.6 of the HSSP-3 on nutrition services

Policy/Strategy/Program/Action	Lead institution	Policy objective(s)	Key outcome indicators and targets for Food Security and Nutrition	Observation
(HSSP-3, 2013–2018)			<ul style="list-style-type: none"> - Percent of children < 5 yrs. screened in CBNP from 70% to 88% - Percent of children in nutrition rehabilitation program (total children malnourished) from 70% to 88% 	
Social Protection Sector Strategic Plan (SPSSP, 2013–2018)	Ministry of Local Government (MINALOC) ⁴	Reducing the social and economic vulnerability of poor, vulnerable and marginalized groups	<ul style="list-style-type: none"> - Percent of children < 5 yrs. in Ubudehe categories 1 and 2 who are stunted from 60 to 48 for category 1 and from 53 to 42 for category 2 in 2016 - Percent of children aged 6–23 months in bottom two quintiles who are fed in line with minimum standards from 12 to 24 in 2017 	Indicators 2 and 3 of the Sector Priority Program 3.1.1 on building a sustainable social protection system
National Strategic Plan for Family Promotion (NSPFP, 2011–2015)	Ministry of Family and Gender Promotion (MIGEPROF)	To ensure the protection of the Rwandan family and support it in order to enable it to efficiently play its role in the process of national development, including reinforcing family’s economic and financial capacity	<ul style="list-style-type: none"> - Number of training modules elaborated on increasing food stuff production quality and conservation (from 43.5 to 48.0 million Frw annual budget allocation) - Number of Community mobilization campaigns organized on best practices of production, trading, and consumption of agricultural products (from 6.7 to 7.6 million Frw annual budget allocation) - Percentage of households with a garden increased (from 75 to 135 million Frw annual budget allocation) 	Indicators 1, 2, and 4 of the Sector Specific Objective 5.2 on encouraging food self-sufficiency in families
Education Sector Strategic Plan (ESSP, 2013–2018)	Ministry of Education (MINEDUC)	Expanding access to education at all levels, improving the quality of education and training, and strengthening the relevance of	School Feeding and gardening for junior secondary, upper secondary, and nursery schools, including provision of milk to primary pupils; target is given in terms of budget allocation per school per district	This indicator is captured as a cross-cutting issue number 4 on School Health, Prevention of AIDS/HIV and Sport in the ESSP

⁴ MINALOC has a State Minister in Charge of Social Protection.

Policy/Strategy/Program/Action	Lead institution	Policy objective(s)	Key outcome indicators and targets for Food Security and Nutrition	Observation
		education and training to meet labor market demands		
Water and Sanitation Sector Strategic Plan (WSSSP, 2013–2018)	Ministry of Infrastructure (MININFRA) ⁵	Ensure sustainable and affordable access to safe water supply, sanitation, and waste management services for all Rwandans, as a contribution to poverty reduction, public health, economic development, and environmental protection	Percent of households with improved sanitation facilities increased from 75% (73 for rural HH and 83 for urban HH) to 100% in 2018	Indicators 1 to 3 under specific objective 4 on Raising Household Sanitation Coverage
Transport Sector Strategic Plan (TSSP, 2013–2018)	Ministry of Infrastructure (MININFRA)	To develop an integrated and seamless multimodal transport system for passengers and goods both at national and regional level	Percent of districts feeder roads in good condition to increase from 0.9% to 31.6%	Indicator 5 of the Sector Priority 1, outcome 1.1 on improved and sustained quality of road network
Rwanda Private Sector Development Strategy (PSDS, 2013–2018)	Private Sector Federation of Rwanda	To achieve accelerated, broad-based and diversified economic growth, including creation of new jobs and increasing the returns from existing jobs	The PSDS highlights the promotion of activities that contribute to linking producers with markets as an important priority action	Program 7 on market access of the PSDS

⁵ The Ministry of Infrastructure has a State Minister in Charge of Water and Energy, who is responsible for sanitation programs.

Table 2: Other Agriculture Subsector Strategies relevant to food security and nutrition

Policy/Strategy/Program/Action	Lead institution	Policy objective(s)	Key outcome indicators and targets for food security and nutrition	Observation
National Dairy Strategy (2013)	MINAGRI	Develop a competitive dairy sector that provides quality dairy products which are affordable, available, and accessible to all Rwandans and other consumers in the region	Self-sufficiency in milk production by 2020	This is a subsector strategy of the livestock intensification program (LIP) in Rwanda
Strategy and Investment plan for small animals in Rwanda (2012)	MINAGRI	Increase small animal production, value addition of small animal by-products and marketing	Small animal industry boosted from a subsistence-based activity to an income-generating activity and export	This is a subsector strategy of the LIP
Fish and fish farming strategy (2011)	MINAGRI	Promote an intensive aquaculture and fisheries program that contributes to the food security of communities and poverty reduction through increased incomes of rural dwellers	Increase domestic fish production from 15,500 MT/year in 2011 to 131,000 MT/year in 2017	This is a subsector strategy of the LIP
Poultry industry Development Strategy (2012)	MINAGRI	Strengthen and modernize the poultry industry that contributes to the food security and income generation of small-scale producers	Enhance poultry meat and eggs production and marketing	This is a subsector strategy of the LIP
Strategy and Investment Plan to strengthen meat industry in Rwanda (2012)	MINAGRI	Modernize and develop meat industry infrastructure, increase meat supply, and improve access to domestic and foreign markets	Promote domestic consumption of quality meat, and take advantage of business opportunities of meat value markets in the region	This is a subsector strategy of the LIP
Horticulture strategy for Rwanda (2006)	MINAGRI	Foster development of a competitive horticulture industry and create employment for rural communities	Achieve export revenues of more than US\$9.0 million per year by 2015	This is a subsector of the National Export Strategy for Rwanda

Table 3: Government and partners cross-cutting policies and action plans relevant to food security and nutrition

Policies and plans	Lead institution	Objective (s)	Key targets/milestones	Observation
National Food and Nutrition Policy (NFNP) & National Food and Nutrition Strategic Plan (NFNSP, 2013–2018)	MoH, MINAGRI, and MINALOC	Improve the household food security and nutritional status of the Rwandan people, to substantially reduce chronic malnutrition in children under 2 years of age and to actively identify and manage all cases of acute malnutrition	- Strategic Directions: (1) Advocacy for food and nutrition and mobilize resources, (2) Reduce child stunting, (3) Enhance household food security, (4) Prevent and manage all forms malnutrition, (5) Improve food and nutrition in schools, (6) Assure healthy food and nutrition in emergencies, and (7) Support activities and services. -Key milestones are the same as those in sector-specific strategic plans	The Prime Minister’s Office has the overall responsibility for the NFNP and implementation of the NFNSP, while the Social Cluster Ministries led by MoH are responsible for planning, implementation, and monitoring of NFNP/NFNSP.
District Plans to Eliminate Malnutrition (2013–2018)	Specific districts through JADFs	Address malnutrition at all levels	All districts in Rwanda adapt and implement their own District Plan to Eliminate Malnutrition (DPEM) with involvement of all stakeholders through the JDAFs	REACH initiative facilitates the operationalization of DPEMs
The Seven Years Government Program (7YGP, 2010–2017)	Prime Minister Office (PMO)	Deliver the Presidential Commitments for the term of 2010–2017	Reduce the proportion of food insecure households from 21% in 2010 to 17% in 2017. The 7YGP is an action plan to deliver the commitments by the H.E. President during his term of 2010–2017	Refer to Program 2 of the 7YGP on Agriculture and Animal Resources, target and Indicator 100.
SUN-Movement, Rwanda (2011)	MoH and USAID as donor convener	Address chronic malnutrition and stunting issues	Streamline coherence and integration in policy and legal framework for nutrition and coordinated actions against malnutrition	Rwanda joined the SUN movement in 2011.
REACH Initiative (Renewed Efforts Against Child Hunger and Undernutrition)	One-UN, Rwanda (FAO, UNICEF, WFP, WHO, and IFAD)	Assist governments of countries with a high burden of child and maternal undernutrition to accelerate the scale-up of food and nutrition actions	- Facilitate the operationalization of DPEM by assisting with multisectoral planning, mapping, and monitoring at district level - Facilitate multisectoral and multistakeholder coordination of nutrition actions at both policy and technical level - Support improved multisectoral nutrition monitoring systems	Rwanda is one of the 12 REACH countries; REACH Rwanda started in 2011.

Policies and plans	Lead institution	Objective (s)	Key targets/milestones	Observation
			- Strengthen nutrition policies/plans at national, sectoral, and district levels.	
The 1 st 1000 days Campaign (September, 2013)	MoH and One-UN Rwanda	Improve nutrition for mothers and children in the 1,000 days from a woman's pregnancy through her child's second birthday	As a national initiative, the campaign targeted to reach all households in Rwanda in 1,000 days from December 2013.	The Prime Minister's Office took the overall leadership of the 1,000 days campaign that involves different government ministries and partners.

Table 4: Stakeholders mapping for food security and nutrition in Rwanda

Entity	Strategies ⁶	Key programs/action plans	Observations
Government institutions			
Ministry of Agriculture and Animal Resources (MINAGRI) ⁷	Strategic Plan for Agriculture Transformation (SPAT-3)	<ul style="list-style-type: none"> - Crop intensification program - One cow per poor family program - Kitchen garden program - One cup of milk per child (school milk feeding) - Small stock keeping - Crop biofortification (beans, OFSP, etc.) - Food security information system - National strategic food reserve - Aquaculture and fish farming program 	<ul style="list-style-type: none"> - The SPAT-3 has a specific sub-program on nutrition and household vulnerability - Other FS&N related strategies include: Nutrition Action Plan, Fertilizer Strategy, National Agricultural Extension Strategy, National Dairy Strategy, Rwanda Poultry Strategy, Small Animal Industry Strategy, National Horticulture Development Strategy, Agriculture Gender Strategy
Ministry of Health (MoH) ⁸	Health Sector Strategic Plan (HSSP-3)	<ul style="list-style-type: none"> - Home-based food fortification - Dietary diversity - Hygiene promotion - Deworming campaigns - Vitamin A supplements in U5 - Vitamin A supplements / post-natal care - Iron Folate supplementation ANC - Supplementary feeding to pregnant lactating women - Good IYCF practices - Behavior change communication 	<ul style="list-style-type: none"> - The HSSP-3 priority program on Maternal and Child Health, including nutrition - Other FS&N related strategies include: National Food and Nutrition Policy and Strategy (2013–2018) and related Nutrition Action Plan (2013–2018) and Community Health Strategic Plan - Three major FS&N areas: Community Maternal, Infant, and Young Child Nutrition, Supplementary Feeding, and Mindset Changes
Ministry of Local Government (MINALOC) ⁹	Social Protection Strategic Plan for Rwanda (SPSP)	<ul style="list-style-type: none"> - Direct financial support to poor and vulnerable households under VUP program - Labor-intensive public works for poor households - Ubudehe Program (social classes categorization and monitoring of social graduation) - Nutrition awareness campaigns (radio and TV programs) 	<ul style="list-style-type: none"> - State Minister within MINALOC in charge of Social Protection - Districts are local entities responsible for implementing sector policies and reporting directly through MINALOC. They play a major role in all the sector-based FS&N interventions highlighted above. - Ubudehe is one of Rwanda's best-known Home Grown Solutions because of its participatory development approach to

⁶ Apart from sector strategic plans, there are other high-level Government Strategies/Initiatives highlighting malnutrition as a priority challenge to address: the presidential initiative to eliminate malnutrition and EDPRS 2.

⁷ The key implementing agencies under MINAGRI are the Rwanda Agriculture Board (RAB) and National Agriculture Export Development Board (NAEB). Other community-level initiatives such as Farmer Promoters and Farmer Field School Facilitators are regulated and supported by MINAGRI.

⁸ Government agencies under MoH include the Rwanda Biomedical Center (RBC), Referral and District Hospitals, Health Centers, and health posts. Health Community Workers at Village are also regulated and supported by MoH.

⁹ Key implementing agencies under MINALOC include the Local Development Authority (LODA) and Rwanda Broadcasting Agency (RBA).

Entity	Strategies ⁶	Key programs/action plans	Observations
			poverty reduction. Most social protection programs target the lower social classes first
Ministry of Finance and Economic Planning (MINECOFIN) ¹⁰	Finance Sector Strategic Plan (FSSP) and Public Finance Management (PFM)	-----	MINECOFIN co-chairs the FS&N Inter-ministerial Coordination Committee and intervenes mostly in areas related to budget planning and allocation.
Ministry of Education (MINEDUC) ¹¹	Education Sector Strategic Plan (ESSP)	<ul style="list-style-type: none"> - School feeding, school gardens - Hygiene promotion within schools 	In the Education Sector Strategic Plan, school health and nutrition appear as cross-cutting issues.
Ministry of Gender and Family Promotion (MIGEPROF)	National Strategic Plan for Family Promotion (NSPFP)	<ul style="list-style-type: none"> - Behavior change communication - Akagoroba k'ababyeyi (Mothers Evening Social Discussion) - Kitchen garden 	Akagoroba k'ababyeyi is a new home-grown platform initiative where mothers come together to share ideas on social and economic issues and knowledge on fighting malnutrition, among other issues. This has been initiated in all villages across the country.
Ministry of Infrastructure (MININFRA) ¹²	Water and Sanitation Sector Strategic Plan (WSSSP)	<ul style="list-style-type: none"> - Rural and urban water supply programs - School water supply program - Hygiene promotion through appropriate management of solid and liquid wastes 	There is a state Ministry in Charge of Water and Energy within the Ministry of Infrastructure. WSAC (Water and Sanitation Corporation) is the institution in charge of sanitation within MININFRA.
Ministry of Disaster Management and Refugees (MIDIMAR)	Rwanda National Disaster Risk Management Plan	<ul style="list-style-type: none"> - Food assistance to disaster-affected families and refugees 	
UN Agencies¹³			

¹⁰ The National Institute of Statistics of Rwanda (NISR) reports directly to MINECOFIN.

¹¹ The main government agencies under MINEDUC include Rwanda Education Board (REB), the University of Rwanda (UR), and the Work Development Authority (WDA).

¹² The Water and Sanitation Corporation (WSAC) is one of the implementing agencies of MININFRA.

¹³ Currently, the four UN Agencies (WFP, WHO, UNICEF, and FAO) operate under the One UN Country framework and together with the Government of Rwanda are implementing the SUN-1000 days campaign since 2013. All their FS&N interventions are coordinated and aligned through the REACH initiative (Renewed Effort Against Child Hunger and Under-nourishment).

Entity	Strategies ⁶	Key programs/action plans	Observations
World Food Program (WFP)	---	-Logistics, food distribution, food and nutrition security analysis, and school feeding - Comprehensive Food Security and Vulnerability Analysis and Nutrition Survey (CFSVA&NS)	The WFP supports most government programs in the area of Maternal, Infant and Young Child Nutrition (MIYCN), School Nutrition and Supplementary Feeding
World Health Organization (WHO)	---	- Guidance and advocacy on population dietary goals and evidence-informed policies and programs, monitoring and surveillance, etc.	WHO intervenes mainly to support Government's MIYCN, hygiene promotion and behavior change communication related programs
United Nations Children's Fund (UNICEF)	---	- Infant and Young Child Feeding, micronutrient fortification, nutrition security in emergencies, nutrition and HIV/AIDS, WASH, early childhood education, social protection	UNICEF intervenes mainly to support Government's MIYCN, hygiene promotion, household food security, and mindset change related programs.
Food and Agriculture Organization of the United Nations (FAO)	---	- Food security: increasing agricultural productivity, markets, consumption of nutritious and safe foods, reducing food losses, etc.	Most FAO interventions are in support of Government's household food security and nutrition-related programs.
International Fund for Agriculture Development (IFAD)		- Food security: increasing agricultural productivity and markets	IFAD supports the Government of Rwanda through MINAGRI in community watershed development plans and cash-crop development for export markets.
Other bilateral and multilateral development partners			
World Bank (WB)	---	Rural sector development through marshland rehabilitation and development and hillside development through land-husbandry programs	The WB supports the agriculture sector in many initiatives to tackle issues of food insecurity and rural communities' livelihoods and income through sustainable land development and crop production.
African Development Bank (AfDB)	---	Rural sector development through: (i) marshland development programs, (ii) livestock infrastructure development, and (iii) intensification of fish production and fisheries	The AfDB supports the agriculture sector in areas of land development for crop intensification, livestock intensification including support to the one cow per poor family program, and fish farming and fisheries
USAID	---	---	Intervenes mainly to support Government's priority programs in MIYCN, hygiene promotion, and household food security
CIDA	---	---	CIDA interventions support Government's initiatives in MIYCN and Supplementary Feeding.
GIZ	---	---	GIZ intervenes mainly to support Government's programs in MIYCN and Supplementary Feeding.
Civil society organizations: NGOs¹⁴			

¹⁴ Most NGOs operate at the district level through the JADF (Joint Action Development Forums).

Entity	Strategies ⁶	Key programs/action plans	Observations
International and national NGOs	--	--	<ul style="list-style-type: none"> -International NGOs such as FHI, IRC, WVI, CRS, CARITAS, CWR, CARE, CHF, PIH, PSI, etc. are active in Rwanda in the area of food security and nutrition. - There are also local NGOs that operate in the area of FS&N but with limited coverage and scope.
Independent research organizations			
International research and technology transfer organizations (e.g. CGIAR Centers- CIP, CYMIT, CIAT, IITA, AfricaRice, etc.; Harvest Plus, BMGF, Rockefeller Foundation, Clinton Development Initiative, etc.)			These research and philanthropic organizations support development and dissemination of biofortified crops (e.g. Orange Flesh Sweet Potato, Iron-reach Beans, Orange Maize, etc.)
Private sector operators			
Rwanda Private Sector Development Strategy (RPSDS)	- Commodity chains development	<ul style="list-style-type: none"> - In the RPSDS, there is a priority program for Entrepreneurship Development, with a focus on Commodity Chains Development - Private operators involved in FS&N aspects include large and SMEs agroprocessors (e.g. Inyange Industries Ltd, AZAM Industries, Sina Gerard Enterprises, MINIMEX, DUHAMIC ADRI, SHEMA Fruits, etc.), food produce traders, agro-input producers (e.g. seed companies, fertilizer distributors, etc.) - Currently the private sector in Rwanda is still more involved in the primary production part of value chain development. 	
Farmers' organizations			
Farmers' Unions and Cooperatives along commodity and food value chains (producers, traders, input dealers, farmer-based collection centers for various commodities, community-level agroprocessors, farmer field school facilitators, village-level farmer promoters, etc.)			These CBOs play an important role ensuring food security in nutrition in Rwanda since agriculture is still the main source of livelihood for more than 70% of Rwandan households.

Table 5: Programs and interventions in food security and nutrition in Rwanda

Stakeholder	Institution/Organization	HH food security programs					Hygiene promotion	MYICN programs			School nutrition programs				Elimination of micro-nutrients deficiency				BCC Campaigns	Suppl. Feeding programs			
		Crop intensification program (CIP)	Livestock Intensification program (LIP, including small stocks)	One cow per poor family program	Kitchen garden (including mushroom promotion)	Crop biofortification		IYCF practices	GMP and MUAC screening	Long lasting impregnated nets (LLINs)	School meals	School gardens	One cup of milk per child	Deworming campaigns	Home-based fortification	Vit .A supplements in U5	Vit. A supplements / post-natal care	Iron-folate supplements/ANC		SF to PLHIV	SF U5 with MAM SF to P/L women	SF to P/L women	
Government	MINAGRI	✓	✓	✓	✓	✓						✓											
	MoH						✓	✓	✓	✓			✓	✓	✓	✓					✓	✓	✓
	MINALOC	✓	✓	✓	✓		✓														✓		
	MIGEPROF				✓																✓		
	MINEDUC										✓	✓	✓	✓							✓		
MININFRA						✓														✓			
UN Agencies	UNICEF																						
	WHO						✓	✓	✓	✓				✓							✓		
	WFP							✓	✓		✓			✓							✓	✓	✓
	FAO	✓	✓		✓						✓										✓		
	IFAD	✓	✓	✓	✓																		
Multilateral /Bilateral Orgs	WB	✓																					
	AfDB	✓	✓	✓																			
	USAID				✓		✓	✓						✓	✓					✓	✓		✓
	GIZ						✓	✓													✓		✓
	CIDA						✓	✓													✓		✓
GMRC ¹⁵				✓		✓																	
Research Organization	Harvest Plus					✓																	
	CIAT					✓																	
	CIP					✓																	
	IRC				✓			✓	✓											✓			

¹⁵ Green Mountain Coffee Roasters.

Nongovernmental organizations (NGOs) ¹⁶	FHI				✓		✓	✓	✓						✓			✓			
	WRR				✓		✓	✓	✓	✓								✓			
	Care				✓		✓	✓	✓					✓							
	CARITAS				✓	✓		✓	✓	✓											
	GCR				✓		✓	✓										✓			
	CRS				✓		✓	✓	✓									✓	✓		✓
	WVI				✓		✓	✓	✓					✓							
	CWR				✓		✓	✓	✓	✓				✓			✓	✓		✓	
	SCR			✓	✓		✓														
	PIH				✓		✓	✓													
	PSI/SFH						✓	✓		✓								✓			
	GHI				✓		✓	✓													

¹⁶ IRC: International Rescue Committee, FHI: Family Health Initiative, WRR: World Relief Rwanda, GCR: Global Communities Rwanda, CRS: Catholic Relief Services, WVI: World Vision International, CWR: Concern Worldwide Rwanda, PIH: Partners in Health, PSI: Population Services International, SFH: Society for Family Health, GHI: Gardens for Health International.