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Human capital, religiosity, and participatory governance as drivers of welfare through rural–urban linkages in Cirebon Regency

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ABSTRACT

Introduction

Community welfare in border regions is shaped by complex interactions among demographic conditions, religiosity, governance, and rural–urban economic linkages. Despite growing attention to rural–urban development, previous studies have largely examined these factors independently, providing limited understanding of how they collectively influence welfare in decentralized regions. Integrating perspectives from rural–urban development and Islamic economics offers a more comprehensive framework for explaining sustainable and inclusive community welfare.

Objectives

This study aims to examine the effects of demographic factors and religiosity on community welfare in the border areas of Cirebon Regency, Indonesia. It also seeks to develop an integrated rural–urban development model by identifying strategic priorities for sustainable welfare improvement from the perspectives of human capital, participatory governance, and Islamic economics.

Method

This study employed a convergent parallel mixed-methods design. Quantitative data were collected from 156 respondents across four border subdistricts using structured questionnaires and analyzed through multiple linear regression to examine the effects of demographic factors and religiosity on community welfare. Qualitative data were obtained through observations, interviews, documentation, and focus group discussions to explore rural–urban interactions and institutional dynamics. The Analytic Hierarchy Process was subsequently applied to determine the priority of sustainable livelihood assets supporting community welfare.

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Results

The findings demonstrate that demographic factors and religiosity both exert significant positive effects on community welfare, with religiosity emerging as the stronger predictor. Human capital, particularly education and health, represents the highest strategic priority for sustainable development, followed by financial and physical capital. The qualitative findings further indicate that participatory governance, institutional collaboration, and balanced rural–urban economic linkages strengthen social cohesion, improve access to economic opportunities, and reduce regional disparities. From an Islamic economics perspective, these outcomes are consistent with the principles of maqāṣid al-sharīʿah, which emphasize human development, social justice, and collective welfare through ethical governance and inclusive economic participation.

Implications

The study highlights the importance of integrating human capital development, participatory governance, Islamic social finance, and rural–urban connectivity into regional development policies. Such an integrated approach can strengthen community resilience, promote equitable welfare distribution, and support sustainable territorial development in border regions.

Originality/Novelty

This study proposes an integrated framework that combines demographic factors, religiosity, rural–urban economic linkages, governance, and Islamic economics to explain community welfare. By integrating quantitative and qualitative evidence within a single analytical model, it provides a novel contribution to the literature on sustainable regional development and offers practical policy guidance for border areas in Indonesia and other developing economies.

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INTRODUCTION

Rural–urban linkages have increasingly become a central focus in sustainable development and regional planning discourses due to their critical role in shaping economic, social, and environmental welfare. Across the globe, these linkages represent complex, reciprocal relationships through which goods, labor, capital, and information flow between urban centers and their rural hinterlands. The dynamic interactions between rural producers and urban markets have proven essential for enhancing food security, employment, and overall community welfare (Mercandalli et al., 2023). Studies have highlighted that these flows not only sustain economic vitality but also strengthen social integration, regional equity, and resilience to crises (Hyytiä, 2014; Sun & You, 2023). In developing contexts, the stability and inclusiveness of these linkages can directly influence the sustainability and equity of regional development trajectories, especially as globalization and urbanization continue to intensify.

The significance of rural–urban linkages extends beyond material exchanges to encompass the distribution of social opportunities and institutional capacity. (Xie et al., 2021) emphasize that rural–urban migration, as a primary driver of these linkages, can raise household welfare through remittances and expanded access to urban resources, although such benefits remain unevenly distributed. Similar studies demonstrate that urban-biased policies often amplify disparities in income, health, and education between rural and urban areas, thereby undermining inclusive growth (Cheng et al., 2019; Nie et al., 2024). Furthermore, the COVID-19 pandemic has exposed the fragility of these interconnections, revealing that transportation and governance inefficiencies can exacerbate community vulnerabilities (Cattaneo et al., 2021). Consequently, strengthening rural–urban linkages is vital for promoting equitable growth and community resilience, especially in regions where economic dependencies and mobility patterns define the social landscape.

Within this broader context, demographic dynamics and religiosity have emerged as significant determinants of community welfare and social resilience, particularly in Southeast Asia's developing societies. Demographic shifts—such as youth migration, aging rural populations, and gendered labor patterns—directly shape the sustainability of rural livelihoods (Dinh et al., 2023; Xie et al., 2021). Gendered migration patterns, for example, influence remittance flows and alter household economic structures, which can either empower or marginalize specific social groups (Kochskämper et al., 2025). At the same time, religiosity contributes to social resilience by reinforcing networks of trust, cooperation, and collective action that compensate for weak formal institutions (Johari et al., 2016; Nugin & Kasemets, 2021). In times of crisis or economic transformation, faith-based organizations often function as informal welfare systems, providing psychological and material support that sustains community stability (Zimmer et al., 2022).

The combined effect of demographic and religious factors creates complex social dynamics that mediate the outcomes of rural–urban integration. Younger generations, while less religiously observant, often rely on religious institutions for social belonging and support during urban transitions (Mthiyane et al., 2022; Sesabo, 2024). Traditional rituals and religious practices, particularly in rural Southeast Asia, not only preserve cultural identity but also facilitate collective resource sharing and mutual assistance in times of hardship (Heumann et al., 2022). These interactions reveal that both demographic change and religiosity function as adaptive mechanisms within communities, shaping how rural and urban populations negotiate welfare and resilience. Therefore, understanding the interplay between these factors is crucial for designing holistic development models that account for both economic and socio-cultural dimensions of well-being.

From a theoretical standpoint, several frameworks elucidate the relationship between rural–urban integration, sustainable development, and local empowerment. Integrated Urban–Rural Development (IURD) frameworks emphasize the interdependence of both areas, proposing coordinated land use, infrastructure, and governance systems to promote balanced growth. These frameworks align closely with the Sustainable Development Goals (SDGs), particularly in promoting gender inclusiveness, poverty alleviation, and environmental integrity (Baffoe et al., 2021; Muga et al., 2023; Zuo et al., 2023). Furthermore, the Social and Economic Capital framework highlights the role of networks and relationships in empowering communities through access to resources, markets, and knowledge (J.-Y. Liu et al., 2024). Emerging perspectives also underscore the transformative potential of digital technologies in connecting rural and urban economies, thereby enhancing inclusion and productivity (G. Chen et al., 2024). Collectively, these frameworks provide an analytical foundation for understanding how integrated rural–urban strategies can advance sustainable welfare outcomes.

Policy and planning models designed for border-area villages further operationalize these theoretical insights. Integrated Border Development models advocate coordinated planning and resource distribution that respect local identities and promote inclusive participation (Rumbiak et al., 2022). In Indonesia, this approach resonates with the Nawacita development agenda, which seeks to embed border regions into the national growth framework through infrastructure and community empowerment (Rahmawati et al., 2023). Participatory governance frameworks complement these strategies by prioritizing local voices in decision-making, ensuring that border communities actively shape their developmental trajectories (Suryaka & Ady, 2024). Economic empowerment initiatives—such as village funds and Village-Owned Enterprises (BUMDes)—further strengthen community capacity and reduce dependency on urban centers (Jakubowski, 2020; Mardalena et al., 2023). These policy models collectively underscore the importance of inclusive, bottom-up strategies that bridge economic and spatial divides.

In practice, enhancing connectivity between rural and urban zones requires integrated infrastructure investments and diversified economic planning. Transport and communication linkages are essential to reducing isolation and facilitating market access. Simultaneously, sustainable and eco-tourism frameworks offer alternative pathways for stimulating border-region economies while preserving cultural and environmental assets (Jakubowski, 2020; Taryono et al., 2023). However, despite these advances, many rural and border areas remain marginalized due to inadequate governance coordination, limited financial capacity, and uneven digital inclusion. While previous studies have demonstrated the potential of these strategies, empirical research at the regional level—particularly in contexts like Cirebon Regency—remains scarce, hindering the formulation of evidence-based development policies tailored to local realities.

Existing literature also reveals several persistent research gaps. Many studies adopt macroeconomic or national-level perspectives, neglecting localized mechanisms through which rural–urban linkages influence welfare. Furthermore, socioeconomic disparities in access to education, healthcare, and digital infrastructure remain understudied in peripheral regions (Mercandalli et al., 2023; Purcell et al., 2025; Van Sandt & Carpenter, 2022; T. Zhao & Jiao, 2022). The underrepresentation of community knowledge and local participation in planning processes limits the effectiveness of rural development policies (Guzal-Dec & Zwolińska-Ligaj, 2023; Somanje et al., 2020). Additionally, the digital divide poses a growing barrier to equitable development, as technological infrastructures remain concentrated in urban centers (Cai & Xing, 2024; H. Huang et al., 2024). These unresolved challenges justify further empirical inquiry into how demographic structures, religiosity, and rural–urban linkages intersect to shape welfare outcomes in specific regional contexts such as Cirebon Regency.

In light of these gaps, this study aims to construct an empirically grounded model for enhancing community welfare in the border-area villages of Cirebon Regency by leveraging rural–urban economic linkages. It specifically investigates the influence of demographic and religious factors on community welfare and explores how rural–urban connectivity can foster inclusive regional development. The novelty of this research lies in integrating quantitative modeling with qualitative insights to capture both structural and cultural determinants of welfare. By combining mixed-methods analysis with policy-oriented frameworks, this study contributes to the broader discourse on sustainable and equitable rural–urban integration. Its findings are expected to inform regional planning strategies and provide a replicable model for similar peripheral regions across Indonesia and beyond.

LITERATURE REVIEW

Theoretical and Conceptual Frameworks on Rural–Urban Linkages

The study of rural–urban linkages and their implications for sustainable community welfare is grounded in several theoretical frameworks that elucidate the interdependence between urban and rural areas. The Integrated Urban–Rural Development (IURD) framework emphasizes synergistic planning that leverages spatial, economic, and social complementarities (Mercandalli et al., 2023)By promoting interconnected planning processes, this model seeks to bridge rural–urban divides through shared infrastructure, market access, and governance systems. Similarly, the Sustainable Livelihoods Approach (SLA) highlights how households draw upon multiple forms of capital—human, financial, social, physical, and natural—to maintain resilience under urbanization pressures. It underscores the importance of resource diversification and social support in strengthening welfare in transitional rural communities.

Complementary perspectives such as Social Capital Theory and Territorial Development further expand this discourse. Social capital emphasizes trust, reciprocity, and networks as mechanisms fostering cooperation and collective action across rural–urban systems (Podgorskaya & Schitov, 2021). In contrast, territorial development focuses on functional regions as units of economic and social transformation, highlighting localized capacities and spatial equity (Popović, 2020). Emerging frameworks such as Rural Self-Organizing Resilience (Hua et al., 2024) and Urban–Rural Metabolism (Pianegonda et al., 2022)conceptualize communities as adaptive systems that negotiate urbanization while preserving identity. Finally, place-based rural revitalization strategies (Gutiérrez Juárez et al., 2022) emphasize contextualized policy interventions integrating cultural heritage and sustainability. Together, these frameworks provide a multidimensional foundation for analyzing rural–urban welfare linkages.

Demographic Factors and Community Welfare in Developing Contexts

Empirical research across developing nations demonstrates that demographic characteristics profoundly influence welfare and local resilience. Age composition affects labor availability, innovation, and dependency ratios—factors directly shaping economic vitality. Younger populations tend to drive growth through entrepreneurship and technological adaptability, whereas aging communities face welfare vulnerabilities requiring policy support (Apergis et al., 2022). The literature suggests that youth-centered programs enhance productivity and resilience, while targeted social protection improves well-being for older populations. In regions such as Cirebon, balancing these demographic needs is essential for sustaining inclusive local economies and preventing structural dependency.

Gender dynamics constitute another critical dimension of demographic analysis. Studies consistently show that female empowerment through education, labor participation, and entrepreneurship contributes to higher household income, reduced poverty, and community stability. Women-led enterprises and microfinance programs have been pivotal in enhancing local resilience, particularly where formal employment is limited. Nonetheless, intersectionality—where gender intersects with age, class, or migration—creates uneven benefits that must be addressed through adaptive policy frameworks. Migration adds further complexity: while remittances from migrants often uplift rural welfare, the social fragmentation and emotional costs associated with family separation present long-term developmental challenges that warrant integrated social support systems.

Religiosity and Its Role in Social Cohesion and Economic Behavior

Religiosity has been identified as a multidimensional driver of social cohesion, moral behavior, and community development across both rural and urban settings. Shared religious beliefs create social bonds, reinforce moral obligations, and foster mutual aid within communities (Nugin & Kasemets, 2021). These networks of faith-based cooperation often substitute for formal institutional support, particularly in low-governance regions, and strengthen trust-based exchanges essential for community resilience. In Southeast Asia, religious institutions have historically played a pivotal role in sustaining local welfare through rituals, social gatherings, and charitable activities that reinforce communal solidarity.

Economic studies likewise link religiosity to financial ethics, investment behavior, and entrepreneurship. C. Liu et al. (2019) indicate that faith-based value systems can influence saving habits and risk aversion, shaping sustainable consumption and economic responsibility. Religious organizations also act as intermediaries in development—facilitating microfinance, mobilizing collective savings, and funding education and health programs (Habibi et al., 2024). In Indonesia, mosques and religious charities often provide welfare services that the state cannot adequately deliver, reinforcing localized safety nets. Thus, religiosity not only supports social integration but also drives economic participation and redistributive practices crucial to both rural and urban welfare systems.

Religious Institutions and Rural–Urban Integration

Religious networks frequently bridge rural–urban divides by maintaining social cohesion across spatial boundaries. They foster vertical and horizontal linkages between migrants, rural families, and urban congregations, enabling the circulation of knowledge, capital, and support (Asmaria et al., 2026). These connections facilitate smoother rural-urban transitions by providing identity continuity and mutual assistance to migrants navigating new urban environments. Demonstrate that family and faith-based ties strengthen migrant integration, reduce social alienation, and enhance urban–rural cooperation. Consequently, religiosity serves as a unifying factor that counteracts the centrifugal tendencies of urbanization and preserves the moral and social fabric of communities (Mberu et al., 2012; Nugin & Kasemets, 2021).

Beyond fostering social cohesion, religious institutions play direct roles in local development initiatives. They frequently manage education centers, healthcare services, and welfare programs, effectively supplementing state functions. Zuo et al. (2023) note that such faith-based governance enhances service delivery, particularly in areas underserved by formal institutions. Religious leaders also hold influence in shaping community behavior and facilitating development discourse, which can be leveraged for participatory planning. Therefore, integrating religious institutions into rural–urban policy frameworks enhances legitimacy, participation, and implementation effectiveness, particularly in culturally devout societies such as Indonesia.

Governance, Local Participation, and Institutional Capacity

Governance quality and institutional capacity are critical determinants of successful rural–urban integration. Effective local governance ensures that development initiatives are transparent, participatory, and responsive to community needs (Burhanuddin et al., 2024) Decentralized governance, as highlighted by Mubangizi (2025), allows for community-driven decision-making that aligns with local realities. When residents participate directly in planning, implementation, and monitoring, the resulting policies exhibit higher legitimacy and efficacy. This participatory model not only improves accountability but also strengthens community ownership of development outcomes.

Institutional capacity further mediates how governance translates into welfare. A study by Baskoro (2025) emphasizes that well-trained local officials and empowered administrative structures are prerequisites for sustainable community programs. Gram Panchayats in India and Village Funds in Indonesia exemplify how local institutions can mobilize resources for inclusive development (Soegijono et al., 2025). These models demonstrate that when governance frameworks promote civic engagement, they enhance service delivery, reduce inequality, and facilitate economic integration. Strengthening institutional capacity is therefore essential for building resilient communities that can sustain equitable urban–rural growth.

Participatory Governance and Bridging Rural–Urban Divides

Participatory governance is widely recognized as a mechanism for reducing disparities between urban and rural areas. Olar & Jitea (2021) show that involving local populations in the decision-making process leads to more contextually grounded and sustainable policies. Participation also enhances local knowledge utilization and resource optimization, mitigating top-down inefficiencies. Empirical evidence from Akadun & Hidayat (2025) supports the view that participatory governance improves infrastructure provision, social services, and employment opportunities—factors that directly reduce migration pressures and economic disparities. By fostering cooperation among citizens and authorities, participatory systems build mutual trust and long-term institutional resilience.

Moreover, local empowerment contributes to a sense of agency and belonging, which reinforces social capital and collective accountability. The integration of participatory frameworks in policy planning thus bridges economic and social gaps between rural and urban populations. In Cirebon's context, strengthening participatory governance could align development efforts with community aspirations, ensuring equitable access to opportunities. Ultimately, participatory and accountable institutions are indispensable for achieving sustainable rural–urban integration and minimizing socio-economic disparities across territories.

Gaps and Methodological Limitations in Existing Research

Despite the growing body of literature, several inconsistencies and methodological shortcomings persist in studies of rural–urban linkages. Wong et al. (2023) reveal that quantitative findings often yield contradictory results concerning how demographic and structural variables influence welfare, highlighting the need for triangulated data to capture complex socio-economic interactions. Many studies also lack contextual sensitivity, applying generalized frameworks without considering localized socio-cultural factors (Prasartthai & Nitivattananon, 2024). This limitation weakens policy relevance in heterogeneous regions such as Cirebon, where cultural, demographic, and religious variables significantly mediate welfare outcomes.

Other persistent gaps include the scarcity of longitudinal research, insufficient gender-focused analyses, and a lack of standardized indicators for welfare and resilience measurement. Existing studies often treat resilience as a static condition rather than a dynamic process influenced by governance and community agency. Furthermore, methodological rigor in participatory research remains limited—many frameworks inadequately operationalize participation and community motivation. Addressing these limitations requires a mixed-methods approach that combines statistical modeling with ethnographic inquiry, thereby yielding a more comprehensive understanding of local realities and improving the external validity of rural–urban welfare studies.

Synthesis and Research Implications

The reviewed literature collectively demonstrates that sustainable rural–urban integration depends on a synergy of social capital, demographic inclusivity, religiosity, and good governance. Yet, current research remains fragmented, with limited attention to how these elements interact within specific regional contexts. Integrating frameworks such as IURD, SLA, and participatory governance with demographic and religious dimensions offers a promising pathway for constructing context-sensitive development models. Mixed-methods approaches are particularly well-suited to capture these multidimensional relationships, providing both empirical depth and interpretive nuance.

For Cirebon Regency, this synthesis highlights the importance of designing development policies that are inclusive, evidence-based, and culturally embedded. Strengthening local governance, empowering women and youth, leveraging religiosity for social cohesion, and institutionalizing participatory frameworks are vital strategies. Addressing the identified research gaps will not only enrich the academic discourse on rural–urban linkages but also contribute to policy innovations aimed at achieving equitable and sustainable welfare across Indonesia's peripheral regions.

Some Perspectives from Islamic Economics

Maqāṣid al-Sharīʿah, Maṣlaḥah, and Community Welfare

Islamic economics conceptualizes welfare as a multidimensional condition extending beyond income, consumption, and material security. The framework of *maqāṣid al-sharīʿah* evaluates development according to the protection and advancement of religion, life, intellect, lineage, and property. These objectives position human dignity, distributive justice, and social stability as essential components of economic progress (Firdaus, 2022; Junaedi, 2020; Rasiam, 2021). Accordingly, rural–urban development should not be judged solely by economic growth or market expansion, but also by its capacity to improve health, education, livelihoods, social protection, and environmental sustainability across different territorial communities.

The concept of *maṣlaḥah* translates these normative objectives into an operational standard for assessing public policies and development programs. An intervention is considered socially desirable when it generates broad benefits, protects vulnerable groups, and prevents economic or social harm (Nusa, 2022; Ridwan et al., 2023; Wahid et al., 2023). Ibn Khaldun's Circle of Equity complements this perspective by emphasizing the interdependence of justice, governance, social cohesion, wealth, and development in achieving *falāḥ* (Arfaq et al., 2020; Mustofa, 2021; Shabri et al., 2022). Applied to rural–urban linkages, these frameworks require balanced resource allocation, accountable institutions, and reciprocal economic relationships that prevent the concentration of development benefits in urban centers.

Islamic Social Finance and Rural–Urban Economic Integration

Islamic social finance provides institutional mechanisms through which the ethical commitments of Islamic economics may be transformed into concrete welfare outcomes. Zakat functions primarily as a redistributive and social-protection instrument, whereas waqf can support long-term investments in education, health, infrastructure, sanitation, and productive assets. Studies indicate that zakat, productive waqf, charitable giving, and cooperative finance may contribute to poverty reduction, financial inclusion, and sustainable development when supported by transparent governance (Hassan et al., 2023; Rokhlinasari & Widagdo, 2023; Rusydiana et al., 2024). These instruments can therefore address regional inequality by transferring resources toward communities with limited access to formal capital and essential public services.

The integration of Islamic social finance with Islamic microfinance offers a particularly relevant model for strengthening rural–urban economic linkages. Baitul Maal wat Tamwil, Islamic microfinance institutions, micro waqf banks, and Shariah-based village-owned enterprises can finance rural producers, microenterprises, value-added processing, and access to urban markets (Suhirman, 2021; Yasmin et al., 2022; Yuniardika, 2022). Evidence suggests that combining zakat, waqf, and commercial financing may generate stronger poverty-reduction effects than operating these instruments separately (Iskandar, Bayu Taufiq Possumah, et al., 2021; Siswantoro, 2022; Tamanni et al., 2022). Nevertheless, institutional effectiveness depends on professional management, regulatory support, transparent reporting, and performance indicators grounded in *maqāṣid al-sharīʿah* and *maṣlaḥah*.

Religiosity, Economic Behavior, and Social Capital

Religiosity occupies an important position in Islamic economics because religious beliefs and practices may influence financial decisions, ethical conduct, charitable behavior, and participation in Shariah-compliant institutions. Empirical studies associate religiosity with intentions to use Islamic microfinance, contribute to cash waqf, improve Islamic financial literacy, and adopt more ethically oriented economic practices (Berakon et al., 2022; Prasetyowati et al., 2021; Rohman et al., 2021). However, these relationships are not uniform across contexts. Knowledge, financial attitudes, institutional accessibility, and confidence in fund management may strengthen or weaken the effect of religiosity on economic participation, particularly in zakat, waqf, and microfinance programs.

Religiosity may also promote community welfare through the formation of social capital. Religious institutions create networks of trust, reciprocity, shared responsibility, and collective action that can support resource mobilization and community resilience. Studies of waqf-based microfinance and zakat programs demonstrate that governance quality and social trust are central to institutional sustainability and welfare impact (Ahmad et al., 2021; Iskandar, Possumah, et al., 2021; Salim et al., 2024). In rural–urban settings, these networks can connect donors, administrators, entrepreneurs, and beneficiaries across territorial boundaries. Consequently, religiosity should be understood not merely as personal devotion, but as a potential social resource whose developmental contribution depends on inclusive institutions, financial literacy, accountable governance, and productive economic opportunities.

Research Gap and the Significance of the Study

Despite extensive research on rural–urban linkages, significant gaps remain in understanding how demographic and religious factors jointly influence community welfare and resilience in specific local contexts. Prior studies often focus on macro-level analyses or single-variable frameworks, leaving limited insights into the synergistic effects of socio-demographic structures, religiosity, and governance quality (Prasartthai & Nitivattananon, 2024; Wong et al., 2023). Furthermore, many investigations lack longitudinal depth and methodological integration, which restricts their ability to capture dynamic changes across time and space. This gap is particularly evident in Indonesia, where cultural, religious, and institutional diversity necessitate more context-sensitive models of sustainable development.

The significance of this study lies in its attempt to bridge these theoretical and methodological gaps through a mixed-methods approach that integrates quantitative and qualitative analyses. By examining the role of demographic and religious variables within the framework of rural–urban linkages, this research advances the understanding of welfare formation and regional equity. Its findings provide an empirical foundation for developing localized governance models that promote inclusivity, community participation, and resilience. Consequently, this study contributes both to scholarly discourse on sustainable rural–urban integration and to evidence-based policymaking aimed at improving welfare outcomes in border-area regions such as Cirebon Regency (Cattaneo et al., 2022).

METHOD

Research Design

This study employed a field-based mixed-methods design), combining quantitative and qualitative approaches to analyze the relationship between demographic and religiosity factors and community welfare in border areas of Cirebon Regency. A convergent parallel mixed-methods model was used, allowing both types of data to be collected and analyzed separately before integrating results for comparative interpretation The rationale for this design was to ensure a comprehensive understanding of the phenomena—where quantitative data measure relationships among variables, and qualitative insights explore contextual dynamics shaping rural–urban linkages.

The quantitative component used regression analysis to determine the degree of influence of demographic (X_1) and religiosity (X_2) factors on community welfare (Y). Regression analysis was chosen for its ability to measure the direction and strength of relationships between independent and dependent variables. The qualitative component complemented this analysis by interpreting social realities and economic patterns in border communities through observation, interviews, and focus group discussions (FGDs). Together, the two approaches enabled triangulation of data and validation of findings through methodological convergence (Creswell & Creswell, 2017).

Research Location

The research was conducted in the eastern border region of Cirebon Regency, which shares boundaries with Brebes and Kuningan Regencies. This area was selected because it is geographically distant from the administrative center in Sumber District, resulting in unique socio-economic dynamics. Four subdistricts were chosen purposively for the study: Losari, Pabedilan, Ciledug, and Pasaleman. These subdistricts represent strategic nodes of interaction between rural and urban economies and provide suitable variation for comparative analysis of welfare outcomes and connectivity patterns.

Population and Sampling

The population consisted of all residents in the four border subdistricts, totaling 205,990 individuals (Badan Pusat Statistik Kabupaten Cirebon, 2024). A simple random sampling technique was applied to ensure representativeness across demographic groups, irrespective of social or occupational strata. The minimum sample size was determined using the Taro Yamane formula with a 95% confidence level and an 8% margin of error, yielding 156 respondents.

To ensure proportional representation, proportional sampling was applied based on population size in each subdistrict: Losari (32%, 50 respondents), Pabedilan (30%, 47 respondents), Ciledug (23%, 36 respondents), and Pasaleman (14%, 22 respondents). This distribution maintained demographic balance and improved the external validity of the findings. Each respondent was selected randomly from the local population registry, ensuring anonymity and unbiased inclusion.

Data Types and Sources

Two data types were employed: primary and secondary.

Primary data were obtained directly from respondents through fieldwork, including:

- Observation, to document local economic activity, social behavior, and religious practices in natural contexts.
- Interviews, to collect in-depth narratives regarding household welfare and religious engagement.
- Documentation, involving review of regional policy documents, local archives, and socioeconomic records.
- Focus Group Discussions (FGDs), to gather collective perspectives on the interaction between rural and urban communities and to identify sustainable linkage models.

Secondary data were sourced from books, academic journals, statistical reports, and relevant online publications. These data served to validate empirical findings and support theoretical interpretation (Creswell & Creswell, 2017).

Variables and Operational Definitions

Three primary variables were analyzed: Demographic Factors (X_1), Religiosity Level (X_2), and Community Welfare (Y).

1. Demographic Factors (X_1) — defined as characteristics describing the population's structure and composition, including age, gender, income, occupation, and education level. These were measured using ordinal scales to capture relative differences among respondents.
2. Religiosity Level (X_2) — conceptualized as the degree of belief, practice, and commitment in religious life, operationalized through dimensions such as daily spiritual experience, values, beliefs, forgiveness, private and organizational religious practice, coping, support, and commitment.
3. Community Welfare (Y) — understood as the fulfillment of material, social, and spiritual needs enabling individuals to live decently and perform social functions. Indicators included health and nutrition, education, employment, consumption patterns, housing quality, poverty level, and social engagement.

Quantitative Data Analysis

Quantitative analysis was conducted in two stages: descriptive statistics and inferential regression analysis. Descriptive statistics were used to summarize demographic characteristics and distribution patterns. This approach allows initial pattern recognition and serves as a diagnostic tool before deeper inferential tests. Descriptive analysis aids in identifying central tendencies and dispersion within data, providing a foundation for hypothesis testing (Starbuck, 2023).

Regression analysis was used to evaluate the influence of demographic and religiosity factors on community welfare. The general regression equation was expressed as:

[$Y = f(X_1, X_2)$]

where (Y) represents welfare, (X_1) demographic factors, and (X_2) religiosity. The statistical model assessed both individual (t-test) and joint (F-test) effects, following procedures outlined by Ghozali (2011). Hypotheses were tested using a 5% significance level. A significant p-value (<0.05) or a t-statistic greater than the critical value indicated a meaningful relationship between independent and dependent variables. This method quantified the strength and direction of relationships among the variables of interest.

Qualitative Data Analysis

The qualitative component employed two main analytical models:

1. Two-Dimensional Regional Analysis, designed to interpret interactions between two interlinked territories—rural and urban—by comparing potential, functional roles, and service tendencies. This approach identifies complementary or

competitive relationships between the areas and clarifies how spatial interactions shape welfare outcomes.

2. Analytic Hierarchy Process (AHP), adapted from (Kumar & Pant, 2023), was applied to prioritize sustainable livelihood factors influencing welfare. AHP decomposes complex decision problems into hierarchical structures, allowing systematic evaluation of criteria such as human capital, social capital, physical capital, financial capital, and natural capital. Respondent perceptions were translated into numerical priorities through pairwise comparisons using (Becker & Becker, 2024) 1–9 scale.

To ensure reliability, the consistency ratio (CR) of AHP calculations was kept below 10%. Inconsistencies beyond this threshold prompted reassessment. AHP results generated ranked policy priorities, indicating which livelihood assets most strongly contribute to welfare and sustainable rural–urban integration in border regions.

Validity, Reliability, and Triangulation

For the quantitative component, instrument validity was verified through expert review and preliminary field testing to ensure content relevance and clarity. Reliability was assessed using Cronbach's alpha, ensuring internal consistency across multi-item constructs. For the qualitative component, credibility was enhanced through triangulation of data sources and methods, cross-verifying findings from interviews, FGDs, and documentation. Member checking was employed to confirm interpretive accuracy with selected participants.

Ethical Considerations

Ethical research protocols were followed throughout data collection. Participants were informed of the research objectives, data usage, and confidentiality assurances. Informed consent was obtained verbally and in writing. Identities were anonymized to protect respondent privacy. The study adhered to standard ethical guidelines for social research involving human subjects.

RESULTS

Demographic and Economic Overview of Cirebon Regency

Cirebon Regency exhibits distinctive demographic and economic characteristics that shape its rural–urban dynamics. In 2022, the total population reached 2,315,417 inhabitants, comprising 1,173,871 males and 1,141,546 females, representing a 0.53% growth from 2021. The male-to-female ratio stood at 103, indicating a slightly male-dominant population structure. Population density averaged 2,141 people per km², with the highest density observed in Weru Subdistrict (7,739 people/km²) and the lowest in Pasaleman (646 people/km²).

The labor force in 2022 totaled 1,110,529 individuals, of whom 91.89% were employed and 8.11% were unemployed. The service sector absorbed the majority of workers (54.23%), followed by agriculture (12.26%) and other productive sectors. Educational attainment remains uneven, as the largest proportion of the labor force had completed senior high school (SMA/SMK), while only a small fraction held diplomas or university degrees, suggesting a need for human capital investment to sustain regional competitiveness.

Administratively, Cirebon Regency comprises 40 subdistricts and 424 villages, covering a total area of 1,076.76 km². The largest subdistrict is Kapetakan (67.46 km²), followed by Gegesik (63.75 km²), whereas Weru remains the smallest with 9.10 km². The diversity of area size and density reflects spatial disparities that affect access to resources, markets, and public services across rural–urban boundaries.

Economic Performance and Structure

The structure of Cirebon's economy demonstrates a multi-sectoral interdependence linking agriculture, manufacturing, trade, and services. Between 2018 and 2022, six sectors consistently dominated regional GDP (PDRB): manufacturing, agriculture–forestry–fisheries, trade, construction, transportation, and education. Collectively, these sectors accounted for 76.55% of Cirebon's GDP in 2022, valued at Rp 56.65 trillion (current prices).

Manufacturing contributed the largest share (20.59%), followed by agriculture (15.57%), trade (14.21%), construction (11.17%), transportation and warehousing (8.81%), and education services (6.20%). The pandemic-induced economic contraction of –1.08% in 2020 was followed by recovery in 2021 (2.47%) and 2022 (4.09%), indicating improving economic resilience. The fastest-growing sector in 2022 was "other services," which expanded by 12.59%, reflecting post-pandemic recovery in consumer and microenterprise activities.

Household consumption represented the largest expenditure component of the regional economy, accounting for over 50% of GDP, followed by gross capital formation (~30%) and government spending (~7%). The limited role of government consumption (only ~1% of GDP) underscores the predominance of private and household economic activity in driving growth.

Accessibility of Border Subdistricts

Spatial accessibility remains a critical determinant of rural–urban integration in eastern Cirebon.

- Losari Subdistrict lies approximately 40 km from the regency's administrative center (Sumber) via arterial routes through Gebang, Pangenan, Astanajapura, Mundu, and Talun.
- Ciledug has multiple routes (40–48 km) with road types varying from arterial to toll roads, supported by a regional terminal and railway station that facilitate interprovincial mobility.
- Pabedilan, primarily agrarian, lies about 38–39 km away and depends heavily on irrigation infrastructure for agricultural productivity.
- Pasaleman, the most remote and topographically elevated area (~42–48 km distance), possesses strong agribusiness potential but limited transport

connectivity, relying largely on access through Ciledug and partially via Brebes Regency.

These findings demonstrate that while physical distance to the regency capital is moderate, the variation in infrastructure quality and connectivity options constrains economic integration, particularly for Pasaleman and Pabedilan residents.

Respondent Demographics

A total of 156 respondents were surveyed from the four subdistricts. The sample comprised 65% male and 35% female participants, with age distribution concentrated in the 26–45-year group (63%), followed by youth (31%) and elderly (6%). Educationally, most respondents had completed senior high school (114 individuals), while 19 held university degrees, and only a small number had elementary education.

Occupationally, entrepreneurs and traders dominated the sample (81 respondents), followed by civil servants and uniformed personnel (18) and farmers (4), with the remainder in miscellaneous occupations. In income terms, 58% earned above the regional minimum wage (Rp 2,430,780), while 42% earned below it, indicating moderate economic heterogeneity among border residents.

Quantitative Analysis

Descriptive Statistics

Table 1

Descriptive Statistics of the Study Variables

Variable	*N*	Mean	SD	Minimum	Maximum
Demographic Factors	156	11.42	1.37	9.00	15.00
Religiosity	156	52.38	2.72	39.00	55.00
Community Welfare	156	55.58	3.74	37.00	60.00

Source: Primary data. Authors' estimation. Note: All variables contained complete data (N = 156; no missing values). SD = standard deviation.

Descriptive analysis revealed mean scores of 11.42 for demographic factors, 52.38 for religiosity, and 55.58 for community welfare, each with relatively small standard deviations (1.368; 2.720; 3.735), suggesting a homogeneous distribution of responses. These results imply consistent perceptions among respondents regarding the influence of demographic and religious dimensions on welfare.

Regression Analysis

Table 2

Multiple Regression Analysis Predicting Community Welfare

Predictor	*B*	*SE B*	β	*t*	*p*
Constant	10.384	4.676	—	2.221	.028
Demographic Factors	0.390	0.179	.143	2.181	.031
Religiosity	0.778	0.090	.566	8.642	< .001

Model Summary	Value
R	.616
R^2	.380
Adjusted R^2	.341
Standard error of the estimate	2.960
$F(2, 153)$	46.879
Model p	< .001

Source: Primary data. Authors' estimation. Note: Dependent variable: Community Welfare. B = unstandardized regression coefficient; $SE\ B$ = standard error of the unstandardized coefficient; β = standardized regression coefficient. The overall regression model was statistically significant, $F(2, 153) = 46.879$, $p < .001$. The predictors jointly explained 38.0% of the variance in community welfare, with an adjusted R^2 of .341.

A multiple linear regression was conducted to assess the combined and individual effects of demographic (X_1) and religiosity (X_2) factors on community welfare (Y). The resulting model was:

$$Y = 10.384 + 0.390X_1 + 0.778X_2$$

The constant (10.384) indicates that welfare has a positive baseline even in the absence of both independent factors. The regression coefficients for demographic (0.390) and religiosity (0.778) variables are both positive, meaning that improvements in either factor lead to higher welfare scores.

t-Test Results

The t-test confirmed that both independent variables significantly influenced welfare. For demographic factors, $t = 2.181$, $p = 0.031 < 0.05$; for religiosity, $t = 8.642$, $p < 0.001$. Hence, both hypotheses were accepted: demographic conditions and religiosity exert significant positive effects on community welfare. These findings align with (Athoillah et al., 2022), who reported that population characteristics affect welfare, and (Yendri & Prasetyo, 2024) who found that community empowerment mediates welfare outcomes. This confirms that social capital embedded in religiosity reinforces demographic advantages to enhance well-being.

F-Test and Model Fit

The F-test yielded $F = 46.879$, $p < 0.001$, confirming that both variables jointly explain variations in welfare. The model's $R = 0.616$ and Adjusted $R^2 = 0.341$ indicate that 34.1% of welfare variance is explained by demographic and religiosity factors, while 65.9% is influenced by external variables such as governance quality, infrastructure, and social participation.

Rural–Urban Linkage Modeling

The field analysis identified reciprocal functional linkages between rural production systems and urban markets. Drawing on Zhan et al. (2023), rural areas act as sources of raw materials, production sites, and labor, whereas urban centers function as providers of technology, research, finance, marketing channels, and information. This complementary relationship underpins a balanced rural–urban ecosystem, wherein both sides sustain each other's economic growth.

Stakeholder interviews highlighted the importance of digital infrastructure in strengthening these linkages. A representative from Cirebon's Communication and Information Office (Diskominfo) noted that the Smart City initiative aims to bridge information gaps between villages and cities, ensuring equitable access to digital services, employment opportunities, and governance participation. Such integration reflects a gradual shift toward knowledge-based rural development, aligning with sustainable development principles.

Strategic Framework for Sustainable Rural–Urban Development

The study adopted Z. Chen (2024) three-stage framework—Empowerment, Partnership, and Competitiveness—to conceptualize phased strategies for strengthening rural–urban linkages. Traditionally, capital flows from rural to urban areas, reflecting low "terms of trade" for rural goods and services. Reversing this flow requires interventions that:

1. Shift production processes to rural areas through capital, training, and technology transfer;
2. Shorten supply and marketing chains via participatory production networks; and
3. Expand access to production resources such as credit, raw materials, and technology.

Empirical observation confirmed that urban centers attract capital investment and marketing, while rural areas retain comparative advantages in land and labor. Achieving synergy requires intermediary institutions that facilitate collaboration, information exchange, and equitable distribution of benefits between rural and urban stakeholders.

AHP-Based Policy Priorities

The Analytic Hierarchy Process (AHP) identified five major asset categories influencing sustainable livelihoods: human capital, social capital, physical capital, financial capital, and natural capital. At the first level, human capital ranked as the most critical factor (32%), followed by financial capital (20%), physical capital (18%), natural capital (17%), and social capital (12%). This prioritization underscores the role of education, health, and skills as core drivers of welfare improvement in border communities. The finding echoes previous works emphasize that knowledge and skill formation constitute the foundation of modern economic growth.

At the second level, detailed indicators further refine these priorities:

- Health (17%) and education (12%) were the top sub-factors of human capital;
- Access to banking (4.9%) and asset ownership (3.6%) defined financial capital;
- Health infrastructure (5.4%) and road infrastructure (4.5%) ranked highest among physical assets;
- Land ownership (7.9%) and availability of economic land (6.4%) dominated natural capital;

- Within social capital, community participation (9%) and social concern (7.5%) were emphasized over traditional mutual cooperation (5.9%).

This hierarchy indicates that investing in human capital—through healthcare and education—should remain the principal policy direction, supported by expanded access to finance and improved infrastructure. Such priorities form the empirical foundation for designing integrated rural–urban welfare strategies in Cirebon's eastern border region.

Summary of Findings

Overall, the results demonstrate that demographic composition and religiosity are statistically significant determinants of welfare, jointly explaining over one-third of the observed variation. The remaining variation reflects broader systemic issues, including governance, infrastructure, and institutional capacity. The AHP results reinforce the centrality of human development as a sustainable pathway to welfare, while the rural–urban linkage analysis provides a spatial-economic rationale for balancing rural production with urban markets. These findings collectively support a holistic development model for border communities, grounded in human capital enhancement, equitable access to resources, and strengthened institutional collaboration between villages and cities.

DISCUSSION

Demographic Structures, Religiosity, and Community Welfare

The findings of this study confirm that both demographic characteristics and religiosity significantly influence community welfare among border-area residents in Cirebon Regency. Quantitatively, demographic variables such as education, income, and occupation correlate positively with welfare levels, while religiosity exerts a strong reinforcing effect on social cohesion and perceived well-being. These results demonstrate that welfare is not solely an economic construct but is embedded in social and moral systems. The regression analysis revealed that religiosity (β = 0.778) had a greater effect than demographics (β = 0.390), highlighting how faith-based values may function as stabilizing forces that sustain welfare and social resilience in communities characterized by economic transitions.

This conclusion aligns with previous empirical findings emphasizing the interactive role of demography and religiosity in welfare dynamics. Ullah (2021) demonstrated that higher Islamic religiosity among youth in Gilgit-Baltistan corresponded with positive socio-economic and cultural outcomes through tourism. Daulay et al. (2022) similarly found that religiosity buffers stress and fosters psychological well-being. However, Yeganeh (2015) and Harahap et al. (2023) caution that religiosity's socio-economic impact varies across demographic and cultural settings—at times promoting cohesion, yet potentially reinforcing social conservatism. These mixed results affirm that demographic composition mediates how religiosity shapes welfare, necessitating culturally sensitive analyses and context-specific policy responses.

Theoretically, this finding reinforces the multidimensional nature of welfare, integrating social, spiritual, and economic domains. Practically, it suggests that development programs in Cirebon should not treat religiosity as peripheral but as a form of social capital that promotes cooperation, ethical entrepreneurship, and collective action. Policymakers could leverage religious institutions as partners in delivering welfare programs and promoting inclusive participation. Such an approach aligns with community-driven models of development that combine demographic empowerment and moral engagement to foster resilience in peripheral regions.

Human Capital and Rural–Urban Economic Integration

Results from the Analytic Hierarchy Process (AHP) identified human capital—particularly education and health—as the foremost determinant of sustainable welfare in Cirebon's border communities. This finding supports the notion that welfare improvement depends not only on capital inflows but on strengthening human capability to engage productively with rural–urban economic systems. The prioritization of education and health (17% and 12% of total weight, respectively) reveals that investing in skill formation, literacy, and healthcare access yields long-term benefits across rural–urban interfaces. Such emphasis aligns with the observed statistical significance of demographic variables and reinforces the need for integrated human capital policies.

Empirical studies corroborate these findings. Zhao et al.(2023) observed that urbanization enhances human capital accumulation through skill transfer and innovation diffusion. Similarly, Abilova & Golovikhin (2021) noted that underinvestment in rural education limits engagement with urban economies, while Yu et al. (2015) demonstrated that migration fosters human capital transfer and knowledge spillovers. However, Xue et al. (2022) cautioned that excessive migration depletes rural labor, aggravating regional imbalances. The synergy of these findings confirms that human capital operates as both a cause and a consequence of economic integration, shaping welfare outcomes across spatial divides.

Theoretically, this finding strengthens human capital theory by contextualizing it within rural–urban linkages—a domain often neglected in regional development literature. Practically, the study underscores that welfare policies must prioritize education, vocational training, and healthcare systems that support productive mobility rather than one-way migration. In policy terms, Cirebon's government should enhance collaboration between rural schools, vocational centers, and urban industries to ensure that border populations benefit from the region's economic dynamism. This integration not only elevates human capital but also consolidates the territorial cohesion essential for sustainable development.

Religiosity, Social Capital, and Governance Quality

The regression results indicate that religiosity contributes substantially to welfare enhancement, functioning indirectly through trust, cooperation, and community participation—key components of social capital. Qualitative findings further reveal that religious institutions in Cirebon facilitate social solidarity, conflict mediation, and charitable redistribution. These mechanisms suggest that religiosity strengthens governance outcomes by cultivating civic engagement and moral accountability, which complement formal governance structures. Communities with high religiosity tend to exhibit stronger interpersonal trust, thereby amplifying the effectiveness of local government initiatives in welfare provision.

Recent studies reinforce these conclusions. Wang & Zhang (2025) found that transparent governance fosters political trust, thereby enhancing social capital. Liu & Pan (2020) reported that higher trust in government correlates with stronger welfare satisfaction. Huang et al. (2024) and Zhang et al. (2024) demonstrated that religiosity promotes cooperative behavior and social cohesion across diverse populations. Similarly, Xu & Zhao (2022) emphasized that participation in governance mediated by social capital improves welfare outcomes. These findings collectively illustrate that religiosity and social capital operate as mediating variables between governance quality and welfare, consistent with this study's regression-based inference.

Theoretically, these results enrich governance theory by integrating moral and social dimensions as mediators of welfare. Practically, they suggest that welfare strategies should institutionalize collaboration between local governments and religious organizations. Policy frameworks could formalize faith-based partnerships to strengthen trust networks and encourage participation in civic planning. For Cirebon, where community bonds remain deeply spiritual, reinforcing governance through religious cooperation can enhance both administrative legitimacy and social inclusiveness, thereby ensuring that welfare initiatives resonate with community values.

Participatory Governance and Local Institutional Capacity

The qualitative findings also highlight that welfare disparities across border areas stem partly from weak institutional coordination and limited participatory mechanisms. Regions with robust local institutions—such as Pabedilan and Losari—demonstrate higher welfare scores, partly due to more inclusive governance practices. This pattern suggests that participatory governance and institutional capacity are key drivers of welfare distribution and rural–urban connectivity. In Cirebon's decentralized setting, strengthening these elements can significantly enhance social equity and service delivery in peripheral regions.

Empirical research substantiates this relationship. Zeng et al. (2025) showed that local governance reforms that diversify fiscal sources enhance land-use efficiency and equitable growth. Wang & Zhang (2025) emphasized that perceptions of fairness in governance correlate strongly with citizen engagement, demonstrated that improved institutional capacity enhances social service provision and welfare. Moreover, Scalise & Hemerijck (2024) argued that devolving governance authority to local levels allows for more contextually appropriate solutions. These studies validate the present finding that participatory governance and institutional strengthening reduce welfare disparities by aligning local resources with citizen needs.

Theoretically, this aligns with new institutionalism, emphasizing adaptive governance and decentralization. Practically, participatory governance models can foster accountability and empower local stakeholders to design context-specific welfare programs. For policymakers, the implication is that empowering subdistrict governments and enhancing their capacity to coordinate multi-actor initiatives—especially those linking villages and urban centers—can yield measurable welfare improvements. Such policies are critical for addressing the spatial inequality typical of border regions like eastern Cirebon.

Policy Frameworks for Converting Rural–Urban Linkages into Sustainable Welfare

The AHP results and qualitative findings converge on the need for an integrated framework that operationalizes rural–urban linkages through human, financial, and infrastructural investments. Empirical evidence suggests that Cirebon's development strategy should combine elements from several proven models: Integrated Rural–Urban Development (IRUD), Sustainable Livelihoods (SLF), and Smart Village frameworks. Each contributes distinct strengths in promoting welfare, governance, and inclusivity. The integration of these models aligns with the empirical emphasis on human capital, religiosity, and participatory governance as foundational drivers of welfare improvement.

Recent literature provides strong support for such hybrid frameworks. Zeng et al. (2025) demonstrated that coordinated land and resource governance under IRUD principles enhances urban–rural equity. Fatimah et al. (2020) found that Smart Village initiatives leveraging ICT improve community participation and service delivery. Meanwhile, participatory governance approaches advocated by Liu et al. (2019) highlight how local engagement in planning processes leads to more adaptive and responsive welfare policies. Collectively, these models exemplify how multi-sectoral cooperation transforms economic linkages into sustainable welfare systems.

Theoretically, integrating these frameworks broadens sustainable development theory by linking spatial economics with social and digital innovation. Practically, Cirebon's policymakers can utilize these insights to design inclusive territorial policies emphasizing education, digital literacy, financial inclusion, and infrastructure connectivity. At the policy level, embedding Smart Village and IRUD principles within regional planning will ensure that welfare programs leverage both human and technological capacities. Such policies not only address economic disparities but also foster a more cohesive and resilient regional community.

Synthesis and Theoretical Implications

Overall, the findings affirm that welfare in Cirebon's border areas is shaped by the interaction of demographic factors, religiosity, and governance quality, mediated through social capital and human capability. These variables collectively form a dynamic system where socio-cultural, institutional, and economic dimensions intersect to determine welfare outcomes. The study contributes theoretically by integrating human capital, social capital, and governance frameworks into a unified model of rural–urban welfare. This synthesis advances the discourse on sustainable regional development by showing that material welfare cannot be detached from moral and institutional dimensions.

Empirical literature corroborates this integrative understanding. Studies across Southeast Asia confirm that human development, religiosity, and participatory governance mutually reinforce welfare and resilience. The findings of Yu et al. (2015), Abilova & Golovikhin (2021), and Wang & Zhang (2025) collectively validate this multidimensional approach. However, persistent gaps—such as limited longitudinal data and cultural contextualization—underscore the need for further mixed-methods research. Addressing these limitations could refine existing models and generate more locally grounded theories of welfare and resilience.

In practical and policy terms, the study provides actionable insights for strengthening border communities. Enhancing education and healthcare systems, fostering participatory governance, institutionalizing partnerships with religious organizations, and investing in digital infrastructure constitute essential strategies for sustainable welfare. For policymakers, integrating rural–urban planning with human capital and social cohesion frameworks offers a replicable model for other regions. Ultimately, this research reaffirms that inclusive and resilient welfare systems emerge not from economic expansion alone but from the synergy of human capacity, social solidarity, and good governance.

Discussion from Islamic Economics Perspectives

Demographic Factors, Religiosity, and Holistic Welfare

The positive effects of demographic factors and religiosity on community welfare can be interpreted through the Islamic concepts of *maqāṣid al-sharīʿah* and *falāḥ*. Demographic advantages, including education, income, employment, and household capacity, strengthen the ability of individuals to secure life, intellect, family continuity, and property. Religiosity complements these material resources by encouraging ethical conduct, mutual assistance, and concern for collective well-being. The stronger regression coefficient for religiosity suggests that welfare in Cirebon's border communities is not determined solely by economic capacity, but also by moral commitments and socially embedded religious practices that support multidimensional well-being.

This interpretation is consistent with studies demonstrating that religiosity can strengthen charitable behavior, financial responsibility, and participation in Islamic social finance (Haidar & Satifa, 2023; Khuwarazmi et al., 2021; Lestari et al., 2023). Women's participation in Shariah-compliant microfinance has also been associated with improved household welfare and productive capacity (Nawawi et al., 2022). From a policy perspective, religiosity should therefore be treated as a developmental resource rather than merely an individual characteristic. Local programs can involve religious institutions in financial literacy, welfare distribution, and entrepreneurship, provided that their activities are governed transparently and evaluated through *maqāṣid*-based indicators of health, education, income security, and social justice.

Human Capital, Ethical Governance, and Rural–Urban Integration

The Analytic Hierarchy Process identified human capital as the leading priority for sustainable rural development, with health and education occupying central positions. From an Islamic economics perspective, this result corresponds with the protection of life and intellect, two essential objectives of *maqāṣid al-sharīʿah*. Human capital enables rural populations to participate more effectively in urban labor markets, adopt technology, increase productivity, and manage productive assets. The findings therefore suggest that rural–urban integration should not be restricted to roads, markets, and financial flows; it must also include investments that expand knowledge, skills, health, and economic agency among border communities.

Islamic economics literature supports the use of zakat, waqf, and Shariah-compliant microfinance to finance education, healthcare, vocational training, and microenterprise development (Aderemi & Ishak, 2023; Sariah et al., 2022; Shahid et al., 2024). Waqf-based financing can create durable social assets, whereas village-based institutions may connect rural producers with urban markets and services. However, these instruments require ethical governance, accountable management, and credible social-performance measurement (Budiman et al., 2021; Hamidi & Worthington, 2021). For Cirebon, this implies integrating human capital programs with transparent Islamic social finance, local enterprises, and urban partnerships so that welfare gains are sustained and distributed across territorial boundaries.

Islamic Social Finance and Participatory Development Policy

The study's rural–urban linkage model shows that villages contribute natural resources, labor, and production capacity, while urban areas provide finance, technology, information, and markets. Islamic economics offers instruments that can make these exchanges more inclusive. Zakat may support vulnerable households and productive beneficiaries, while cash or productive waqf can finance infrastructure, agricultural processing, education, healthcare, and local enterprise development. Islamic microfinance and Shariah-based village enterprises can further reduce financing constraints. These instruments can help reverse unequal capital flows by directing urban resources toward productive rural activities and enabling rural communities to capture more value from their products.

The effectiveness of this approach depends on participatory and Shariah-based governance. Studies recommend integrating zakat, waqf, charitable funds, and microfinance under shared *maqāṣid* and *maṣlaḥah* objectives rather than administering them through isolated programs (Dirie et al., 2024; Widiastuti et al., 2022). Local governments should establish collaborative platforms involving zakat institutions, waqf managers, Islamic microfinance providers, religious leaders, village enterprises, and community representatives. Transparent beneficiary selection, independent auditing, digital reporting, and community participation are essential to prevent elite capture. Such an institutional design would translate rural–urban connectivity into inclusive welfare, stronger public trust, and more sustainable regional development.

CONCLUSION

This study demonstrates that community welfare in the border areas of Cirebon Regency is shaped by the interaction of demographic characteristics, religiosity, and rural–urban economic linkages. The quantitative analysis confirms that demographic factors and religiosity exert significant positive effects on welfare, with religiosity emerging as the stronger predictor. The qualitative findings further reveal that sustainable welfare depends not only on economic opportunities but also on human capital development, participatory governance, and institutional collaboration between rural and urban areas. The Analytic Hierarchy Process reinforces this conclusion by identifying human capital—particularly education and health—as the highest policy priority, followed by financial and physical capital. Together, these findings indicate that sustainable welfare requires an integrated approach that simultaneously strengthens socio-economic capacity, social cohesion, and territorial connectivity.

The discussion extends these empirical findings by integrating perspectives from rural–urban development theory, human capital theory, social capital theory, and Islamic economics. The study argues that religiosity should not be understood merely as an individual belief system but as a productive social resource that strengthens trust, collective action, ethical economic behavior, and community resilience. From an Islamic economics perspective, the findings are consistent with the objectives of *maqāṣid al-sharīʿah*, which emphasize the protection and advancement of life, intellect, wealth, and social justice through inclusive development. Likewise, the discussion highlights the potential contribution of Islamic social finance, participatory governance, and accountable local institutions in reducing regional disparities and transforming rural–urban interactions into mutually beneficial and sustainable development processes.

This study contributes to the existing body of knowledge by proposing an integrated framework that connects demographic factors, religiosity, governance, and rural–urban economic linkages in explaining community welfare within a decentralized regional context. Unlike previous studies that predominantly examine these dimensions separately, this research demonstrates their complementary relationships through a mixed-methods approach that combines statistical analysis with contextual interpretation. Beyond its theoretical contribution, the study provides practical guidance for policymakers by emphasizing investments in education, healthcare, financial inclusion, institutional capacity, and community participation. The findings also suggest that incorporating Islamic social finance and culturally embedded governance into regional development strategies can enhance inclusive welfare and territorial resilience, offering a transferable model for other border regions and developing economies facing similar socio-economic challenges.

Limitation of the Study

This study should be interpreted in light of several limitations. First, the quantitative component employed a cross-sectional design, which captures relationships among demographic factors, religiosity, and community welfare at a single point in time. Consequently, causal relationships and temporal changes cannot be established with certainty. Second, the empirical investigation was limited to four border subdistricts in Cirebon Regency. Although these areas represent important rural–urban transition zones, their socio-economic and cultural characteristics may differ from those of other border regions in Indonesia. Therefore, the generalizability of the findings should be considered with caution, particularly in regions characterized by different institutional arrangements, economic structures, or religious compositions.

Methodological limitations should also be acknowledged. The study relied partly on self-reported questionnaire data, making several variables susceptible to social desirability and subjective perception biases, especially those related to religiosity and welfare. Moreover, although the mixed-methods approach enhanced the richness of interpretation, the qualitative component primarily explored institutional and community perspectives rather than household-level longitudinal experiences. The regression model explained only part of the variation in community welfare, indicating that other influential factors—including digital inclusion, environmental conditions, social protection systems, entrepreneurial capacity, and public service quality—were beyond the scope of this investigation. These limitations provide important directions for expanding future theoretical and empirical research.

Recommendations for Future Research

Future studies should broaden the analytical framework by incorporating additional determinants of community welfare, including digital transformation, environmental sustainability, institutional trust, entrepreneurial ecosystems, financial inclusion, and public service effectiveness. Longitudinal research designs would be particularly valuable for examining how demographic transitions, religiosity, and rural–urban interactions evolve over time and influence welfare trajectories. Comparative studies involving multiple provinces or cross-country cases within Southeast Asia would also strengthen the external validity of existing findings and provide deeper insights into how cultural, institutional, and economic contexts shape rural–urban development. Such comparative evidence would contribute to the refinement of integrated theories of regional welfare and territorial resilience.

Further research should also deepen the integration of Islamic economics into rural–urban development studies. Future investigations may evaluate the effectiveness of zakat, waqf, Islamic microfinance, and other Islamic social finance instruments in strengthening human capital, reducing regional inequality, and supporting sustainable local economic development. More advanced analytical approaches, such as structural equation modeling, multilevel analysis, or longitudinal mixed-methods designs, could clarify the mediating and moderating roles of social capital, governance quality, and religiosity in shaping welfare outcomes. Additionally, participatory action research involving governments, religious institutions, village enterprises, and local communities would generate more policy-relevant evidence for designing inclusive, culturally grounded, and sustainable rural–urban development strategies in Indonesia and other developing economies.

Author Contributions

Conceptualization	S.B., R.F., A.M., & D.M.Z.	Resources	S.B., R.F., A.M., & D.M.Z.
Data curation	S.B., R.F., A.M., & D.M.Z.	Software	S.B., R.F., & D.M.Z.
Formal analysis	S.B., R.F., & D.M.Z.	Supervision	S.B., R.F., & D.M.Z.
Funding acquisition	S.B., R.F., A.M., & D.M.Z.	Validation	S.B., R.F., A.M., & D.M.Z.
Investigation	S.B., R.F., A.M., & D.M.Z.	Visualization	S.B., R.F., A.M., & D.M.Z.
Methodology	S.B., D.M.Z.	Writing – original draft	S.B., R.F.
Project administration	S.B., A.M., & D.M.Z.	Writing – review & editing	S.B., R.F., A.M., & D.M.Z.

All authors have read and agreed to the published version of the manuscript.

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Informed Consent Statement

Informed consent was obtaned before respondents answered the interview for this study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author.

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Conflicts of Interest

The authors declare no conflicts of interest.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work the authors used ChatGPT, Grammarly, and PaperPal to translate from Bahasa Indonesia into American English, and to improve clarity of the language and readability of the article. After using these tools, the authors reviewed and edited the content as needed and took full responsibility for the content of the published article.

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