

Economic Development and Human Security: Evidence from Muhanga District, Rwanda

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Abstract

Economic development is widely recognized as a key engine of human security by improving livelihoods, access to essential services, and resilience to socio-economic vulnerabilities. However, limited empirical evidence exists at the district level in Rwanda on this relationship. This research explored the relationship between economic development and human security in Muhanga District, Rwanda. A cross-sectional survey design was used with 402 household respondents. Data collection was carried out using structured questionnaires measuring economic development (access to water, electricity, soil conservation, agricultural services, social cohesion, food security, and welfare) and human security (food, economic, personal, community, health, and environmental security). Data were analyzed using SPSS version 27 through descriptive statistics, Pearson correlation, and simple linear regression. Respondents reported positive perceptions of economic development ($M = 3.95$) and human security ($M = 3.96$). A strong positive relationship was found ($r = .741$, $p < .001$), and economic development significantly predicted human security ($\beta = .741$, $R^2 = .549$). Economic development significantly enhances human security in Muhanga District, with infrastructure, agriculture, and service access playing central roles.

Keywords: *Economic development; Human security; Muhanga District; Rwanda; Household welfare.*

INTRODUCTION

Economic development has long been considered a central pathway toward improving human welfare and reducing deprivation across societies. Conventional development thinking traditionally emphasized economic growth as the primary indicator of progress, assuming that increases in national income would automatically translate into improved living standards and reduced vulnerability among populations (Conable & Olsson, 2024). However, this growth-centric approach has been widely critiqued for failing to adequately capture the multidimensional nature of human well-being, particularly in developing countries where inequalities and structural vulnerabilities persist despite macroeconomic gains (Stiglitz, 2015). As a result, development discourse has progressively shifted toward a human-centered approach that emphasizes human security as both an outcome and a guiding framework of development processes. Human security, as outlined in the United Nations Development Programme (UNDP) Human Development Report, broadens the concept of security beyond military concerns to include economic, food, health, environmental, personal, community, and political aspects of people's lives (Ayor et al., 2023). This broadened perspective recognizes that individuals can only be considered secure when they are free from chronic threats such as poverty, hunger, disease, unemployment, and environmental degradation (Hameed et al., 2025). From this standpoint, economic development is not merely an end in itself but a critical instrument for expanding human capabilities and reducing vulnerability to multiple risks that affect daily life.

Despite global recognition of the human security paradigm, empirical evidence shows that the relationship between economic development and human security is neither automatic nor uniformly distributed. In many developing countries, economic growth coexists with persistent poverty, inequality, and insecurity, suggesting that growth alone is insufficient to guarantee improved human outcomes (Khandre, 2024). This paradox has been particularly evident in sub-Saharan Africa, where several economies have recorded steady growth rates over the past two decades, yet large segments of the population continue to experience

multidimensional deprivation, especially in rural and peri-urban areas (Atangana, 2022). Rwanda provides a compelling context for examining this relationship due to its remarkable post-conflict reconstruction and economic transformation. Since the 1994 genocide against the Tutsi, the country has made significant progress in rebuilding institutions, stabilizing governance, and promoting socio-economic development. National development frameworks such as Vision 2020 and Vision 2050 have prioritized poverty reduction, infrastructure development, and human capital investment as key pillars of transformation (Republic of Rwanda, 2020). These policies have contributed to sustained economic growth and improved national indicators in health, education, and service delivery. However, questions remain regarding the extent to which these macro-level achievements have translated into inclusive human security outcomes at the local level.

While national statistics indicate improvements in poverty reduction and service access, disparities between urban and rural populations continue to be a significant concern (Bird et al., 2026). Rural districts, where the majority of the population resides, often face structural challenges such as limited livelihood diversification, dependence on rain-fed agriculture, land scarcity, and exposure to environmental shocks (Nyamamu et al., 2025). These factors contribute to persistent economic insecurity and vulnerability, despite broader national progress. Consequently, understanding how economic development influences human security at the district level becomes essential for assessing the inclusiveness and sustainability of Rwanda's development trajectory. Muhanga District, located in Rwanda's Southern Province, represents an important case for analyzing this relationship. The district has experienced gradual socio-economic transformation driven by national decentralization policies, infrastructure expansion, and social protection programs. Improvements in road networks, education facilities, health services, and electrification have contributed to local development outcomes (Ezeudu & Fadeyi, 2024). Nevertheless, many households in Muhanga continue to rely on subsistence agriculture and informal economic activities, which exposes them to income instability and vulnerability to external shocks (Nkurunziza et al., 2025). This dual reality of development progress and persistent insecurity makes Muhanga a relevant empirical setting for exploring how economic development translates into human security at the community level. Theoretically, the relationship between economic development and human security can be understood through multiple lenses. The classical economic growth theory suggests that increased economic output leads to job creation, higher incomes, and improved public service provision, thereby reducing poverty and enhancing welfare (Todro & Smith, 1997). From this perspective, development is expected to directly improve human security outcomes by addressing material deprivation. However, this linear assumption has been challenged by some scholars who argue that growth does not automatically lead to equitable distribution of benefits, especially in contexts with weak institutions and structural inequality (Stiglitz, 2012). Amartya Sen's capability approach provides a more comprehensive theoretical foundation by shifting the focus from income to the expansion of human freedoms and capabilities (Kuhumba, 2022). According to Sen, (1999) development should be evaluated based on the extent to which individuals are able to achieve the lives they value, which includes access to education, health, political participation, and economic opportunities. Within this framework, human security is achieved when individuals possess the substantive freedoms necessary to avoid deprivation and make meaningful life choices (Kuhumba, 2022). Economic development, therefore, contributes to human security only when it enhances these capabilities in an inclusive manner.

Complementing this view, the human security framework advanced by UNDP emphasizes the interdependence of various dimensions of security, including economic stability, food availability, health access, environmental sustainability, and personal safety (UNDP, 1994). This multidimensional perspective highlights that economic development must be integrated with social and environmental policies to effectively reduce vulnerability. In contexts

where economic gains are not accompanied by equitable access to services and opportunities, human security remains fragile despite apparent macroeconomic progress. In Rwanda, government-led development initiatives have explicitly attempted to integrate these principles through programs aimed at inclusive growth and social protection. Initiatives such as “Vision 2020 Umurenge Programme” (VUP), community-based health insurance “Mutuelle de Santé”, and agricultural support programs like “Girinka” have been designed to reduce poverty and enhance household resilience (Perez-Guzman et al., 2023). These interventions reflect a policy recognition that economic development must be inclusive and multidimensional to effectively strengthen human security. However, the effectiveness of these programs varies across regions and communities, raising questions about their localized impact.

Empirical studies in Rwanda and other developing contexts suggest that while economic development contributes to improvements in human security indicators, the relationship is mediated by factors such as governance quality, inequality, access to services, and environmental vulnerability (Alamoudi, 2025 ;Siloko, 2024). For instance, improvements in health and education outcomes have been associated with increased public investment and economic growth, yet disparities persist between different socio-economic groups and geographic areas (Atangana, 2022). In rural districts, limited access to diversified income sources continues to expose households to chronic insecurity, particularly in relation to food and economic stability. In Muhanga District, some studies have examined specific dimensions of human security such as access to utilities and environmental protection interventions, highlighting their influence on community well-being (Adger et al., 2021). However, the studies tend to focus on isolated components rather than providing a comprehensive analysis of how broader economic development processes influence overall human security outcome (Ochoa et al., 2025). This creates a gap in understanding the integrated effects of economic transformation on multidimensional security at the district level.

This gap is important because many policies are designed using national-level data, which may not fully capture what is happening in local communities. As a result, these policies can miss the real challenges and vulnerabilities faced by people sustainable at the grassroots level. Without a clear understanding of how economic development affects human security in everyday local settings, development efforts may fail to address the specific needs of different communities (Quang et al., 2023). Because of this, there is a need for studies that look closely at how economic development is linked to human security at the local level. This helps to ensure that policies are better targeted and more effective. In this context, the current study examines the relationship between economic development and human security in Muhanga District, Rwanda. It specifically looks at how different aspects of economic development affect the security and well-being of households in the district. The study aims to provide evidence that can help improve development planning so that economic progress leads to real improvements in people’s lives. It also contributes to academic discussions on development and security by providing evidence from a post-conflict African setting. By focusing on Muhanga District, the study helps explain how national development efforts are experienced by ordinary people and how they influence their daily sense of safety and well-being. Overall, the study tries to connect national-level economic progress with the real-life experiences of individuals and communities. In doing so, it aims to support more inclusive and sustainable development policies (Sever et al., 2025). Although Rwanda has made strong progress in economic growth and rebuilding its institutions, it is still not fully clear how much these gains have improved human security at the local level. Rural challenges and inequalities still exist, showing the need for more detailed research. Therefore, this study is grounded in the idea of human-centered development and seeks to assess how far economic development improves human security in Muhanga District, Rwanda. The study is guided by the hypothesis that there is no statistically significant relationship between economic development and human security in Muhanga District, Rwanda.

RESEARCH METHODS

The methodology explains how the research was carried out to understand the link between economic development and human security in Muhanga District, Rwanda. It also describes the research design, the study area, respondents included in the study, how many participants were selected and how they were chosen, and the methods used to collect the data.

Research Design

The researcher adopted a non-experimental, cross-sectional survey design to examine the existing levels of economic development and human security, as well as the relationship between these two variables, in Muhanga District, Rwanda. The non-experimental nature of the design meant that the researcher did not manipulate or control the study variables but instead examined them as they naturally occurred within the study population. The cross-sectional approach involved collecting data from respondents at a specific point in time, thereby providing a snapshot of the prevailing economic and human security conditions in the study area. The study further employed a mixed-methods approach, whereby quantitative data provided measurable evidence on the levels and statistical relationships between the study variables, while qualitative data provided deeper contextual and experiential insights into how residents perceived and experienced economic development and human security. The quantitative and qualitative data were collected concurrently and analyzed independently using appropriate statistical and thematic techniques. The findings from the two strands were subsequently integrated during interpretation to facilitate triangulation, enhance the credibility of the findings, and provide a more comprehensive understanding of the relationship between economic development and human security in Muhanga District.

Study Area

The study was conducted in Muhanga District, Rwanda. It was considered appropriate due to its dynamic socio-economic characteristics, which reflect both significant development progress and persistent human security challenges. Muhanga has benefited from Rwanda's national development strategies, including rural transformation programs, infrastructure expansion, and social protection interventions, yet disparities in livelihoods and access to services remain evident across communities. Administratively, Muhanga District comprises twelve units, namely Muhanga, Cyeza, Kibangu, Kiyumba, Mushishiro, Kabacuzi, Nyabinoni, Nyamabuye, Nyarusange, Rongi, Rugendabari, and Shyogwe. These units present diverse socio-economic and geographic conditions, ranging from semi-urbanized zones to predominantly rural agricultural areas. This diversity made the district suitable for examining how economic development influences human security across different community contexts.

Target Population

The target population was 14,461 rural households in Muhanga District. The households directly benefit from economic development policies and human security interventions implemented by the Government of Rwanda. Household heads were the primary respondents of the study since they are typically responsible for household economic decision-making and possess adequate knowledge of livelihood activities, income sources, access to services, and security-related challenges affecting their families. In addition, the study included key informants drawn from district officials, local administrative leaders, and representatives of relevant government and community-based institutions. These informants provided expert perspectives on the implementation of economic development programs and their implications for human security within the district.

Sample Size and Sampling Techniques

The number of people included in the study was calculated using a standard formula developed by Yamane (1967), which is commonly used in social science research to decide an appropriate sample size from a large population. From a total of 14,461 households, and using a 95% confidence level with a 5% margin of error, the study selected 402 households as the sample size. To make sure that different areas of Muhanga District were fairly represented and to reduce bias, the study used two sampling methods. First, stratified sampling was used to divide the district into 12 units and select respondents proportionally from each unit. This ensured that households from different geographical and socio-economic settings were adequately represented in the sample, thereby improving the generalizability of findings (Hu & Chang, 2017).

Key informants were picked using purposive sampling based on their expertise and knowledge of the subject, experience, and involvement in economic development and human security-related programs. These included officials from the Ministry in charge of Emergency Management (MINEMA), Muhanga District administration, sector-level leaders, and community development officers. The purposive approach allowed the researcher to obtain rich, specialized, and context-relevant information that could not be captured through household surveys alone (Bitère & Ahmed, 2025).

Data Collection Methods

The study applied both quantitative and qualitative methods to gather data in order to fully address the research objectives. Primary data were collected through structured questionnaires, key informant interviews, focus group discussions (FGDs), and direct observation. Household heads were given structured questionnaires to collect numerical data on aspects of economic development such as income, employment, access to infrastructure, and involvement in development initiatives. The study also gathered data on human security issues, including food availability, access to healthcare, environmental conditions, and overall well-being. Most of the questionnaire items were close-ended to make it easier to analyze the data statistically and to allow comparison of responses across participants.

Interviews were done with selected government personnel, local leaders, and development practitioners to obtain detailed qualitative insights into the design, implementation, and outcomes of economic development initiatives in Muhanga District. These interviews provided contextual explanations regarding how development policies influence human security at the community level. Focus group discussions were conducted with selected community members to capture collective experiences, perceptions, and shared interpretations of economic development and human security dynamics. FGDs enabled the researcher to explore social interactions and community-level perspectives that may not emerge through individual interviews.

Direct observation was also used to assess visible indicators of economic development and human security, such as infrastructure quality, housing conditions, agricultural practices, and environmental management efforts. This method provided additional empirical validation of information obtained from respondents. The use of multiple data collection methods ensured methodological triangulation, which enhanced the reliability, validity, and depth of the study findings. Triangulation allowed for cross-verification of data from different sources, thereby strengthening the overall credibility of the research outcomes (Hu & Chang, 2017).

RESULTS AND DISCUSSION

Response Rate

A total of 402 questionnaires were administered and all were successfully completed and returned, representing a response rate of **100%**. The researcher administered and collected the questionnaires immediately hence the high response rate.

Descriptive Statistics on Economic Development

Economic development was measured using seven indicators comprising access to clean water, access to electricity, soil conservation practices, agricultural extension services, social cohesion, food security, and improvement in household welfare. Respondents rated each statement using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 1: Descriptive Statistics for Economic Development (n = 402)

Statement	Mean	SD
Households have reliable access to clean water	4.08	0.79
Electricity has improved household livelihoods	3.96	0.88
Soil conservation practices have increased agricultural productivity	3.91	0.83
Agricultural extension services are accessible	3.84	0.91
Community members cooperate in development activities	4.02	0.76
Household food security has improved	3.87	0.89
Household economic welfare has improved	3.95	0.81

Composite Mean = 3.95; SD = 0.84

Source: Researcher, 2026

The findings indicate that respondents generally agreed that economic development initiatives had positively influenced their livelihoods. The highest mean score was recorded for access to clean water (M = 4.08), suggesting substantial improvements in access to safe water. Similarly, respondents reported relatively high levels of social cohesion (M = 4.02) and improved household welfare (M = 3.95). The overall composite mean of **3.95** indicates that respondents perceived economic development interventions to be moderately high across Muhanga District.

Descriptive Statistics on Human Security

Human security was assessed using indicators related to food security, economic security, personal security, community security, health security, and environmental security.

Table 2: Descriptive Statistics for Human Security (n = 402)

Statement	Mean	SD
My household is food secure throughout the year	3.92	0.82
Household income adequately meets basic needs	3.86	0.90
I feel safe within my community	4.14	0.72
Access to healthcare services has improved	3.89	0.81
Community members support one another during emergencies	4.03	0.74
The local environment supports sustainable livelihoods	3.94	0.79

Composite Mean = 3.96; SD = 0.80

Source: Researcher, 2026

The results suggest that respondents generally perceived human security to be relatively high. Community safety recorded the highest mean score (M = 4.14), while household income

adequacy registered the lowest mean ($M = 3.86$), although still above the neutral point. The composite mean of **3.96** indicates an overall positive perception of human security among respondents.

Relationship between Economic Development and Human Security

To determine whether economic development was associated with human security, Pearson's Product Moment Correlation analysis was performed.

Table 3: Pearson Correlation between Economic Development and Human Security (n = 402)

Variable	Economic Development	Human Security
Economic Development	1	
Human Security	0.741**	1

Note: $p < .001$

Source: Researcher, 2026

The results show a strong positive link between economic development and human security ($r = .741$, $p < .001$). This means that as economic development improves, human security also tends to improve among households in Muhanga District. Because the p-value was less than 0.05, the results were considered statistically significant. Therefore, the study rejected the idea that there is no relationship between economic development and human security.

Influence of Economic Development on Human Security

Simple linear regression analysis was conducted to determine the extent to which economic development predicts human security.

Table 4: Regression Model Summary

Model	R	R ²	Adjusted R ²	Std. Error
1	.741	.549	.548	0.426

Source: Researcher, 2026

The results show that the model found a strong positive relationship between economic development and human security ($R = 0.741$). This means the two move together in the same direction. The R^2 value of 0.549 shows that economic development explains about 54.9% of the differences in human security levels. The remaining 45.1% is influenced by other factors that were not included in the study.

Table 5: ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	86.314	1	86.314	475.83	.000
Residual	72.554	400	0.181		
Total	158.868	401			

Source: Researcher, 2026

The regression model was statistically significant ($F(1,400) = 475.83$, $p < .001$), indicating that economic development significantly predicts human security.

Table 6: Regression Coefficients

Predictor	B	Std. Error	Beta	t	Sig.
Constant	0.912	0.134		6.81	.000
Economic Development	0.772	0.035	0.741	21.81	.000

Source: Researcher, 2026

The regression coefficients indicate that economic development has a statistically significant positive effect on human security ($\beta = 0.741$, $t = 21.81$, $p < .001$). Specifically, a one-unit increase in the economic development index is associated with an estimated **0.772-unit increase** in the human security index.

Discussion

Descriptive findings revealed that respondents perceived economic development interventions in Muhanga District positively, particularly regarding access to clean water, electricity, agricultural support services, food security, and improvements in household welfare. The relatively high composite mean suggests that government and community development programmes have substantially improved socio-economic conditions within the district. These findings support the proposition advanced by Sen, (1999) that development should be understood as the expansion of people's capabilities rather than merely economic growth. Improved access to productive resources enables individuals to achieve better livelihoods, thereby strengthening multiple dimensions of human security.

Among the development indicators, access to clean water recorded the highest mean score. This finding is consistent with previous studies showing that reliable access to safe water contributes directly to improved health, productivity, and livelihood resilience. According to the World Bank, (2002), investments in rural water infrastructure significantly reduce poverty and improve household welfare by lowering disease prevalence and increasing productive time. Similarly, (Pretty et al., 2018) argues that access to essential public services such as clean water forms a critical pillar of sustainable human development because it enhances both individual wellbeing and community resilience. The findings therefore suggest that investments in water infrastructure within Muhanga District have strengthened human security by reducing vulnerability to water-related health risks.

The study further established that respondents perceived improvements in electricity access as contributing positively to household livelihoods. Electricity facilitates business development, enhances educational opportunities, improves healthcare delivery, and increases agricultural processing capacity. These findings corroborate those reported by (Kaygusuz, 2012), who found that rural electrification significantly contributes to poverty reduction and socioeconomic development by increasing household productivity and income generation opportunities. Likewise, the (IEA, 2025) maintains that universal electricity access remains a prerequisite for inclusive economic development and improved quality of life, particularly within developing economies. The findings imply that continued expansion of electricity infrastructure in rural Rwanda can further strengthen human security outcomes.

The results also showed that soil conservation practices and agricultural extension services were positively perceived by respondents. Sustainable land management enhances agricultural productivity while reducing environmental degradation and food insecurity. These findings align with those of (Pretty et al., 2018), who observed that sustainable agricultural practices significantly improve food production, environmental conservation, and rural livelihoods. Likewise, Mugonola et al., (2013) found that farmer participation in agricultural extension programmes substantially increases adoption of improved farming technologies, resulting in higher agricultural productivity and household income. The findings further support Rwanda's emphasis on sustainable land management as a strategy for achieving food security and rural transformation.

Social cohesion emerged as another important component of economic development. Respondents indicated that community cooperation and collective participation in development activities had improved considerably. This finding supports the social capital theory, which argues that networks of trust and cooperation enhance collective action and improve development outcomes (Six et al., 2015). Similar findings were reported by Sadri et al., (2018), who demonstrated that communities characterized by strong social networks recover more effectively from socioeconomic shocks and natural disasters. The findings therefore suggest that social cohesion strengthens human security by improving mutual support, resource sharing, and collective problem-solving within rural communities.

Regarding human security, respondents generally reported relatively high levels of food security, community safety, healthcare access, and environmental sustainability. Community safety recorded the highest mean score among the human security indicators. This finding agrees with the Human Security Framework developed by the Rahmania et al., (2025), which focuses on ensuring that people are free from fear and free from want which are complementary dimensions of sustainable development. Improved community safety enables individuals to engage confidently in productive economic activities while fostering social stability and economic growth. Similar observations were made by Owen (2004), who argued that human security extends beyond military protection to include protection against social, economic, environmental, and health-related threats.

The study tested the hypothesis that there is no relationship between economic development and human security in Muhanga District, Rwanda. The results showed that there is actually a strong and clear positive relationship between the two ($r = 0.741$, $p < .001$). This means that as economic development improves, human security also improves. The regression analysis also confirmed this result, showing that economic development is a strong predictor of human security ($\beta = 0.741$, $t = 21.81$, $p < .001$). In simple terms, changes in economic development have a significant effect on human security. Because of these results, the study rejected the idea that there is no relationship between the two, and accepted that a relationship does exist. Overall, the findings show that economic development plays an important role in improving human security among households in Muhanga District, Rwanda. The finding supports the argument advanced by Tadjbaksh, (2007) that sustainable economic development reduces multidimensional vulnerabilities by increasing individuals' capacity to secure food, income, education, healthcare, and environmental resources. Similarly, (Gasper & Gómez, 2015) contends that expanding people's capabilities through development interventions simultaneously enhances both individual wellbeing and societal security.

The regression analysis further demonstrated that economic development significantly predicts human security, explaining approximately 54.9% of the observed variation in human security outcomes. This finding indicates that economic development constitutes one of the principal determinants of human security within the study area. The remaining variation suggests that additional factors—including governance quality, environmental protection, health services, education, institutional effectiveness, and social protection—also influence human security. These findings correspond with those reported by (Stewart, 2004), who concluded that economic inequalities and limited access to productive opportunities increase human insecurity, whereas inclusive development policies substantially improve societal resilience. Likewise, the Organization for Economic Co-operation and Development (OECD, 2020) emphasizes that inclusive economic growth strengthens social stability by reducing poverty, unemployment, and social exclusion.

The rejection of the null hypothesis confirms that economic development significantly influences human security in Muhanga District. The findings reinforce Human Security Theory by demonstrating that investments in livelihoods, infrastructure, agricultural development, and social services collectively improve people's ability to live secure and productive lives. Rather than focusing exclusively on economic growth indicators, development interventions should continue prioritizing people's wellbeing, resilience, and equitable access to essential services. This finding also supports Rwanda's national development agenda, which emphasizes inclusive growth, poverty reduction, and sustainable community development as pathways towards improved human security.

Overall, the findings suggest that economic development serves as a fundamental pillar of sustainable human security in Muhanga District. Integrated investments in infrastructure, agriculture, social cohesion, and livelihood improvement not only stimulate local economic growth but also reduce multidimensional vulnerabilities that threaten individual and community

wellbeing. Consequently, strengthening inclusive economic development programmes remains essential for achieving sustainable human security and the broader aspirations of Rwanda's Vision 2050 and the Sustainable Development Goals.

CONCLUSION

This study examined the relationship between economic development and human security in Muhanga District, Rwanda, with the objective of determining whether improvements in economic development contribute significantly to human security. The findings demonstrated that economic development has a statistically significant and positive influence on human security. Specifically, improvements in access to clean water, electricity, sustainable agricultural practices, agricultural extension services, social cohesion, food security, and household welfare were associated with enhanced economic, food, personal, community, and environmental security. The rejection of the null hypothesis confirms that economic development is a critical determinant of human security in the study area. The findings reinforce the Human Security Theory by demonstrating that sustainable human security extends beyond traditional security concerns to encompass inclusive socioeconomic development. The study provides empirical evidence that investments in productive infrastructure, agricultural transformation, and community development improve people's capabilities to withstand socioeconomic vulnerabilities while enhancing their quality of life. This confirms that human security is strengthened when development interventions expand access to essential services and economic opportunities simultaneously. The principal contribution and novelty of this study lies in its integrated empirical assessment of economic development and human security at the district level in Rwanda. While previous studies have largely examined poverty reduction, rural development, or economic growth independently, this study demonstrates how multiple dimensions of economic development collectively influence human security using evidence from Muhanga District. By incorporating indicators such as water accessibility, electricity, agricultural extension, soil conservation, social cohesion, food security, and household welfare into a single analytical framework, the study offers a more comprehensive understanding of the development and security nexus within rural communities. The findings therefore contribute to the growing body of literature that positions economic development as both a development objective and a human security strategy. Furthermore, the study provides context-specific evidence that supports Rwanda's national commitment to inclusive development under Vision 2050, the National Strategy for Transformation (NST2), and the Sustainable Development Goals, particularly SDGs 1, 2, 6, 7, 8, 11, and 16. The findings suggest that policies promoting equitable access to productive resources and basic social services generate multiple human security benefits simultaneously, thereby enhancing sustainable development outcomes.

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