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Growing Cities, Growing Conflicts: Urbanisation and Socioeconomic Influences on Land Issues in Dodoma, Tanzania

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ABSTRACT

Rapid urbanisation, population growth and deepening socioeconomic inequalities in Dodoma City, Tanzania, are triggering pervasive land conflicts that obstruct sustainable development. Rapid urbanisation in developing countries has heightened land competition, exposing underlying socioeconomic inequalities and governance issues. In sub-Saharan Africa, cities are expanding faster than institutions can manage land access, tenure security, and urban planning. Tanzania's capital, Dodoma, illustrates these trends, where population growth, poverty, and unregulated urban sprawl frequently lead to disputes over ownership, compensation, and land use. This study explores the link between urban growth, poverty, and land conflicts in Dodoma, Tanzania. Using an explanatory sequential mixed-methods approach, data were gathered from 258 households via stratified random sampling, along with 12 key informant interviews with planners, surveyors, and land officers. Quantitative analysis employed multiple linear regression, complemented by qualitative insights to provide context. Findings reveal that socioeconomic factors such as education and employment significantly impact land conflicts, while population growth, migration, and informal settlements contribute to disputes through unplanned expansion. Applying Resource Dependence Theory and Urbanisation Theory reveals that conflicts stem not only from resource scarcity but also from structural inequalities that impede fair access to land amid rapid urbanisation. The study suggests that effective conflict mitigation requires integrated strategies combining poverty alleviation, legal empowerment, and participatory urban planning. Strengthening land governance and fostering inclusive development are essential for a sustainable and peaceful urban transformation in Tanzania and comparable regions.

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1.0 Introduction

Land plays a crucial role in socio-economic development, being essential for agriculture, housing, investment, and overall progress. The growing global demand, driven by population growth, urbanisation, economic development, and climate change, has placed significant pressure on land resources (Moreda, 2023). In numerous developing areas, overlapping interests, weak policies, and poor land management systems have contributed to an increase in land-related disputes (Akoth, 2022). Land conflicts remain a major global concern, affecting both urban and rural areas. In nations like China and India, large-scale land acquisitions for urbanisation and industrial projects have displaced millions of people, leading to widespread protests and legal challenges (Borras *et al*., 2025). For instance, in China, over 65% of farmers' petitions are related to land issues, with 73.2% specifically involving land expropriation. Conflicts arising from land expropriation have become a significant threat to social stability in the country (Lin *et al.,* 2023). Colombia's attempts to restore land in the post-conflict period have faced major obstacles from ongoing violence and illegal land occupations, disproportionately impacting indigenous communities (Joireman and Tchatchoua-Djomo, 2023). Across Africa, land disputes among farmers, herders, investors, and government authorities persist, fuelled by colonial-era land laws, unequal access to resources, environmental pressures, and weak governance. (Erasmus Ntumva, 2022). Between 2020 and 2023, forced land acquisitions and inadequate compensation displaced over 500,000 people in Ethiopia (Marzocchi & Arribas Cámara, 2024).Tanzania is currently facing growing challenges related to land, with 70% of its population relying on it for their livelihoods (Tanzania National Bureau Report, 2020). The country is also experiencing rapid urban growth at a rate of 5.2% annually, alongside increasing demands for land for agriculture, housing, and investment. These pressures have contributed to a rise in land-related conflicts. A clear example is the 2023 incident in Morogoro, where over 10,000 families were evicted, many of whom lacked formal land ownership documents (Ministry of Finance and Planning, 2022). The National Land Policy of 1995 sought to enhance equitable land access, fortify land rights, and diminish informal settlements (Sections 4.2.1–4.2.3). Although it sought to address population growth, urban sprawl, and increasing land demands, it lacked integrated and practical strategies, limiting its effectiveness in mitigating land disputes. However, the persistence of conflicts suggests that policy implementation has been constrained by weak institutional capacity, limited political commitment, and localised power dynamics, which undermine intended reforms rather than flaws in policy content alone. Key drivers such as poverty, unemployment, and rural-urban migration were insufficiently addressed, contributing to inequality and unregulated land occupation. Moreover, the coexistence of statutory and customary land systems along with weak institutions and local-level corruption continues to hinder effective land management. Despite reforms such as the Land Act and Village Land Act of 1999, the number of land disputes has increased significantly, rising from 13,203 cases in 2009/2010 to over 30,000 by 2023/2024 (MINISTRY OF LAND, 2023). In Dodoma, over 30% of these conflicts are linked to informal settlements and land grabbing, exacerbated by insecure land tenure, poor spatial planning, and weak land administration (Mwamlangala & Mushy, 2022).Dodoma, the capital city of Tanzania, is experiencing increasing land conflicts driven by rapid population growth and urban expansion. According to the 2022 National Census, the city's population reached 3.08 million, with an urbanisation rate of 41.3%. This growth has intensified land demand, particularly in peri-urban areas, where informal settlements and infrastructure projects are expanding. In 2023, more than 5,000 families were displaced from the outskirts of Dodoma due to development initiatives. Many affected residents cited inadequate compensation and lack of participation in the planning process. Nearly 60% of Dodoma's population lacks legal land ownership, heightening the risk of eviction (Mwamlangala & Mushy, 2022). Persistent socio-economic challenges, including poverty, unemployment, rapid urbanisation, and increasing land values, continue to heighten tensions. While bodies like the District Land and Housing

Tribunals have been created to address these issues, their effectiveness is limited by weak institutional capacity, corruption, low public awareness of land rights, and inadequate coordination between planning and implementation (Adwell & Sebahene, 2025).Despite the presence of several legal and institutional frameworks, the persistence and escalation of land conflicts in Dodoma highlight a critical problem: existing land governance mechanisms are not effectively mitigating disputes arising from socio-economic pressures, rapid population growth, and unplanned urban expansion. The unclear demarcation between statutory and customary land ownership, weak enforcement of land laws, and limited citizen participation in land allocation and compensation processes have created an environment where land conflicts not only persist but intensify. This situation threatens social stability, equitable development, and sustainable urban growth in the capital. Therefore, there is an urgent need to examine the underlying factors influencing the progression of land conflicts among households in Dodoma to inform more inclusive and practical policy responses. This study was conducted with the general objective of analysing the factors influencing the progress of land conflicts among households in Dodoma City, Tanzania. Specifically, it aimed to assess the influence of socio-economic factors and evaluate the effects of population growth and urban expansion on the progression of land conflicts. The significance of this research lies in its potential to identify the drivers of land conflict progression and provide insights that support the formulation of more effective land policies and conflict resolution strategies. By addressing these objectives, the study contributes to enhanced land governance, promotes sustainable land management, and deepens the understanding of conflict dynamics. It also supports academic inquiry, increases community awareness, and fosters cross-sector collaboration, critical elements for peacebuilding and regional development.

2.0 Literature Review

This section focuses on previous research related to the topic. It includes reviews of theoretical and empirical studies and presents the conceptual framework.

2.1 Theoretical Underpinning

Urbanisation Theory, created by sociologists like Ernest Burgess in the 1920s, talks about how cities grow and how that growth affects social, economic, and environmental structures. The theory explains that as urban populations increase, cities expand outward, leading to changes in land use, property rights, and community dynamics (Evoh, Anireh and Taylor, 2022). In relation to land conflicts, population growth and urbanisation increase the demand for land, which often leads to disputes over ownership, access, and usage. In fast-growing urban centres like Dodoma, pressure on land resources fosters competition among households, triggering conflicts. Urbanisation theory emphasises that unplanned urban growth exacerbates these problems, particularly when local authorities struggle to implement effective land management policies. Weak legal frameworks and unregulated land markets further worsen disputes by undermining clarity over land rights. The theory also emphasises the importance of coordinated urban planning and inclusive governance in reducing tensions. Effective land-use policies, secure tenure, and transparent administrative processes help mitigate conflicts (Angel, 2023). However, in the absence of these mechanisms, rapid population growth and poor planning increase the likelihood of disputes. This theory supports the following research hypothesis:

***H2**: Population growth and urban expansion significantly influence the land conflicts among households in Dodoma City.*

Although RDT and urbanisation theory offer valuable lenses for understanding scarcity, socio-economic pressure, and spatial expansion, neither framework fully explains how these factors interact at the household level in rapidly urbanised African capitals. The literature shows limited integration of both theories in a single model, revealing a gap in understanding how resource limitations and urban growth jointly shape the progression of land conflicts within city environments such as Dodoma.

2.2 Empirical Literature Review

An empirical literature review examines previous studies relevant to the research topic. Through this review, researchers gain insights and knowledge based on the findings of earlier investigations. Below are some key studies related to this research, as reviewed by the researcher:

2.2.1 Land Conflicts

Several studies have explored the causes and effects of land conflicts across different regions. Komba (2021) performed a cross-sectional study in Rufiji District, Tanzania, to investigate the effects of pastoralist migration on land-use conflicts. Using multistage sampling, surveys, focus group discussions, interviews, and documentary reviews, data were collected from 200 households across five villages. The study revealed that the arrival of pastoralists intensified land-use conflicts, particularly between pastoralists and native crop farmers. Although various stakeholders and local mechanisms have been engaged in conflict resolution, tensions persist due to inadequate land allocation and weak enforcement of land management procedures. The study recommended establishing proper resettlement mechanisms for pastoralists, strengthening community-based conflict resolution approaches, and ensuring that land allocation follows the Tanzania Village Land Act to promote sustainable coexistence.

Adea (2025) examined persistent farmer-pastoralist conflicts in Central Equatoria State, South Sudan, and their socio-economic consequences. The study collected primary data from 200 respondents in the conflict-prone counties of Juba, Terekeka, Lainya, and Kajokeji using questionnaires, interviews, and focus group discussions. Findings revealed multiple conflict drivers, including environmental stressors such as floods and droughts, livestock overstock, population growth, unethical behaviour; and weak policy enforcement. Current government and non-governmental interventions were deemed insufficient in tackling these issues. While Marxist conflict theory was applied to understand power dynamics, its limitations necessitated a more context-sensitive approach. The study suggested a hybrid conflict resolution model that combines participatory dialogue with targeted enforcement, tailored to the unique dynamics of each conflict incident, to foster enduring peace. The study recommended policy reform, improved governance, and participatory conflict management as essential components for effective conflict resolution.

Aikaeli and Markussen (2022) investigated the link between formal private property rights and agricultural investment, land valuation, and credit access in Tanzania. Using household survey data, the study found that possessing landownership documents significantly increased land market value by more than 25%. This rise was attributed to the ability of documented landowners to use their property as collateral, thereby improving access to credit. The study demonstrated that secure land tenure encourages economic activity and investment in agriculture. However, it focused primarily on the economic dimension and did not extensively explore social or institutional barriers to land titling. It recommended systematic land registration to enhance agricultural productivity and promote rural development in Tanzania and similar contexts.

Together, these studies, Komba (2021), Adea (2025), and Aikaeli and Markussen (2022), revealed that inadequate land allocation, weak enforcement of land management, and insecure tenure significantly contribute to persistent land conflicts. Their findings support the present study's focus on understanding the drivers of household land conflict in Dodoma City, Tanzania, and suggest that there should be strengthened governance, systematic land registration, and participatory conflict resolution mechanisms to promote sustainable coexistence and rural development. However, despite these important contributions, the existing literature still lacks a focused, quantitative understanding of how land conflict drivers evolve at the household level within a rapidly urbanised capital city context. Prior studies such as Komba (2021) and Adea (2025) address broader district or regional patterns, leaving limited insight into how these dynamics specifically manifest among urban and peri-urban households in Dodoma, a city facing unique pressures of planned urban expansion and population growth. This gap underscores the need for research that captures household-level conflict progression in such an urbanising environment.

2.2.2 Socioeconomic Factors

Recent studies have identified various socioeconomic issues contributing to land conflicts. Hussein (2024) explored tensions between investors and smallholders in Tanzania's large-scale farming sector. Conflicts often occurred when government-allocated land, already occupied by squatters, was handed to investors. Vulnerabilities such as low income, limited education, and high unemployment among smallholders fueled these disputes. The study used qualitative methods such as interviews and document review but did not fully address the role of broader governance and market structures. Hussein recommended improving legal access to land, strengthening conflict resolution mechanisms, and introducing seasonal land use managed by local leaders.

Zhang *et al. (2024) analysed* land dispute intensity (LDI) across Chinese provinces from 2009 to 2018, examining its spatial patterns and driving factors. Using OLS, Spatial Durbin, Geodetector, and panel threshold models, the study revealed that LDI exhibited spatial decentralisation, forming a "single core, multiple clusters" structure with significant positive spatial autocorrelation. Urbanisation rate, social security expenditures, and the number of land and resource institutions emerged as key determinants. Findings showed nonlinear threshold effects, where increased social security and institutional presence first reduced but later intensified disputes. The study emphasised the importance of balanced urbanisation, effective governance, and adaptive policy interventions to strengthen land dispute management. Bullu (2022) focused on resource-use conflicts between farmers and pastoralists in the Mkata Plains. The study linked disputes to income inequality, unemployment, and competition over land. Participatory Rural Appraisal and household surveys were used to collect data. Although effective in identifying key drivers, the study did not explore long-term outcomes such as the role of education or government support. It recommended capacity-building in conflict resolution, institutional strengthening, and the creation of village-level land committees.

Hussein (2024), Zhang *et al.* (2024), and Bullu (2022) collectively highlighted that land conflicts are largely influenced by factors such as low income, limited education, poverty, and unequal land access. They stressed the importance of robust institutions, equitable governance, and broad socioeconomic reforms. These insights correspond with the study's objective of examining the influence of socioeconomic factors on land conflicts among households in Dodoma City. Nevertheless, current research offers limited quantitative analysis at the household level within rapidly urbanising African capitals. Most existing studies concentrate on rural farmer–pastoralist interactions or focus on national and regional trends, leaving a gap in understanding how specific socioeconomic pressures affect urban and peri-urban households in a planned political capital like Dodoma. This gap highlights the necessity of investigating how these socioeconomic conditions influence the development of household land conflicts in such a distinct urban context.

2.2.3 Population Growth and Urban Expansion

Population growth and urban expansion have been widely linked to rising land conflicts. De Jong *et al.* (2021) found that increasing population and urbanisation raised demand for land, food, water, and shelter, often leading to deforestation and intensified land competition. Their systematic review of 62 case studies identified poor land governance, overlapping land rights, and economic inequality as major contributors to land-related conflicts. While the study offered broad insights, its reliance on secondary data and limited focus on local variations posed methodological limitations. It recommended improving land governance, clarifying land rights, and involving local stakeholders in the policymaking process.

Kimengsi and Awah (2021) examined urban growth in Bamenda II, Cameroon, and established a positive correlation between urban expansion and land conflicts. Migration and informal settlements were identified as key drivers. Using a mixed-methods approach with 80 sampled households, focus groups, and field observations, the study confirmed that unplanned urban growth exacerbated disputes over land access. However, the small sample size and limited geographic scope may have reduced the generalisability of its findings. The authors recommended managing urban growth, clarifying

land titles, and involving planning authorities to reduce land-related disputes.

Komba (2021) investigated land-use conflicts in Rufiji District, Tanzania, resulting from pastoralist in-migration due to population pressures. The study revealed that increasing numbers of pastoralists competing with native farmers escalated disputes, which were exacerbated by the absence of clearly allocated land. A cross-sectional design was employed, including 200 household surveys, interviews, and focus group discussions. Although the study provided detailed data, its purposive sampling and the exclusion of younger or recently settled residents may have limited the diversity of perspectives. Komba suggested that land be set aside for both groups, that local dispute resolution be improved, and that Tanzania's Village Land Act be strictly enforced.

Overall, De Jong *et al.* (2021), Kimengsi and Awah (2021), and Komba (2021) demonstrated that population growth and urban expansion are placing increasing pressure on land, leading to conflicts. These studies emphasise the need for clearly defined land rights, inclusive urban planning, and stronger local governance. Their findings are relevant to this study's third objective, which explores how demographic and spatial growth influence the progression of land conflict among households. However, existing research predominantly examines regional or district-level trends, with limited focus on household-level dynamics in rapidly urbanising African capitals. There is a notable gap in understanding how urban expansion and population growth specifically affect land conflict progression among urban and peri-urban households in a planned city like Dodoma, where unique demographic pressures and spatial planning challenges exist. Addressing this gap is essential to capture the nuanced ways in which population and urbanisation drive household land disputes.

2.2.4 Research Gap

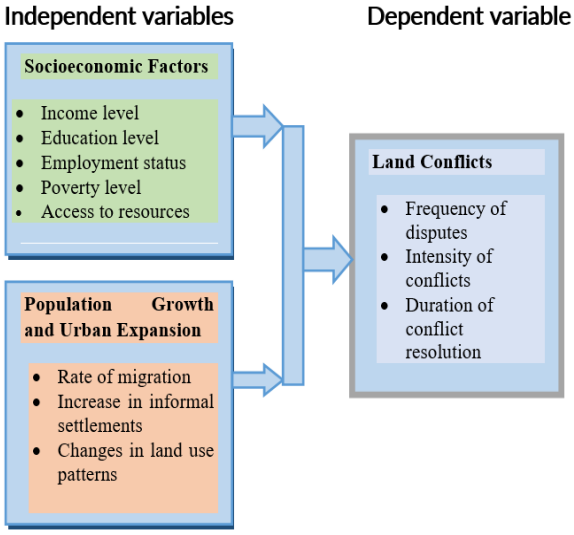
The reviewed literature reveals notable methodological and contextual limitations that constrain the depth and applicability of findings on land conflicts. Many studies, including those by Komba (2021), Adea (2025), and Hussein (2024), relied primarily on qualitative approaches or small sample sizes, which limited the generalisability of their results. Others, such as De Jong *et al.* (2021) and Kimengsi and Awah (2021), depended heavily on secondary data or localised case studies, reducing their capacity to capture broader urban dynamics. While several studies have addressed land tenure, governance, or socio-economic factors independently, few have integrated these dimensions to explain how they collectively drive household-level conflicts in rapidly urbanising contexts, such as Dodoma. Moreover, limited stakeholder inclusion, particularly of marginalised or displaced groups, and insufficient empirical analysis weaken the policy relevance of existing work. These gaps indicate the importance of comprehensive, data-driven, and context-specific research that examines the combined influence of socio-economic factors, population growth, and urban expansion on the progression of land conflicts in Dodoma City.

2.2.5 Conceptual Framework

This study used a conceptual framework to analyse how socioeconomic conditions, population growth, and urban expansion influence land conflict trends. The framework measured land conflict progression in terms of frequency, severity, and duration. It aimed to uncover the underlying causes of conflict and support evidence-based policy formulation.

Figure 1

Conceptual Framework



Source: Literature reviewed (2025)

3.0 Material and Methods

3.1 Research Design

This study adopted a mixed-methods approach, specifically utilising an explanatory, sequential design. This design involved the initial collection and analysis of quantitative data, which was then followed by a qualitative phase to explain and elaborate on the statistical findings. The quantitative phase employed structured questionnaires to measure the relationships between the independent variables (socioeconomic factors, population growth, and urban expansion) and the dependent variable (the progression of land conflicts). The structured format was chosen to ensure consistency in responses and facilitate statistical analysis. The subsequent qualitative phase used in-depth interviews with key stakeholders to contextualise the quantitative results and provide nuanced insights, particularly on the role of land tenure insecurity. This integration enhanced the validity and depth of the findings through methodological triangulation.

3.2 Study Area and Sampling Techniques

The study was conducted in Dodoma City, Tanzania. The quantitative sample was drawn from a population of 775 individuals who had reported land conflict cases to the Dodoma Municipal Council's Land Mediation Council during the years 2023/2024–2024/2025. Using Yamane's formula with a 95% confidence level and a margin of error of 5%, a minimum sample size of 258 household heads was calculated. The wards were stratified into three categories based on dominant land use (agricultural, residential, mixed-use) and level of urban growth (high, medium, low). In each ward, households were chosen at random from council lists, and the number of men and women was kept equal by using proportional allocation. A sampling fraction of 0.333 was applied across each ward and gender stratum to ensure representativeness. The seven purposefully selected wards included Nzuguni, Dodoma Makulu, Mkonze, Ihumwa, Mtumba, Kikombo, and Iyumbu; they were chosen to capture variations in urbanisation, land use, and conflict prevalence.

For the qualitative component, a purposive criterion sampling approach was employed to select 12 key informants. The criteria for selection included (1) a minimum of five years of professional experience in land administration or urban planning in Dodoma, or (2) holding a position as a ward executive officer or village chairperson who had directly mediated at least three land conflict cases in the past two years. The key informants comprised land officers, legal experts, town planners, surveyors, valuers, and ward/street/village executive officers, selected based on their expertise and direct involvement in land administration and conflict resolution.

3.3 Data Collection Methods

Primary data were collected using two main instruments: surveys/questionnaires and in-depth interviews. The structured questionnaires administered to 258 household heads consisted of closed-ended questions using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to quantify both independent and dependent variables. Additionally, semi-structured interviews were conducted with 12 key informants to obtain qualitative insights into their experiences and perceptions, particularly regarding land tenure insecurity. The interviews continued until thematic saturation was achieved.

3.4 Data Analysis Procedures

Data analysis in this study followed an explanatory sequential design, employing distinct techniques for quantitative and qualitative data. collected from the structured questionnaires were analysed using SPSS Version 20. Descriptive statistics (means, standard deviations) were used to summarise the respondents' demographic characteristics and the study variables. Multiple linear regression was applied to test the hypothesised relationships between independent variables (socioeconomic factors, population growth, urban expansion) and the dependent variable (progression of land conflicts). Pearson's correlation coefficient was used to examine bivariate relationships among variables. Prior to regression analysis, several diagnostic tests were conducted to ensure that the assumptions of the model were met. The Kolmogorov-Smirnov and Shapiro-Wilk tests ($p > 0.05$) confirmed the normality of residuals, while the Variance Inflation Factor (VIF) values below

10 and tolerance values above 0.2 indicated the absence of multicollinearity.

Additionally, the Breusch-Pagan test ($p > 0.05$) verified the homoscedasticity of the data. To assess construct validity, factor analysis was performed using Principal Component Analysis with Varimax rotation, and the results (KMO = 0.870; Bartlett's Test $p < 0.001$) confirmed the suitability of the data for factor analysis. To test the study's hypotheses (H_1, H_2), a multiple linear regression model was applied, specified as $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \mu$ where Y represented the progression of land conflicts, X_1 denoted socio-economic factors, X_2 captured population growth and urban expansion. The intercept β_0 and regression coefficients (β_1, β_2) indicated the magnitude and direction of relationships, while μ represented the error term. The significance of the overall model was evaluated using ANOVA (F-test), and the significance of individual predictors was assessed through t-tests, with p-values less than 0.05 considered statistically significant. The coefficient of determination (R^2) was used to measure the proportion of variance in the dependent variable explained by the model. Furthermore, Pearson's correlation coefficient (r) was computed to examine the strength and direction of bivariate relationships among the variables. Qualitative data obtained from in-depth interviews were transcribed and analysed using ATLAS.ti software. A thematic analysis approach was employed to identify, analyse, and interpret patterns and themes related to land tenure insecurity and its influence on the progression of land conflicts.

3.5 Validity and Reliability

To ensure validity, the study design incorporated triangulation by using multiple data sources (household heads and key informants) and methods (surveys and interviews). The research instruments were pre-tested in a pilot study involving 21 household heads and 3 key informants, and their feedback was used to refine the tools for clarity and relevance. Reliability for the quantitative instrument was assessed using Cronbach's Alpha, which yielded a high value of 0.947 for all 39 items, indicating excellent internal consistency.

3.6 Ethical Considerations

This study received ethical approval from the Mzumbe University Institutional Review Board. Informed consent was obtained from all participants before data collection. Participants were informed of their right to withdraw at any time. Anonymity and confidentiality were guaranteed, and data were stored securely without identifying information.

4.0 Results

The findings of the study on land conflict progression in Dodoma City are presented using both descriptive and inferential statistics. The findings demonstrated that socioeconomic factors, demographic growth, and urban expansion substantially impacted the emergence and intensification of land conflicts.

4.1. Descriptive Statistics

A descriptive analysis of the survey data, based on a 5-point Likert scale, was used to assess socioeconomic conditions, perceptions of population growth, urban expansion, and the progression of land conflicts. The analysis focused on identifying how socio-economic stress and urban development patterns contributed to the persistence and escalation of land-related disputes in Dodoma City.

4.1.1. Descriptive Analysis of Factors Influencing Land Conflicts in Dodoma

The analysis of land conflict drivers in Dodoma revealed that socio-economic conditions, urban expansion, and the progression of conflict were major contributing factors, as shown in Table 1. Among the socio-economic variables, education level and poverty emerged as the most influential, each recording a mean score of 2.98. A town planning officer explained *that "low education leads to errors and delays, increasing disputes,"* while a land surveyor remarked that *"poorer households were more vulnerable."* Income level (M = 2.88) and employment status (M = 2.82) were also significant. Households with limited financial resources were often unable to afford formal land surveys, leading some to sell the same plot to multiple buyers. Although access to resources received the lowest mean score (M = 1.93), it remained relevant, particularly in peri-

urban areas where land and service access was highly unequal.

Urban expansion factors recorded even higher mean values: migration (M = 3.12), informal settlements (M = 3.09), and changes in land use (M = 3.14). These findings underscored the strong correlation between urban pressure and land disputes. Migration placed significant strain on already limited land, frequently resulting in boundary conflicts between long-term residents and newcomers. A land surveyor noted that *"government relocation raised land value, leading to invasions."* Informal settlements, often established without legal recognition, contributed to land grabbing and forced evictions. One valuer stated that *"undeveloped land becomes vulnerable to illegal sales."* Additionally, changes in land use, particularly the conversion of farmland into residential or commercial zones, led to zoning disputes and displacement. A land officer observed that "*new compensation laws have led to reallocation disputes."*

The progression of land conflicts was assessed using three indicators: frequency (M = 2.98), intensity (M = 3.00), and the duration of conflict resolution (M = 1.12). These results reflected the growing severity of land disputes in the study area. Not only were conflicts frequent, but they also often escalated into violence or became prolonged within the legal system. A land officer reported *"regular physical confrontations,",* and official records revealed that the District Land Board handled over 300 cases in a single year. Delays in resolving disputes allowed land grabbers to take advantage of legal loopholes. As the Mtumba Ward chairman stated, *"Delayed mediation allows land grabbers to gain ground."*

These results collectively indicated that poverty and inequality not only instigated land disputes but also perpetuated and exacerbated them. These findings emphasise the urgent need for improved land governance, timely and effective mediation, and inclusive policies that address both the root causes and the ongoing impacts of land conflicts.

Table 1
Combined Indicators of all Variables

Variables	Indicator	Mean	Standard Deviation
Socio-economic Factors	Income Level	2.88	0.356
	Education Level	2.98	0.151
	Employment Status	2.82	0.458
	Poverty Level	2.98	0.124
	Access to Resources	1.93	0.262
Population Growth & Urban Expansion	Rate of Migration	3.12	0.504
	Increase in Informal Settlements	3.09	0.625
	Change in Land Use Pattern	3.14	0.570
Land Conflicts	Frequency of Conflicts	2.98	0.186
	Intensity of Conflicts	3.00	0.062
	Duration of Conflict Resolution	1.12	0.326

Source: Surveyed Data (2025)

4.2 Inferential Statistics

The study used multiple linear regression to assess how socioeconomic factors, population growth, and urban expansion influenced land conflict progression in Dodoma City. This method, as noted by Pallant (2020), allowed for the simultaneous analysis of several predictors and demonstrated the strength and direction of each factor's effect while accounting for the effects of others.

4.2.1 Regression Analysis of Socio-economic and Urban Expansion Factors on Land Conflicts

The regression results from Tables 6 and 7, at the 0.05 significance level, confirmed that both socio-economic factors and population growth, along with urban expansion, significantly influenced the progression of land conflicts in terms of frequency, intensity, and duration in Dodoma City.

For socio-economic factors, the study confirmed Hypothesis HA_1, showing that these variables collectively explained 35.5% of the variance in

land conflict progression (R^2 = 0.355, Adjusted R^2 = 0.353), with a standard error of 2.938. Among individual predictors, education level (R^2 = 0.319, t = 10.963) and employment status (R^2 = 0.289, t = 10.205) were found to be the strongest influences. Other significant contributors included income level (R^2 = 0.277, t = 9.893), poverty level (R^2 = 0.261, t = 9.521), and access to resources (R^2 = 0.212, t = 8.309). These findings underscore that disparities in education, employment, and economic conditions intensify and sustain land conflicts, especially in communities lacking secure tenure or access to formal dispute resolution mechanisms.

Similarly, the study validated Hypothesis HA_3 regarding population growth and urban expansion. Regression findings showed that these factors explained 23.3% of the variance in conflict progression (R^2 = 0.233, Adjusted R^2 = 0.230), with a standard error of 3.204, indicating moderate model accuracy. The most influential predictor was the increase in informal settlements (R^2 = 0.227, t = 8.676), followed by the rate of migration (R^2 = 0.197, t = 7.928) and changes in land use patterns (R^2 = 0.196, t = 7.900). These results reflected how rapid urban expansion without adequate planning and legal frameworks contributed to land insecurity, disputes over zoning, and tensions between newcomers and long-term residents.

Note: All statistical results cited above are based on the empirical data and regression outputs provided in Tables 6 and 7, as contained in the Appendices: Regression and ANOVA Tables for Factors Influencing Progression of Land Conflict Incidences.

4.2.2. Analysis of Variance (ANOVA) for Socio-economic and Urban Expansion Factors Influencing Progression of Land Conflicts

The analysis of variance results, presented in Table 8, confirmed that both socio-economic factors and population growth with urban expansion significantly influenced the progression of land conflicts in Dodoma City. The ANOVA for socio-economic factors revealed that the model was statistically significant, with an F-value of 140.946, a p-value of 0.000, and degrees of freedom (df = 1, 256). This indicated that socio-economic variables such as education, income, employment, poverty, and access to resources played a critical role in explaining the variation in land conflict progression. Thus, the model provided strong statistical evidence supporting the influence of socio-economic conditions on the frequency, intensity, and duration of land conflicts.

Similarly, the ANOVA results for population growth and urban expansion also supported the model's validity, with an F-value of 77.595, a p-value of 0.000, and the same degrees of freedom (df = 1, 256). These results confirmed that factors such as migration, the rise of informal settlements, and changes in land use patterns had a statistically significant impact on the progression of land conflicts in the city. The strength of these results suggests that unmanaged urban growth has contributed significantly to the escalation and persistence of land disputes.

Note: All statistical results cited above are based on the empirical data and regression outputs provided in Table 8, as contained in the Appendices: Regression and ANOVA Tables for Factors Influencing the Progression of Land Conflict Incidences.

4.2.3 Contribution of Socio-Economic and Urban Expansion Factors on Progression of Land Conflicts

The regression coefficients presented in Table 9 confirmed that both socio-economic factors and population growth with urban expansion had a statistically significant positive impact on the progression of land conflicts in Dodoma City.

For socio-economic factors, the unstandardised coefficient (β = 0.471, t = 11.872, p = 0.000) indicated that a one-unit increase in socio-economic stressors, such as poverty, unemployment, low education, and limited access to resources, led to a 0.471-unit increase in land conflict progression. The standardised Beta coefficient of 0.596 reflected a moderate influence, suggesting that socio-economic inequality was a strong driver of land disputes. The regression equation derived from this model was: LCI = 21.967 + 0.471X + ε (Where: LCI = Land Conflict Incidences, X = Socio-economic Factors, and ε = error term).

These results led to the rejection of the null hypothesis and confirmed that socio-economic

conditions were significantly associated with the escalation and persistence of land conflicts in Dodoma. Therefore, addressing these issues through targeted social and economic reforms remains critical for conflict mitigation.

Similarly, population growth and urban expansion were found to significantly influence land conflict progression, as shown by the coefficient (β = 0.270, t = 8.809, p = 0.000). A one-unit rise in migration, informal settlement expansion, or land use changes contributed to a 0.270-unit increase in land conflicts. The standardised Beta of 0.482 suggested a moderate to strong effect, indicating that the pace and form of urban expansion were closely tied to conflict dynamics. The regression equation for this relationship was:

LCI = 29.767 + 0.270X + ε

(Where: LCI = Land Conflict Incidences; X = Population Growth and Urban Expansion; ε = error term)

Note: All statistical results cited above are based on the empirical data and regression outputs provided in Table 9, as contained in the Appendices: Regression and ANOVA Tables for Factors Influencing Progression of Land Conflict Incidences.

4.2.4 Combined Effect Multiple Linear Regression Model

As noted by Pallant (2010), multiple regression helps analyse the influence of multiple independent variables on a single outcome. In this study, a multiple linear regression model was used to assess the combined impact of socio-economic factors and population growth with urban expansion on the progression of land conflicts in Dodoma City. To ensure the robustness of the model, diagnostic tests for multicollinearity were conducted. The Variance Inflation Factor (VIF) values for socio-economic factors (2.104) and population growth/urban expansion (1.857) were well below the conservative threshold of 5, indicating that multicollinearity was not a severe issue that would bias the coefficient estimates. The results in Table 2 showed a moderate positive relationship (R = 0.605) with an R^2 of 0.366 and an adjusted R^2 of 0.361, meaning the model explained 36.6% of the variance in land conflict progression. The standard error was 2.918, suggesting moderate prediction accuracy. While the combined R^2 is only slightly higher than that of the socio-economic model alone (0.355), the significant contribution of urban expansion in the combined model (p=0.035) confirms it provides unique explanatory power beyond socio-economic factors. ANOVA results (Table 3) confirmed the model's significance (F = 73.688, p = 0.000). Regression coefficients (Table 4) revealed that socio-economic factors had a strong and significant positive effect (β = 0.498, t = 7.334, p = 0.000), while population growth and urban expansion showed a significant but smaller effect (β = 0.144, t = 2.122, p = 0.035).

The final regression model was:

$$LCI = 21.920 + 0.394X_1 + 0.081X_2$$

Where:

LCI = Progression of land conflicts

X_1= Socio-economic factors

X_2 = Population growth and urban expansion

This model indicated that a one-unit rise in socio-economic stress increased land conflict progression by 0.394 units, while a one-unit increase in population growth and urban expansion led to a 0.081-unit increase, assuming other factors remained constant. The findings confirmed that both factors together significantly contributed to the intensification of land conflicts in Dodoma City.

Table 2
Overall Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605[a]	.366	.361	2.918

Predictors: (Constant), Socio-Economic Factors, Population Growth and Urban Expansion

Source: Surveyed data (2025)

4.2.4.1 Analysis of Variance (ANOVA) for all Variables

The ANOVA results in Table 3 confirmed that the regression model was statistically significant, with an F-value of 73.688 and a p-value of 0.000, both of which are below the 0.05 threshold. With 2 degrees of freedom for regression and 255 for residuals, the model demonstrated that socio-economic factors and population growth, along with urban expansion, significantly predicted land conflict progression. This indicated that changes in these variables had a measurable and meaningful impact on the occurrence and escalation of land conflicts in Dodoma City.

Table 3
Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1254.631	2	627.316	73.688	.000[b]
	Residual	2170.845	255	8.513		
	Total	3425.477	257			

a. Dependent Variable: Progression Of Land Conflicts
a. Predictors: (Constant), Socio-Economic Factors, Population Growth and Urban Expansion

Source: Surveyed data (2025)

4.2.4.2 The Influence of Independent Variables on the Dependent Variable

Table 4 displayed the regression coefficients, confirming that both independent variables significantly influenced land conflict progression in Dodoma City. Socio-economic factors had a strong positive impact (β = 0.498, t = 7.334, p = 0.000), indicating that an increase in these factors led to more frequent and intense land conflicts. Similarly, population growth and urban expansion also had a statistically significant positive effect (β = 0.144, t = 2.122, p = 0.035), showing that urban development pressures contributed to conflict escalation. These findings validated the influence of both variables on land conflict trends.

Table 4
Linear Regression of Independent and Dependent Variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	21.920	1.490		14.714	.000
	SOCIO-ECONOMIC FACTORS	.394	.054	.498	7.334	.000
	POPULATION GROWTH AND URBAN EXPANSION	.081	.038	.144	2.122	.035

a. Dependent Variable: Progression Of Land Conflicts

Source: Surveyed data (2025)

4.2.4.2.1 Influence of Socio-Economic Factors and Population Growth and Urban Expansion on the Progression of Land Conflicts

The linear regression analysis demonstrated a statistically significant and positive association between socio-economic factors and the progression of land conflicts (β = 0.498, p = 0.000), suggesting that socio-economic conditions played a critical role in shaping conflict trends. The predictive model was expressed as:

$$LCI = 21.920 + 0.394X_1 + 0.081X_2$$

This equation indicated that a one-unit increase in socio-economic stress led to a 0.394-unit increase in the progression of land conflicts, assuming all other variables remained constant. These findings underscore the need for policies targeting education, employment, and poverty reduction to mitigate land conflicts.

Similarly, the study found a statistically significant positive correlation between population growth and urban expansion, as well as the progression of land conflict (β = 0.144, p = 0.035). The results suggested that rapid urban development and migration pressures contributed to an increase in land disputes. The regression coefficient implied that a one-unit rise in these factors was associated with a 0.081-unit increase in conflict progression, holding other variables constant. This highlighted the importance of integrating urban planning and population management strategies in conflict prevention efforts.

4.2.5 Hypothesis Testing Results

The study tested the hypotheses using linear regression analysis. As shown in Table 5, all results with p-values below 0.05 indicated statistically significant relationships. Therefore, the null hypotheses were rejected, supporting the conclusion that both socio-economic factors and population growth, along with urban expansion, significantly influenced the progression of land conflicts among households in Dodoma City (Pallant, 2010).

Table 5
Hypothesis Tests

Hypothesis	Relationship	Sig value	Decision
Socioeconomic factors do not significantly influence the progression of land conflicts among households in Dodoma City.	Positive	0.000	Reject Ho
Population growth and urban expansion do not significantly affect the progression of land conflicts among households in Dodoma City	Positive	0.035	Reject Ho

Source: Surveyed data (2025)

5.0 Discussions

5.1 Influence of Socioeconomic Factors

The findings revealed that socioeconomic factors significantly influenced the progression of land conflicts in Dodoma City. Descriptive statistics indicated strong agreement among respondents regarding the role of poverty, education, employment, and income levels in escalating disputes. Poverty emerged as a central driver, consistent with Hussein's (2024) findings that economic marginalisation fuels conflicts between smallholders and investors. Similarly, Bekele *et al.* (2022) linked poverty and low education to farmer-pastoralist conflicts in Morogoro.

Regression analysis confirmed these associations, identifying education level (R^2 = 0.319, t = 10.963) as the strongest predictor, followed by employment status, income level, poverty, and access to resources. The model explained 35.5% of the variation in land conflict progression, indicating a substantial influence. These results are consistent with Bullu (2022), who noted in the Mkata Plains that impoverished households engage in heightened competition for limited land resources.

The qualitative results enhance understanding of the quantitative data by showing how socioeconomic vulnerability, especially low income and limited education, directly fuels land conflicts in Dodoma City. Quantitative findings reveal that education level and income level are key predictors of conflict escalation, highlighting how disparities in human and economic resources worsen disputes. Residents with low income frequently engage in informal land dealings, such as double selling, unregistered transfers, and land grabbing, as survival tactics during financial struggles. As one land officer noted, *"Many residents sell the same piece of land to multiple buyers, not out of greed but out of desperation to meet immediate needs"* (Interview, Headquarters, Dodoma City, 17th March, 2025).

This illustrates how economic strain prompts vulnerable households to take risky actions, which may lead to ongoing disputes. Additionally, limited education hinders residents' ability to comprehend legal procedures and assert their property rights. One urban planning officer also pointed out that "illiteracy *leaves many residents vulnerable to fraudulent land transactions; they sign documents they cannot read and lose their land without realising it."* (Interview, Headquarters, Dodoma City, 9 April, 2025).

This testimony highlights how low literacy and limited legal awareness render households vulnerable to exploitation by brokers, speculators, or officials who exploit loopholes. These insights align with quantitative data, which found that socioeconomic factors explained 35.5% of land conflict escalation (R^2 = 0.355, $p < 0.05$). The evidence supports Resource Dependence Theory, suggesting that competition over scarce resources, such as land, intensifies in communities that lack education and economic stability. Education serves as social protection, enabling individuals to engage with formal land systems and resist exploitation. Statistical and narrative evidence both show that poverty and illiteracy are the main causes of land conflict in

Dodoma. Solutions should encompass economic empowerment, legal literacy, and community land governance to safeguard land rights and ensure equitable access to resources.

The combined regression model reinforced these findings, showing that socioeconomic factors remained the strongest predictor (β = 0.498, p = 0.000) even when analysed alongside urban expansion. These results support Resource Dependence Theory (RDT), which posits that competition over scarce resources intensifies in unequal settings. Unlike Regasa and Molla (2022), who emphasised ethnicity in Ethiopian land conflicts, this study found limited ethnic tensions in Dodoma, possibly due to Tanzania's Ujamaa policies, which have historically promoted national unity over tribal affiliations in land governance.

5.2 Influence of Population Growth and Urban Expansion

The study also found that population growth and urban expansion significantly contributed to land conflicts. Regression analysis indicated that informal settlements (R^2 = 0.227, t = 8.676), migration (R^2 = 0.197, t = 7.928), and land-use changes (R^2 = 0.196, t = 7.900) were key drivers. The model explained 23.3% of the variance in conflict escalation, underscoring the role of rapid urbanisation. Descriptive statistics highlighted that informal settlements (M = 3.09, SD = 0.625) and migration (M = 3.12, SD = 0.504) intensified disputes, as unplanned urban sprawl led to boundary conflicts and illegal land occupations. The qualitative evidence provides important context for the quantitative results, which link population growth and urban expansion to the progression of land conflicts. As noted by one land surveyor, *"Government relocation programmes increased land value, triggering invasions by speculators"* (Interview, surveyor, Headquarters, Dodoma City, 10th March, 2025).

This observation reinforces the quantitative finding that changes in land use patterns and migration were among the strongest predictors of conflict escalation. The surge in land value resulting from relocation and infrastructure projects has encouraged speculative activities, where opportunistic actors purchase or occupy land in anticipation of compensation or development gains. This aligns with the statistical evidence that population mobility and the expansion of informal settlements significantly contribute to the progression of conflict.

Similarly, the town planner's statement that "Converting *farmland into residential zones without proper compensation fuelled resentment"* (Interview, Headquarters, Docoma City, 7th April, 2025).

The result underscores the socio-economic injustices embedded in urban expansion processes. Quantitative data revealed that informal settlements and unplanned land use changes had some of the highest mean scores, indicating a strong consensus among respondents that such transformations are significant sources of tension. Inadequate compensation mechanisms undermine land tenure security and intensify perceptions of exclusion among displaced residents, prolonging the conflict resolution process. This supports the urbanisation theory, which posits that rapid and unregulated city growth, when not matched by inclusive planning, tends to amplify competition over land and deepen inequality.

These qualitative insights support the quantitative evidence that urban development without proper governance structures increases both the frequency and severity of land conflicts in Dodoma. They show that the economic incentives behind land reclassification and relocation unintentionally sustain social tensions, emphasising the importance of transparent compensation systems, participatory spatial planning, and fair land valuation methods to prevent conflict escalation.

These findings align with Kimengsi & Awah (2021), who linked urban expansion to land disputes in Cameroon, and Komba (2021), who found that unregulated land conversions in Tanzania worsened conflicts. The combined regression model confirmed that urban expansion had a moderate but significant effect (β = 0.144, p = 0.035) on conflict progression. The study supports urbanisation theory, which posits that rapid urban growth strains land resources, resulting in increased competition (Angel, 2023). Unlike de Jong *et al.* (2021), who emphasised environmental factors, this study highlighted socio-spatial pressures, such as migration and

informal settlements, as dominant conflict drivers in Dodoma. These findings point to the need for improved urban planning, clear land-use policies, and community engagement in development projects to mitigate conflicts.

6.0 Conclusion and Recommendations

6.1 Conclusion

This study analysed the drivers of land conflict progress in Dodoma City, Tanzania, focusing on socioeconomic factors, population growth, and urban expansion. Findings revealed that low income, education gaps, unemployment, and poverty significantly escalated disputes, accounting for 35.5% of conflict variation, with education and employment as key predictors supporting Resource Dependence Theory (RDT). Urban expansion (23.3% variance) intensified conflicts through migration, informal settlements, and land-use changes, aligning with Urbanisation Theory. Combined, these factors explained 36.6% of conflicts, highlighting their interconnected impact. Qualitative insights emphasised weak land governance, speculative land dealings, and tenure insecurity as aggravating factors. To mitigate conflicts, integrated policies are necessary, including poverty reduction, access to education, job creation, urban planning reforms, and transparent land administration. Addressing these challenges holistically can promote sustainable land management and conflict resolution in rapidly urbanising areas, such as Dodoma.

6.2 Theoretical and Policy Implications

The findings underscore the importance of integrating Resource Dependence Theory (RDT) and Urbanisation Theory to more effectively explain land conflicts in rapidly growing urban areas. This study expands RDT by showing that people's reliance on land is influenced not only by competition over limited resources but also by their ability, shaped by factors like education and income, to access land through formal legal systems. It also adds to urbanisation theory by revealing that the physical growth of cities is not the main cause of land conflict. Instead, conflicts are driven primarily by the socio-economic vulnerabilities of those affected by urban expansion. When used together, the two theories provide a stronger framework: urban growth sets the stage for conflict, while socio-economic inequality determines who becomes involved, how severe the conflicts are, and how long they last. From a policy perspective, this integrated view suggests that reducing land conflict requires a twofold approach. Policymakers should focus both on spatial planning and land-use regulation to manage urban growth and on improving education, income opportunities, and overall economic stability to reduce household vulnerability and dependence on land.

6.3 Recommendations

To solve land disputes in Dodoma City, policymakers and city planners need to take a two-pronged approach that deals with both social and economic inequality and uncontrolled urban growth.

First, socio-economic interventions should prioritise education and employment programs to reduce households' vulnerability to land disputes. Initiatives such as vocational training, microfinance schemes, and legal literacy campaigns can empower residents, particularly those in low-income communities, to navigate land ownership and transactions more securely. Additionally, poverty alleviation measures, including subsidised land registration and accessible legal aid, should be implemented to discourage informal land sales and fraudulent transactions. Strengthening land tenure security through digital land registries and decentralised dispute resolution mechanisms will further minimise conflicts arising from overlapping claims and weak governance.

Second, urban planning and governance reforms are crucial for managing rapid population growth and unregulated land use. Authorities should enforce structured zoning laws, transparent compensation policies, and affordable housing programmes to curb illegal settlements and speculative land grabbing. Expanding participatory land-use planning that involves local communities, women, and marginalised groups will ensure equitable land distribution and reduce tensions. Furthermore, capacity-building programmes for land administration officials can enhance efficiency and reduce corruption in land allocation processes. By integrating socio-

economic support with robust urban management strategies, Dodoma City can achieve sustainable land governance, minimise conflicts and foster long-term urban stability.

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APPENDICES

REGRESSION AND ANOVA TABLES FOR FACTORS INFLUENCING PROGRESSION OF LAND CONFLICTS AMONG HOUSEHOLDS IN DODOMA CITY, TANZANIA

Table 6

Regression Summary of Factors Influencing Progression of Land Conflicts

Variables	Indicator	p-value	R Square	t-value	Significance
Socio-economic Factors	Income Level	0.000	0.277	9.893	Significant
	Education Level	0.000	0.319	10.963	Significant
	Employment Status	0.000	0.289	10.205	Significant
	Poverty Level	0.000	0.261	9.521	Significant
	Access to Resources	0.000	0.212	8.309	Significant
Population Growth & Urban Expansion	Rate of Migration	0.000	0.197	7.928	Significant
	Increase in Informal Settlements	0.000	0.227	8.676	Significant
	Change in Land Use Pattern	0.000	0.196	7.900	Significant

Dependent Variable: Progression of Land Conflicts

Source: Surveyed Data (2025)

Table 7

Model Summary for Factors Influencing Progression of Land Conflicts

Category	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Socio-economic Factors	1	0.596	0.355	0.353	2.938
Population Growth & Urban Expansion	1	0.482	0.233	0.230	3.204

Dependent Variable: Progression of Land Conflicts

Predictors: Socio-economic Factors; Population Growth and Urban Expansion

Source: Surveyed Data (2025)

Table 8

Analysis of Variance (ANOVA) for Factors Influencing Progression of Land Conflicts

Category	Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Socio-economic Factors	Regression	1216.307	1	1216.307	140.946	0.000
	Residual	2209.170	256	8.630		
	Total	3425.477	257			
Population Growth & Urban Expansion	Regression	796.770	1	796.770	77.595	0.000
	Residual	2628.706	256	10.268		
	Total	3425.477	257			

Dependent Variable: Progression of Land Conflicts

Predictors: Socio-economic Factors; Population Growth and Urban Expansion

Source: Surveyed Data (2025)

Table 9

Coefficients for Factors Influencing Progression of Land Conflicts

Category	Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig. (p-value)
Socio-economic Factors	Constant	21.967	1.500	—	14.647	0.000
	Socio-economic Factors	0.471	0.040	0.596	11.872	0.000
Population Growth & Urban Expansion	Constant	29.767	1.138	—	26.150	0.000
	Population Growth and Urban Expansion	0.270	0.031	0.482	8.809	0.000

Dependent Variable: Progression of Land Conflicts

Source: Surveyed Data (2025)