



NUTRITION *in* CITY ECOSYSTEMS

January 2025

CITY OVERVIEW on food and nutrition



RWANDA

Rusizi City



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Basic facts

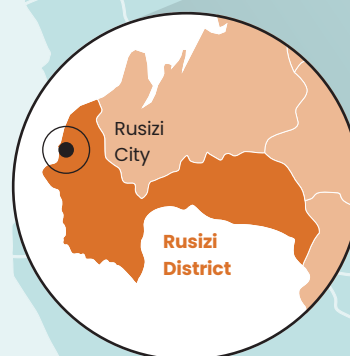
Rusizi City

Location

Rusizi City is located in the **Western Province of Rwanda**, bordering the Democratic Republic of Congo and Lake Kivu.

It is characterized by its **equatorial climate**, with an average temperature of **24°C** and an average annual rainfall ranging from **1,300 mm**. The fertile **volcanic soils** in Rusizi make it ideal for agricultural activities.

The district has both **urban and rural areas**, with urbanization mainly concentrated in sectors like Kamembe and Bugarama. It also benefits from its proximity to Lake Kivu, which facilitates trade and fishing activities.^{1,2}



Demographics

- **Population:**^{*}
485,529 people (Rusizi District)
→ 51.3% females
→ 48.7% males
of these 294,448 live in an urban setting
- **Density:** 871 people/km²
- **Average household size:** 4.5 people

* 2022 census

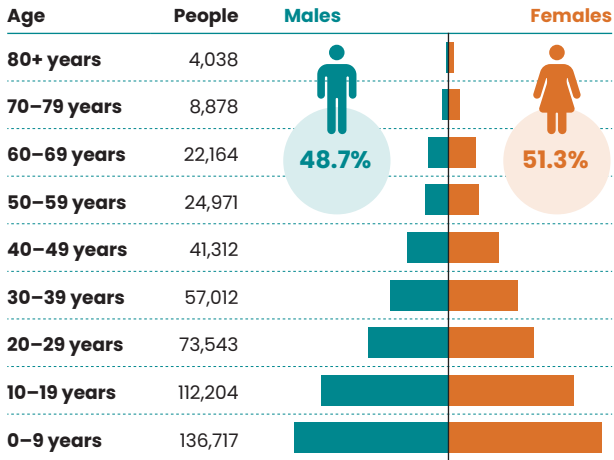
The district is predominantly rural, with **67%** of the population residing in **rural areas**, while **33%** live in **urban centers**. In 2019 approximately **70,000** were living in **Rusizi City** on **88 square kilometers**.^{2,3,4}

20% of households are **headed by females**. Rwanda ranked **39th** in 2024, which is a decline from its 12th place in the 2023 **Global Gender Gap Index**. This drop reflects some challenges in maintaining the high gender parity it previously achieved, particularly in areas like economic participation or political empowerment. Despite this, Rwanda remains a leader in **gender equality** in Africa.



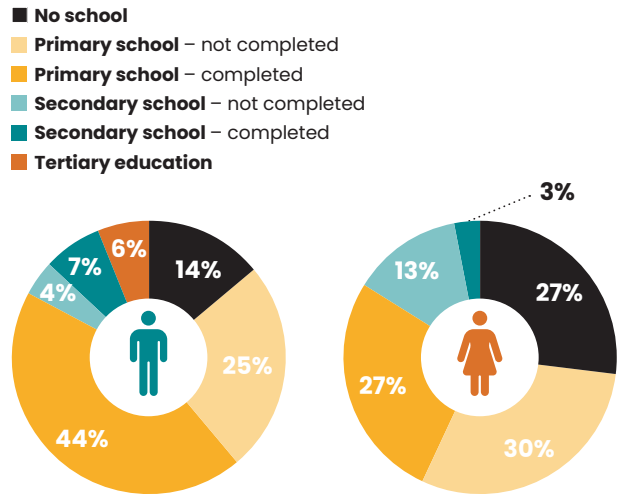
47% of the population is **under 17 years** old, highlighting a young demographic. Religious affiliations are mainly Christian, with **46% Catholics**, followed by **34% ADEPR members**.^{2,3,4}

Age distribution ⁵



C 2022

Household head education ³



Living conditions

Life in Rusizi can be challenging for many residents, particularly in rural areas. The poverty rate remains high, with about **38%** of the population living **below the poverty line**.

Access to **essential services** such as clean water, electricity, and sanitation is still limited in many parts of Rusizi. While **82%** of households use **improved water**

sources, coverage is uneven, with urban areas better served than rural regions.

Only **61%** of households are connected to the **electricity grid**, and about **56%** of households rely on **composting waste** at home as their primary waste disposal method.²



General health statistics

Health status

The **life expectancy** in Rusizi is **69 years**, with women generally living longer than men.⁶

Approximately **84%** of the population lives within 5 km of a **healthcare facility**. However, only **23%** of households have at least one member covered by **health insurance**, and access to health services remains a challenge for many, particularly in rural areas.

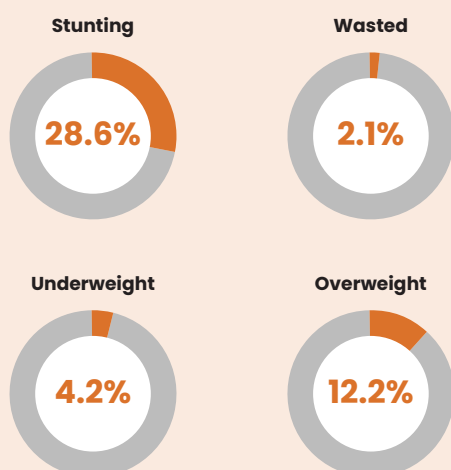
Rusizi does benefit from policies aimed at expanding access to **affordable healthcare services**, including government-supported health posts that offer basic services such as non-communicable disease (NCD) screenings and antenatal care, helping to reduce healthcare expenses for routine services. Nevertheless, the district faces a shortage of healthcare workers,

with only **12 healthcare workers** per 10,000 people.^{4,7,8}

In Rwanda, **NCDs** have now become an urgent public health concern, as they contribute to an estimated **40% of all deaths** as of 2021. The leading NCDs in Rwanda do not differ much from those in other East African countries: **cardiovascular diseases, cancer, diabetes, and chronic respiratory conditions**. Rwanda has undertaken specific initiatives concerning physical activity, reduction in tobacco use, and community awareness of risks related to NCDs. This approach complements the overall health sector goals in Rwanda to enhance population health and reduce socioeconomic burdens due to chronic diseases.⁶

Key facts^{6,7}

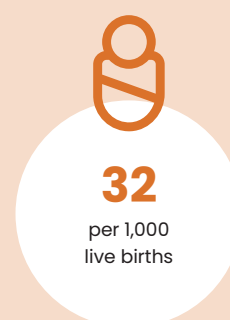
Health of children under 5 years (2022)



Maternal mortality



Infant mortality



Applying a systems approach to the Farm to Fork logic



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Production

Agriculture in Rusizi primarily revolves around **mixed farming**, with **74%** of farmers combining **crop and livestock farming**. **Maize (93%)** and **cassava (77%)** are the dominant crops, while legumes such as **soybean (21%)** and **peanuts (51%)** are also important. Livestock farming focuses mainly on **poultry (41%)** and **pigs (39%)**. Farmers in Rusizi largely rely on organic inputs for soil fertility management, widely using **compost (88%)** and **livestock manure (86%)** alongside synthetic fertilizers.

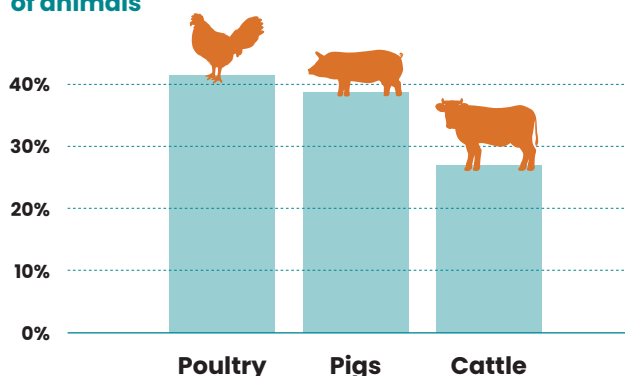
Despite the diversity of crops grown, the heavy reliance on a few **staple crops** limits dietary variety. Additionally, the majority of crops are consumed immediately, with little **post-harvest processing**.

The introduction of **crop and livestock loans** by Sacco, Tubura Program, Saving Group, and abafashamyumvire mu buhinzi have provided a safety net and promoted agricultural expansion for some smallholders.

In our **2021 household survey**, **15%** of farmers reported receiving an **agricultural loan** in the past year.

These initiatives offer hope and stability for the local farming community, potentially transforming the agricultural sector in Rusizi.^{4,9}

Household participation in the production of animals



Household participation in the production of crops

Seasonal crops ^a (Top 3)	% of households engaged in production
Maize	93%
Beans	62%
Peanuts	51%

Perennial crops ^b (Top 3)	% of households engaged in production
Cassava	77%
Avocado	49%
Banana	46%

Leguminous crops ^c (Top 3)	% of households engaged in production
Soya bean	21%
Bambara beans	18%
Cowpea	10%

a) **Seasonal crops** are plants that are cultivated and harvested during specific times of the year.

b) **Perennial crops** are plants that live for multiple years and produce crops year after year.

c) **Leguminous crops** are plants known for their ability to fix nitrogen in the soil, enhancing soil fertility.



Farming and agroecological practices

Rusizi exhibits a moderate adoption of agroecological practices, particularly in **soil fertility management**. **Crop rotation**, which enhances soil fertility and biodiversity, is the most common practice. Other approaches, like barriers and terraces for soil conservation or the integration of livestock, are less widespread.

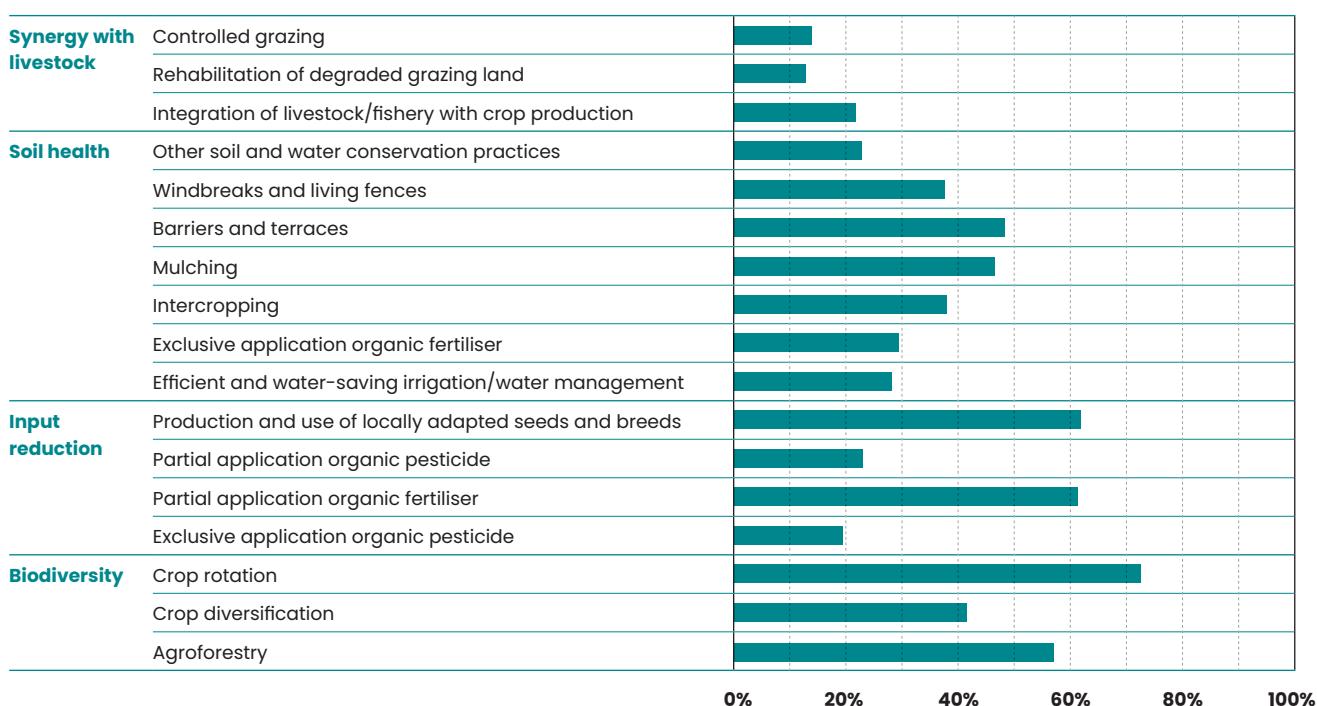
While **organic inputs** are prevalent, **synthetic pesticides** (84%) remain a dominant pest management technique, and exclusive application of organic pesticides or fertilizers remains low.

The common use of **locally adapted seed varieties** reflects a blend of traditional and modern farming practices.

Despite these efforts to implement **sustainable practices**, there is significant potential and opportunity to expand advanced agroecological techniques, enhancing sustainability, farm resilience, and food security in the region.⁹

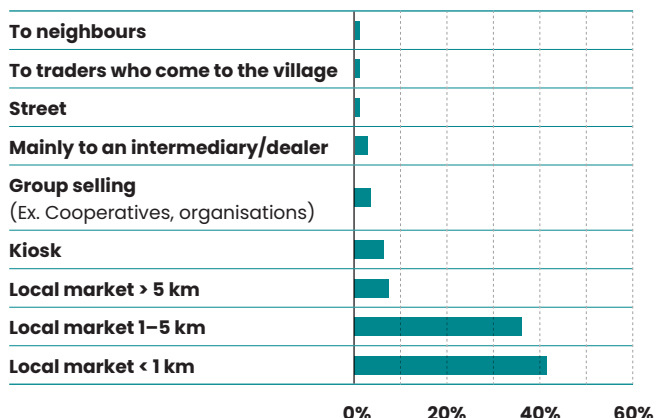


Agroecological practices



Selling locations

Most prominent selling channels/locations of farming output in Rusizi

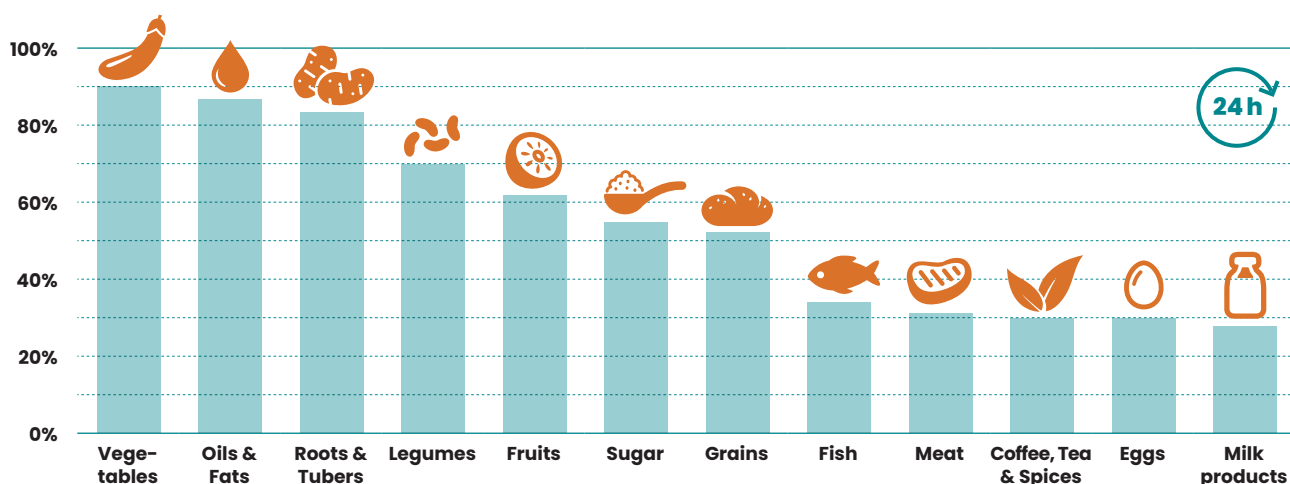


Most farmers sell their produce **locally**, with **41%** of farmers selling at markets **within a 1 km radius** of their homes. **Convenience** and **accessibility** are key factors in their choice of selling location, as transportation costs can be prohibitive. **Street selling** and selling through **intermediaries** are less common,

reflecting the underdevelopment of more formalized market structures. Local markets serve as the primary outlet, limiting farmers' ability to access larger, more profitable markets beyond their immediate surroundings.⁹

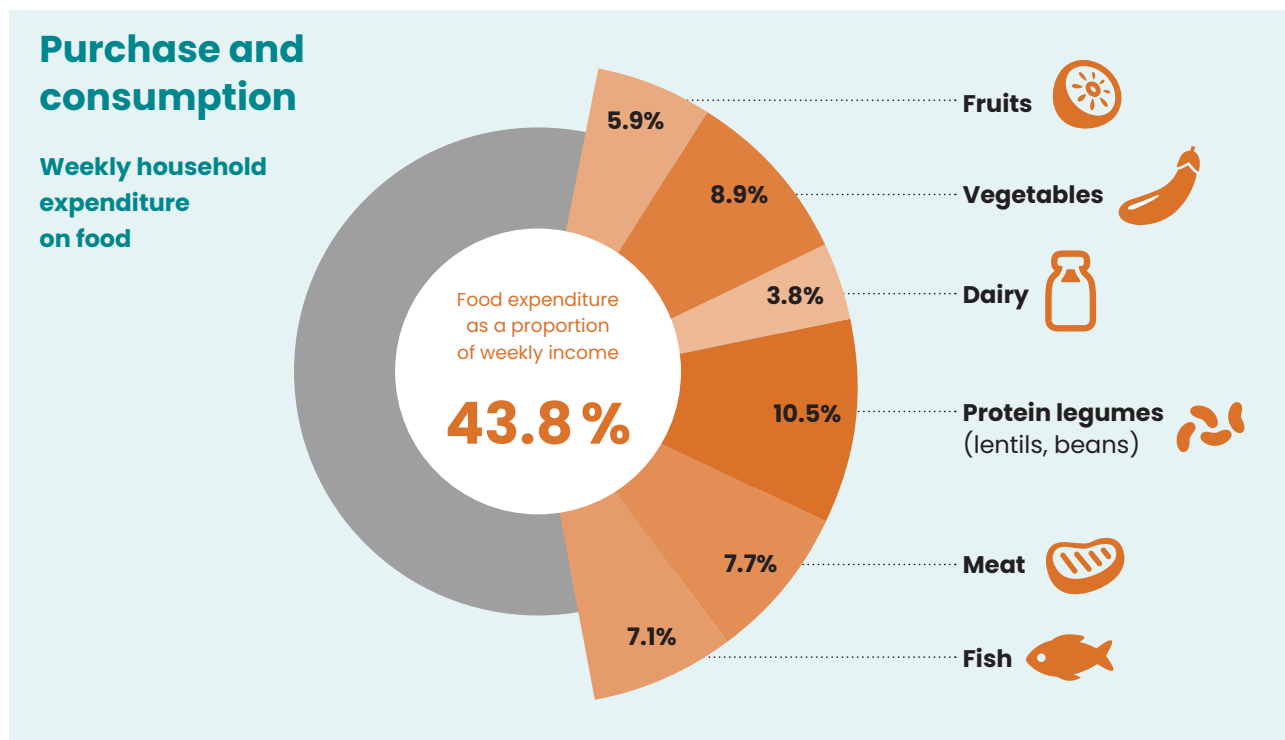
Food consumption

Respondents' household food consumption patterns in the 24 hours prior to the survey



Rusizi diets are primarily **plant-based**, with vegetables, roots and tubers, and legumes forming the core of most meals. **Animal products**, apart from poultry, are consumed less frequently, and processed foods are minimal. While reliance on **staple**

crops is important for food security, it restricts the diversity of food groups in the daily diet. Limited access to more varied foods, including animal proteins, affects **nutritional outcomes**, particularly for children and women of reproductive age.⁹



Women, youth, and other vulnerable groups

Women and youth in Rusizi play an essential role in the city’s food systems, particularly in **subsistence farming** and **small-scale livestock management**. They are also heavily involved in cross-border trading of fruits and vegetables, playing a pivotal role in **commodity transport** into the DRC, representing an estimated **74%** of total **cross-border traders**. Nevertheless, their role is often undervalued.

The **NICE project** highlights that while many agricultural decisions are made jointly within households, **women** tend to have more influence over

subsistence crops, small livestock management, and post-harvest processing.

Youth also show strong engagement in farming, with **79%** of **households** reporting that at least one young family member is interested in taking over farming activities, viewing agriculture as the backbone of the economy. The project emphasizes the need for enhancing opportunities for these vulnerable groups, especially in **value-adding activities**.^{9,10}

For more detailed insights into farming systems, please refer to the [Farmers Survey Report](#)



Nutritional challenges

Food production



Agriculture in Rusizi is most generally focused on staple food crops, particularly **maize**, grown by **93%** of the farming households, and **cassava** by **77%**. Although there is some crop variety, the focus on **staple crops** limits dietary diversity. In addition, livestock grown includes **poultry** at **41%** and **pigs** at **39%**, while a few households, only **3%**, **independently keep livestock**. **Productivity** and **resource efficiency** are further challenged by limited adoption of record-keeping and farm management practices, embraced by just **19%** of respondents. More importantly, inadequate post-harvest technologies limit the ability to **preserve** and **add value** to agricultural produce, reducing food security and income-generation opportunities.⁹

Climate effects



The **rain-dependent agriculture** makes Rusizi prone to changing climatic conditions, usually characterized by prolonged **dry seasons** and **erratic weather patterns**, though its soils are generally fertile. Besides, agricultural yields are affected by infestation, particularly by **fall armyworms**, affecting **67%** of the farming population. While the adoption of organic fertilizers like **compost** (**88%**) and **manure from livestock** (**86%**) is high, the adoption of climate-resilient practices like **crop rotation** and **soil fertility barriers** remains very limited. These challenges exacerbate the risks of food insecurity, particularly for smallholder farmers.⁹

Dietary diversity



The dietary pattern in Rusizi is mainly characterized by **plant foods**; within plant foods, the most consumed items were **vegetables, roots and tubers, and legumes**. The limited consumption of **animal products**, including meats and fishes – maybe due to economic constraints or cultural propensity – significantly lowers the average protein consumption. The high utilization of **maize** and **cassava** in the regional food system, coupled with a lack of dietary diversity in daily diets, contributes to nutritional deficiencies, especially in **micronutrients**. The **minimum dietary diversity score** among women of reproductive age was **4.1 out of 10**, while less than half consumed five or more food groups daily according to the baseline survey. This low diversity extends to the general population – the average household **dietary diversity score** was just **4.2**. The average **household composition** with an average size of **4.5** members, largely being young members, implies a greater need for diversified and nutritious diets for proper growth and development.^{4,9}



Trade



Proximity to local markets in Rusizi facilitates food trade, with 41% of households selling their produce within a **one-kilometer radius** of their homes. While this accessibility reduces transportation costs, it also limits the ability to reach further and perhaps more profitable markets. The trend toward **local markets** rather than regional or national ones would suggest potential constraints in transportation infrastructure or market linkages. Moreover, only 9% of respondents sell through **co-operatives** or other **collective selling arrangements**. In combination with poor post-harvest practices, these factors highlight opportunities for enhancing **income generation** and reducing **food loss**.⁹

Food insecurity



Food insecurity remains an issue in Rusizi, with households reporting only 4.8 out of 10 as the mean income score due to the severe economic challenges faced by numerous farming families. The **food expenditure** constitutes 44% of total income, a condition considered very expensive for a family, a burden even more pronounced in rural areas. Though farmers have relatively strong **social networks**, they are particularly vulnerable to income shocks, due to dependence on a narrow set of crops and livestock. Their reliance on **rain-fed agriculture** further heightens vulnerability, with households highly vulnerable in climate-induced crop failures. Insufficient diversification into other income sources and food production means that many families are still susceptible to **hunger** and **malnutrition** when agricultural yield is poor.⁹



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Policy environment



National

National Strategy for Transformation – NSTI (2017–2024)

The NSTI is the country's holistic development framework aimed at lifting the country into **middle-income status** by the year 2024. Under its **Social Transformation** pillar, it addresses **food security** and **nutrition** with the aim of reducing the prevalence of **stunting in children**, currently standing at **38%**, down to **19%**. Its approach is **multi-sectoral**, with interventions in **agriculture, health, and social protection** sectors aimed at managing malnutrition. Most importantly, in Rusizi, where food insecurity and malnutrition are vital agendas, NSTI focuses on the promotion of **nutrient-dense food production and consumption**, scaling up **nutrition-sensitive agricultural practices**, and access to **safe and healthy foods** for children, pregnant women, and lactating mothers.¹¹

Rwanda Food and Nutrition Security Policy

This policy, first introduced in 2014, aims to **eradicate malnutrition** and enhance **food security** through immediate interventions and sustainable long-term strategies. Its focus is on **behavioral change**, communication, adoption of **Food-Based Dietary Guidelines**, and encouragement of **local food production** to get diverse diets full of nutrients. In Rusizi, programs under this policy support the establishment of kitchen gardens, fortification of staple foods, and distribution of biofortified crops like orange-fleshed sweet potatoes and high-iron beans to combat **micronutrient deficiencies**.¹¹

Strategic Plan for Agriculture Transformation – PSTA5 (2024–2029)

The PSTA5 serves as Rwanda’s principal agricultural policy framework, focusing on transforming the agriculture sector into a **market-oriented, value-creating industry**. Key priorities include increasing **agricultural productivity**, promoting sustainable and resilient **agricultural practices**, and integrating smallholder farmers into **modern value chains**. In Rusizi, PSTA5 promotes agroecological practices, crop diversification, and smallholder farmer integration. These efforts align with local initiatives that focus on increasing the **production of nutrient-dense foods**, including vegetables, fruits, and animal products, along with improving **food security** and **nutrition outcomes**.¹¹

Rwanda Climate-Smart Agriculture Program (2018–2030)

This national program aims to enhance the resilience of Rwanda’s agriculture sector to climate change while improving **food security** and **livelihoods**. It promotes the adoption of **climate-smart agricultural practices** such as the use of drought-resistant crop varieties, water-efficient irrigation systems, and sustainable land management techniques. In Rusizi District, the program supports **farmers** in adapting to changing weather patterns by providing training and resources to implement these practices, ensuring sustained food production and improved nutrition.¹¹

Rwandan Food Fortification Program

The Food Fortification Policy introduced in 2014 demands the addition of **vital micro-nutrients** to staple foods that are widely consumed, considering the widespread micronutrient deficiencies in combating efforts. In Rusizi, this policy has been able to ensure that staple foods like maize flour and cooking oil are fortified with vitamins and minerals such as **vitamin A, iron, and zinc**. The program enhances the nutritional intake among the vulnerable groups in both **children** and **women of child-bearing age** considerably, hence reducing incidences of **health complications** arising from such.¹¹

Rwanda National Early Childhood Development (ECD) Policy

This policy, first implemented in 2016, promotes **all-round development** of children under the age of six years, focusing a great deal on their **health and nutrition**. The policy supports ECD programs that provide a **nutritious diet**, as well as **nutritional counseling** for parents and guardians. The policy was helpful in integrating nutrition into **early childhood education** and **care programs** in Rusizi, which has high child malnutrition rates. The ECD centers emphasize a **balanced diet** for the children, with most of the nutritious foods used in the centers sourced from **local agriculture**.¹¹

National School Feeding Program

Aiming to improve children’s **nutrition** and **educational outcomes**, Rwanda’s National School Feeding Program, implemented in 2021, provides **healthy meals** at schools nationwide. In Rusizi, the program emphasizes sourcing food **locally**, strengthening connections between **smallholder farmers** and **schools**. This approach ensures that children receive diverse, nutrient-dense meals while supporting the local economy and promoting **sustainable agricultural practices**.¹¹



District

District Plans to Eliminate Malnutrition (DPEM)

Each district in Rwanda, including Rusizi, has designed a DPEM in 2018 to handle **malnutrition** through coordinated, multi-sectoral interventions. Rusizi's DPEM also emphasizes the development of **kitchen gardens**, enhancing **maternal and child nutritional status**, and provision of a **balanced diet** at Early Childhood Development Centers. **Local agricultural productions** are within the breadth of the plan, which also integrates **nutrition education** into community programs – a direct impact on the **food security** and nutrition situation in the district.¹¹

Rusizi District Development Plan (2018–2024)

The Rusizi District Development Plan addresses national policies toward the development of **sustainable agriculture** that ensures **food security** and better **health** through the enhancement of climate-smart agricultural practices. It emphasizes **efficient water management** and **local food systems** that connect rural producers to urban markets. This policy will play a key role in building resilient food systems capable of withstanding **climatic shocks** and ensuring continued access to **nutritious food** for the district's population.¹¹

Rusizi Agroforestry and Sustainable Land Use Program

This is a local program introduced in 2022, geared toward **sustainable land management** and **agroforestry** for the improvement of soil health and biodiversity. By encouraging farmers to grow **indigenous trees** alongside their crops, the program increases **food security** and **diversifies diets** in Rusizi District. It contributes to the national climate change policies on land restoration and conservation agriculture practices by enhancing not only **environmental sustainability** but also improving **nutrition**.¹¹

Final notes



Limitations

Despite the involvement of local city officials and the use of data generated by the NICE project, there remains a dearth of information that is focused solely on Rusizi City within the larger administrative unit. In cases where city-level data was unavailable, urban data from the broader administrative area or national data has been used as a reference.

Acknowledgments

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Further information is available on the **NICE webpage:**

nice-nutrition.ch