



# **Transforming the Countryside: Policy Pathways and Innovation for Rural Development in Rwanda**

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# Rural Development in Rwanda: Pathways, Progress, and Policy Imperatives

## Abstract

Rural development is a cornerstone of Rwanda's socio-economic transformation agenda, particularly given the nation's predominantly agrarian demographics. This paper critically examines the strategies, achievements, and challenges of rural development in Rwanda, contextualized within Vision 2050, the National Strategy for Transformation (NST1), and global sustainable development goals (SDGs). Using a mixed-methods approach, the study synthesizes secondary data, policy analyses, and stakeholder insights to evaluate key sectors—agriculture, infrastructure, education, and healthcare—in rural regions. Findings highlight significant progress in poverty reduction and social inclusion, yet underscore persistent disparities in access to markets, digital connectivity, and environmental resilience. The paper concludes with actionable recommendations for advancing rural prosperity through participatory governance, climate-smart agriculture, and inclusive financial systems.

**Keywords:** rural development, Rwanda, Vision 2050, agriculture, inclusive growth, sustainable development

## 1. Introduction

Rural development remains a critical domain in Rwanda's broader development trajectory. As a landlocked and densely populated country, with over 70% of its population residing in rural areas (National Institute of Statistics of Rwanda [NISR], 2022), the imperative to address rural poverty, land scarcity, and low productivity is foundational to national stability and economic growth. The Government of Rwanda (GoR) has committed to transforming rural livelihoods through a series of policy frameworks including the Vision 2050 blueprint, the Economic Development and Poverty Reduction Strategy (EDPRS I & II), and the National Strategy for Transformation (NST1, 2017–2024).

The present study investigates the evolution of rural development initiatives in Rwanda by exploring how these strategies have been implemented, what impacts they have produced, and which gaps persist. The paper adopts a multidisciplinary lens that integrates perspectives from agricultural economics, development policy, gender studies, and environmental science.

## 2. Conceptual Framework and Theoretical Underpinnings

Rural development is defined here as a multifaceted process aimed at improving the quality of life and economic well-being of people living in relatively isolated and sparsely populated areas (Ellis & Biggs, 2001). It encompasses not only improvements in agriculture and infrastructure but also social equity, access to education, healthcare, and environmental sustainability. This paper is grounded

in the Sustainable Livelihoods Framework (SLF), which emphasizes five core asset bases: human, natural, physical, financial, and social capital (Scoones, 1998).

In Rwanda, the SLF is evident in programs like the Girinka “One Cow per Poor Family” initiative, land use consolidation (LUC), and the Local Administrative Entities Development Agency (LODA) efforts to decentralize decision-making. These strategies aim to simultaneously build household resilience and institutional capacity.

Furthermore, the paper draws upon Amartya Sen’s (1999) capabilities approach, which posits that development should be assessed by the expansion of people’s real freedoms—their substantive opportunities to lead lives they value. In rural Rwanda, this translates into empowering citizens with education, health services, access to information, and functional markets.

### **3. Methodology**

This study employed a qualitative-dominant mixed-methods approach to analyze rural development trends and policies in Rwanda. Secondary data sources—including government reports, academic articles, and policy documents—were systematically reviewed. Key databases included the Rwanda Governance Board (RGB), National Institute of Statistics of Rwanda (NISR), World Bank, and peer-reviewed journal repositories such as JSTOR and ScienceDirect.

A purposive sampling strategy guided a qualitative review of 25 key policy and programmatic documents related to rural development from 2000 to 2024. These included the Vision 2020 and Vision 2050 frameworks, the National Strategy for Transformation (NST1), and sectoral policies from the Ministry of Agriculture and Animal Resources (MINAGRI), the Ministry of Local Government (MINALOC), and Rwanda’s Environment Management Authority (REMA).

Additionally, this study incorporates illustrative case studies and program evaluations from national and donor-funded rural initiatives, such as the Girinka program, Rwanda’s crop intensification program, and the Rural Feeder Roads Project. Descriptive statistics were drawn from official national surveys (e.g., EICV5) to contextualize qualitative insights.

## **4. Historical and Policy Context of Rural Development in Rwanda**

### ***4.1. Post-Genocide Reconstruction and Early Rural Policy (1994–2000)***

Following the 1994 genocide against the Tutsi, Rwanda faced immense institutional, demographic, and infrastructural challenges. More than 90% of the population lived in rural areas, with subsistence agriculture contributing over 40% to GDP but marked by inefficiencies and low productivity (World Bank, 2001). Early rural development policies focused on stabilization, land redistribution, and food security through emergency relief and rehabilitation.

During this phase, the GoR began to lay the foundation for a decentralized governance system, recognizing the importance of local participation in rural planning and service delivery. Initiatives such as *Ubudehe*, a community-based participatory planning method, were introduced to target the poorest households and align local priorities with national objectives (Ansoms, 2008).

#### **4.2. Vision 2020 and Economic Development and Poverty Reduction Strategies**

Launched in 2000, **Vision 2020** set out Rwanda's ambition to transition from a low-income to a middle-income country by reducing poverty, transforming agriculture, and expanding rural infrastructure (Republic of Rwanda, 2000). Its implementation was operationalized through EDPRS I (2008–2012) and EDPRS II (2013–2018), which emphasized inclusive growth, rural access to services, and improved governance.

Key milestones during this era include the launch of the Crop Intensification Program (CIP) in 2007 and the consolidation of land use policies through the Land Tenure Regularization program. Electrification and water access programs also expanded under the auspices of EDPRS II.

#### **4.3. Vision 2050 and the National Strategy for Transformation (NST1)**

Building upon the Vision 2020 outcomes, **Vision 2050** (adopted in 2020) envisions a high-income, knowledge-based economy with equitable development. Rural transformation is one of its five pillars. The **NST1 (2017–2024)** serves as the implementation tool for the first phase of Vision 2050, committing to reducing poverty to below 10% and increasing rural household income through productivity, innovation, and financial inclusion (MINALOC, 2020).

NST1 emphasizes strategic investments in rural roads, access to renewable energy, modern irrigation systems, agro-processing hubs, and rural digitization. The Local Economic Development (LED) model has been central to enabling districts to plan and implement location-specific development strategies.

### **5. Key Dimensions of Rural Development in Rwanda**

#### **5.1 Agriculture and Food Security**

Agriculture remains the backbone of Rwanda's rural economy, employing over 70% of the workforce and contributing approximately 25% of GDP (NISR, 2022). Rural development efforts have thus heavily concentrated on modernizing agriculture through a suite of interventions.

One of the flagship programs, the **Crop Intensification Program (CIP)**, launched in 2007, aims to increase productivity through the use of improved seeds, fertilizers, and land use consolidation. By 2021, the program had reached

over 1.5 million farmers, increasing yields for staple crops such as maize, rice, and beans (MINAGRI, 2021). However, challenges remain, particularly in relation to soil degradation, overdependence on rain-fed agriculture, and limited access to agricultural finance (Mutabazi et al., 2017).

In parallel, Rwanda's **Post-Harvest Handling and Storage (PHHS)** initiatives have improved food security and reduced losses. Despite these gains, household-level food insecurity persists in drought-prone districts, suggesting a need for more climate-resilient agricultural strategies, including small-scale irrigation, agroforestry, and crop diversification (REMA, 2020).

## **5.2 Infrastructure and Connectivity**

Rural infrastructure development has accelerated in the past two decades, with road access, electricity, and water considered fundamental enablers of rural development. The **Rural Feeder Roads Program**, supported by international donors such as the World Bank and the African Development Bank, has rehabilitated over 3,000 km of rural roads since 2012, enhancing farmers' access to markets (World Bank, 2022).

As of 2023, Rwanda had achieved over 60% rural electricity coverage under the **National Electrification Plan**, with additional off-grid solutions reaching remote households via solar mini-grids and home systems (REG, 2023). Clean water access has also improved, though inequalities persist, especially in hilly and remote terrains.

Despite progress, maintenance of infrastructure remains a challenge, often due to limited local government capacity and lack of sustainable financing mechanisms. The integration of digital connectivity through broadband expansion remains a strategic priority under the Smart Rwanda Master Plan, yet digital literacy gaps threaten to limit its inclusivity (RURA, 2023).

## **5.3 Education and Human Capital**

Education reforms have focused on universal access and improving rural quality. The **Nine Years Basic Education (9YBE)** and later the **Twelve Years Basic Education (12YBE)** programs have expanded enrollment rates, especially for girls and rural children. School infrastructure development, recruitment of teachers, and provision of textbooks have been prioritized.

Yet, rural schools still face high pupil–teacher ratios, inadequate facilities, and limited secondary school transition rates (MINEDUC, 2022). Technical and Vocational Education and Training (TVET) expansion in rural areas has offered pathways to employment, particularly in agro-processing, construction, and renewable energy sectors. However, the mismatch between TVET curricula and local labor market demands has been noted (Nuwamanya & Bizimana, 2021).

Human capital development is also affected by early childhood nutrition and health—underscoring the interconnectedness of rural education and social protection sectors.

#### **5.4 Healthcare and Social Protection**

Rwanda's health system has achieved remarkable rural outreach. The **Mutuelles de Santé** (Community-Based Health Insurance) program has reached over 80% of rural households, offering basic healthcare at subsidized costs (WHO, 2021). Health posts, mobile clinics, and the national CHW (Community Health Worker) program have strengthened preventive and maternal health services.

Stunting rates among rural children under five, while declining, remain a concern at approximately 33% (NISR, 2022), indicating persistent nutritional deficits. Integrated rural health initiatives—such as the *One Health* approach—have sought to link human, animal, and environmental health, particularly in agro-pastoral communities.

Social protection programs, notably the **Vision 2020 Umurenge Programme (VUP)**, have targeted the ultra-poor in rural areas through public works, direct support, and financial inclusion schemes. VUP beneficiaries have reported increased household assets and improved food consumption scores (UNDP, 2020). However, targeting inefficiencies and budget constraints limit coverage.

#### **5.5 Environment and Climate Resilience**

Environmental sustainability is increasingly central to Rwanda's rural development model. Rural communities are highly vulnerable to climate shocks such as droughts, floods, and landslides. In response, the government has launched the **Green Gicumbi Project** and **FONERWA (Green Fund)** to promote afforestation, soil conservation, and climate-smart agriculture.

Land degradation, caused by steep topography and deforestation, is a major constraint on rural livelihoods. Integrated Watershed Management and terracing projects have been implemented in many rural districts, yet require consistent community engagement and technical support to succeed.

Renewable energy integration in rural settings is also aligned with Rwanda's Nationally Determined Contributions (NDCs) under the Paris Agreement, with solar irrigation and clean cooking stoves gaining traction.

## 6. Challenges and Limitations in Rural Development

Despite commendable achievements over the past two decades, Rwanda's rural development trajectory faces a constellation of challenges that limit the full realization of inclusive and sustainable growth. These challenges span economic, institutional, environmental, and socio-cultural domains.

### 6.1. Land Fragmentation and Tenure Insecurity

One of the most pressing constraints is **land fragmentation**, resulting from population pressure and intergenerational inheritance practices. The average farm size in Rwanda is less than 0.6 hectares, often split into multiple plots (Bizimana, Nieuwoudt, & Ferrer, 2004). While the **Land Tenure Regularization Program** (LTRP) improved formal ownership and registration, issues persist regarding land use disputes, especially in polygamous or inter-family contexts.

Moreover, land scarcity inhibits mechanization, limits economies of scale, and constrains productivity improvements. Women, despite policy protections, still face practical barriers in exercising land rights due to socio-cultural norms and weak enforcement mechanisms (Mutabazi et al., 2020).

### 6.2. Financial Exclusion and Limited Rural Credit

Access to finance remains low among rural populations. According to the **FinScope Rwanda Survey (2020)**, only 23% of rural adults had access to formal credit. Many smallholder farmers lack collateral, credit histories, or the financial literacy required to engage with formal banks or microfinance institutions.

While savings groups and SACCOs (Savings and Credit Cooperatives) have expanded, their impact is uneven across districts and often constrained by limited capital bases and managerial inefficiencies. The absence of tailored rural financial products, such as weather-indexed insurance or long-term agricultural loans, hampers rural enterprise development and adaptive capacity.

### 6.3. Capacity Constraints in Local Governance

Rwanda's decentralization model has empowered local governments to lead rural development planning. However, **limited institutional capacity at the district and sector levels** impedes effective program implementation, monitoring, and accountability (RGB, 2021). Staffing shortages, skills gaps, and over-reliance on central government transfers affect responsiveness and innovation in rural service delivery.

Moreover, performance contracts (*Imihigo*), while useful for tracking targets, may incentivize over-reporting or underemphasize qualitative aspects such as community empowerment or social cohesion (Chemouni, 2014).

#### **6.4. Climate Vulnerability and Environmental Stress**

Rural livelihoods in Rwanda are highly sensitive to **climate variability**, including erratic rainfall, temperature increases, and natural disasters. These risks are exacerbated by unsustainable land use, overgrazing, and deforestation. According to Rwanda's **Environment Outlook Report** (REMA, 2020), over 40% of agricultural land is degraded, and nearly 80% of rural households use biomass for cooking, contributing to deforestation and health hazards.

While climate-smart agriculture and renewable energy solutions are being piloted, scalability is hindered by high upfront costs, limited technical know-how, and weak extension services.

#### **6.5. Youth Unemployment and Rural–Urban Migration**

Rural areas face a demographic bulge of unemployed or underemployed youth. The promise of urban employment and the allure of modern lifestyles continue to drive rural–urban migration, creating imbalances in rural labor markets and contributing to the “feminization of agriculture” (Diao et al., 2017). Yet, urban labor absorption is limited, and many migrating youth end up in informal sectors.

Insufficient investment in **rural-based industrialization**, youth-focused agribusiness incubation, and digital literacy training reduces opportunities for young people to find dignified livelihoods within their communities.

#### **6.6. Data Gaps and Monitoring Limitations**

Finally, the lack of granular, up-to-date data on rural socio-economic indicators limits the design and targeting of development interventions. While national surveys such as EICV and DHS provide valuable insights, more frequent and localized data is needed to tailor programs, especially in remote or historically underserved districts.

### **7. Emerging Opportunities and Innovations**

One of the most promising frontiers is the rise of **digital agriculture platforms** that enable farmers to access market prices, weather forecasts, extension advice, and digital payments. The **Smart Nkunganire System (SNS)**, an electronic subsidy distribution platform for agro-inputs, is already operational and has significantly improved transparency and efficiency in voucher delivery (MINAGRI, 2022).

Private startups like **AgriGO**, **AgroMarketDay**, and **YebooFarm** are also providing mobile-based solutions for supply chain visibility, crop disease



diagnostics, and access to buyers. These digital tools, when integrated into local cooperatives and farmer field schools, can bridge information gaps and enhance productivity.

## ***7.2. Green Energy and Climate-Smart Technologies***

The expansion of **off-grid renewable energy** systems is transforming rural energy access. Rwanda's goal of achieving 100% electrification by 2024 is driven in part by **solar mini-grids**, solar-powered irrigation, and clean cooking initiatives. Programs like **SustainSolar** and **BBOX** are deploying pay-as-you-go (PAYG) solar kits to off-grid households, empowering them with lighting, refrigeration, and connectivity.

In agriculture, the adoption of **climate-smart innovations** such as drought-tolerant seed varieties, drip irrigation, and biofertilizers is gaining traction. These technologies align with Rwanda's updated **Nationally Determined Contributions (NDCs)** under the Paris Agreement and the **Green Growth and Climate Resilience Strategy** (REMA, 2023).

## ***7.3. Inclusive Financial Innovations***

The proliferation of **mobile money platforms** such as **MTN Mobile Money** and **Airtel Money** has revolutionized financial inclusion. As of 2023, over 85% of Rwandan adults had access to mobile money services (BNR, 2023). This has enabled rural households to save, borrow, and receive payments remotely—facilitating remittances, social protection transfers, and agricultural payments.

New models such as **digital savings groups**, mobile-based micro-insurance, and blockchain-enabled land titling are also being piloted to improve trust, reduce transaction costs, and expand access to rural finance.

## ***7.4. Youth and Women-Centered Entrepreneurship Hubs***

Rwanda's rural youth and women are increasingly engaged through **incubation hubs**, **agribusiness accelerators**, and **cooperative support programs**. Initiatives such as the **YouthConnekt Empowerment Fund**, **Women in Agribusiness Program**, and **Hanga Ahazaza (Create the Future)** are building skills in ICT, agro-processing, and eco-tourism for rural employment.

Additionally, innovations in packaging, branding, and export certification (e.g., for coffee, honey, or chili peppers) are helping rural entrepreneurs access premium markets.

## ***7.5. Local Economic Development (LED) and Decentralized Innovation***

Under Rwanda's **Local Economic Development (LED)** framework, districts are empowered to identify and invest in niche value chains and tourism assets. Some rural districts have launched **community-led eco-tourism**, **artisan**

**cooperatives, or fruit drying and juice extraction centers**, attracting public–private partnerships.

LED approaches not only localize economic planning but foster ownership and sustainability. District Innovation Hubs—supported by MINALOC and the UNDP—have begun piloting bottom-up planning, participatory budgeting, and digital governance tools to enhance responsiveness and citizen engagement (UNDP, 2023).

## **8. Policy Recommendations**

To consolidate the gains of rural development and address persistent inequalities, Rwanda’s policy direction must continue evolving in alignment with inclusive, climate-resilient, and knowledge-based paradigms. The following recommendations emerge from the evidence reviewed and reflect both sector-specific and cross-cutting priorities.

### ***8.1. Promote Integrated Land Use and Climate-Smart Agriculture***

Land fragmentation and climate risks necessitate a more holistic land management approach. The government should:

- Expand **land consolidation schemes** with farmer participation to protect ownership rights and reduce tenure disputes.
- Mainstream **climate-smart agriculture** into local development plans, including soil fertility restoration, agroforestry, and low-cost irrigation.
- Scale **agroecological zoning** to guide crop selection and investment in line with regional soil, rainfall, and market conditions.

### ***8.2. Deepen Rural Financial Inclusion through Innovation and Regulation***

Expanding access to finance is critical for rural entrepreneurship and risk mitigation. Recommended actions include:

- Support the development of **agricultural insurance products**, including index-based insurance bundled with mobile platforms.
- Strengthen SACCOs through digitalization, audit reforms, and capacity-building in financial management.
- Expand **credit guarantee schemes** for youth and women-led enterprises in rural sectors, especially agribusiness and eco-tourism.

### ***8.3. Strengthen Decentralized Planning and Local Government Capacity***

Decentralization must be reinforced with real decision-making authority and operational resources. The following are vital:

- Institutionalize **performance-based grants** that reward innovation, transparency, and impact at district levels.

- Invest in the **professional development of district-level staff**, including planners, agricultural officers, and community development agents.
- Enhance **participatory planning mechanisms** (e.g., *Imihigo* dialogues, citizen scorecards) to ensure that rural voices shape priorities.

#### ***8.4. Expand Digital Infrastructure and Inclusive Rural Connectivity***

To avoid a digital divide, investments should focus on:

- Extending **broadband and mobile coverage** to underserved rural regions using public-private partnerships.
- Supporting **digital literacy campaigns** through schools, cooperatives, and faith-based institutions.
- Developing **open-source digital platforms** for agricultural extension, e-commerce, and local government services.

#### ***8.5. Prioritize Youth Employment and Rural Industrialization***

Youth-centered development can curb rural–urban migration and stimulate localized growth:

- Launch **agribusiness incubators** at district level, with mentorship, access to capital, and market linkages.
- Support the development of **rural processing zones** (e.g., for cassava, maize, fruits) equipped with reliable energy and logistics.
- Integrate **TVET programs** with real-time labor market data and private sector partnerships to improve relevance and uptake.

#### ***8.6. Enhance Environmental Stewardship and Resilience Building***

To secure rural livelihoods against environmental shocks:

- Promote **community-based natural resource management** and environmental monitoring systems.
- Provide **incentives for green technologies**, such as subsidies for clean cookstoves, solar water pumps, and composting toilets.
- Align local adaptation strategies with Rwanda’s **Green Growth and Climate Resilience Strategy** and **NDC targets**, ensuring coherence across sectors.

#### ***8.7. Improve Data Systems and Evidence-Based Policymaking***

Reliable data is foundational for inclusive rural development. The government should:

- Invest in **real-time data collection** systems at district and cell levels, disaggregated by gender, age, and geography.

- Encourage **partnerships with research institutions** to conduct longitudinal studies on the impact of rural policies.
- Build **feedback loops** between data, policy design, and community engagement to ensure adaptive learning and accountability.

## 9. Conclusion

Rwanda's rural development journey is a remarkable narrative of post-conflict reconstruction, visionary leadership, and evidence-based policy implementation. From the aftermath of the 1994 genocide to the current aspirations articulated in **Vision 2050**, the country has made substantial strides in transforming its rural economy and society. Strategic interventions in agriculture, infrastructure, healthcare, education, and local governance have contributed to poverty reduction, social equity, and community empowerment.

Yet, this progress coexists with enduring challenges—land fragmentation, climate vulnerability, youth unemployment, and uneven access to finance and services. These constraints underscore the need for **more integrated, inclusive, and adaptive development models** that center rural people not merely as beneficiaries, but as co-creators of transformation.

The emergence of **digital platforms, green technologies, and local innovation ecosystems** offers promising pathways to leapfrog traditional development bottlenecks. Moreover, the expanding roles of youth and women in rural enterprise, governance, and climate action represent untapped assets for accelerated development.

As Rwanda advances into the second phase of its transformation strategy, the imperative is not only to maintain momentum but to **deepen quality, inclusiveness, and resilience** in rural development. This will require sustained political will, strategic partnerships, investment in data and institutional capacity, and a continuous feedback loop between policy, practice, and local realities.

By aligning national strategies with global goals—particularly the **Sustainable Development Goals (SDGs)**—Rwanda can position its rural areas not as peripheries of progress, but as dynamic engines of innovation, sustainability, and human dignity. The country's experience offers vital lessons for other nations in Africa and beyond that seek to build cohesive, equitable, and forward-looking rural futures.

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