


# Local Voices, Lasting Solutions: The Role of Community Participation in Land Conflict Resolution in Rapidly Urbanizing Cities in Tanzania

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## Abstract

This study examines community participation in land conflict resolution across five wards in Dodoma City. It explores community-based approaches and assesses how participation influences the effectiveness of these efforts. Using a mixed-methods design, data were collected from 156 landholder household heads and 46 key informants, including Ward Executive Officers, ward tribunal members, community leaders, and officials from land-related departments. Findings reveal that local mechanisms such as mediation and community dialogue are culturally adaptable, fostering a sense of ownership and yielding sustainable outcomes. Increased community involvement was associated with more effective dispute resolution and greater compliance with decisions. However, barriers such as limited awareness and restricted access to information hinder meaningful participation. The study underscores the critical role of strengthened local governance and inclusive community engagement in resolving land conflicts. Functional ward tribunals and community resolution committees emerged as key contributors to reduced disputes, enhanced trust, and resident satisfaction. To improve outcomes, the Dodoma City Council should implement targeted awareness programs, establish inclusive dialogue platforms, and allocate adequate resources to support local conflict resolution efforts. These measures will empower communities and enhance their capacity to manage land disputes effectively.

## Keywords

Community Participation, Land Conflict Resolution, Ward-Level Evidence,

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Dodoma City, Tanzania

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## 1. Introduction

In African countries, land is the primary source of livelihood for their populations (Mwamlangala and Mushy, 2022). This is due to its utilization for various economic activities such as agriculture, fishing, settlement, commerce, and other purposes (Chacha, 2022). Tanzania covers a total area of 945,087 sq·km, including 59,050 sq·km of inland water, making it slightly larger than twice the size of California (Golar et al., 2021). The estimated population in 2022 was 40.2 million, with approximately 65% residing in rural areas (URT, 2022). Despite being a vital resource, studies indicate a rapid decline in the availability of land due to increased population pressure, leading to reduced land size and heightened competition, consequently resulting in various land disputes (Ringo, 2023; Rubakula et al., 2019). In response to these challenges, the United Republic of Tanzania introduced the National Land Policy in 1995 to address land-related issues, including disputes (URT, 2020). However, Tanzania faces urbanization challenges fueled by a high population growth rate of 4.8% per year, one of the highest in Africa (Ringo, 2023). The country anticipates that the urban population will reach 50% by 2030 due to rural-urban migration, leading to an ongoing surge in land disputes in urban areas. This is attributed to the demand for land for settlement, investment, and other purposes (Apipalakul, 2017). Budget speeches from the Ministry of Lands, Housing, and Human Settlements Development over five consecutive financial years, starting in 2009/2010, reported a significant increase in land dispute cases. The 2021/2022 financial year recorded a notable peak, with 12,643 cases filed and 10,092 cases resolved in the District Land Housing Tribunal (DLHT) (Massay, 2023).

In Tanzania, land serves as the backbone of the nation's economy, supporting agriculture, settlements, and various other activities. However, rapid population growth and increasing urbanization in cities like Dodoma City have led to a decline in available land. This intensifies competition, resulting in frequent land disputes between different groups (Mohamed, 2020). Recognizing the gravity of the situation, Tanzania has established mechanisms like Village Land Councils and District Land Tribunals (Mohamed, 2020). However, the importance of community participation in resolving land conflicts is gaining increasing traction. Communities in Dodoma City are actively engaging in reviving traditional mediation practices and participating in land committees to address land conflicts (Mwamlangala et al., 2022). This growing role of community involvement in resolving land conflicts necessitates this study.

Existing studies have documented the prevalence of land conflicts and highlight government measures to address them; however, several critical gaps remain. First, there is limited empirical evidence on the effectiveness of community par-

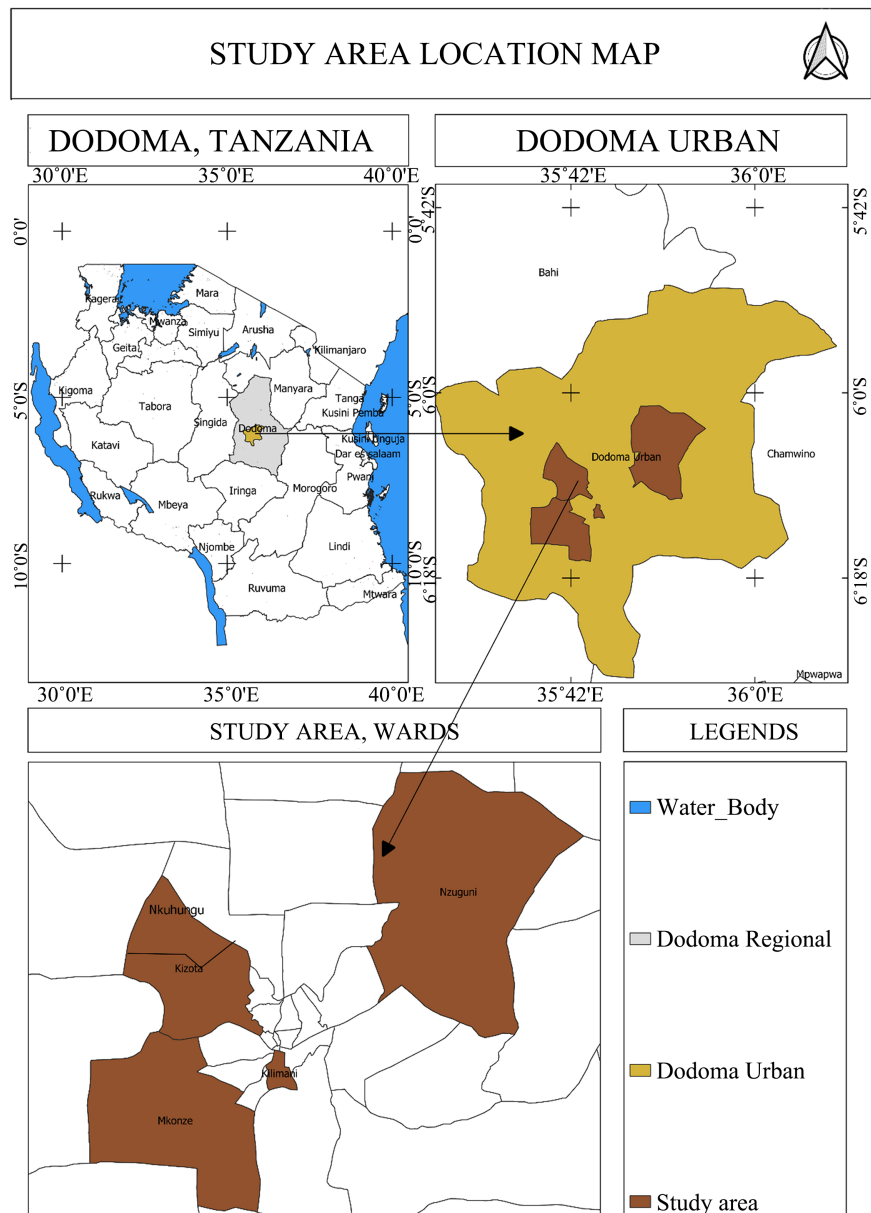
ticipation in conflict resolution, particularly in urban areas like Dodoma City, where diverse stakeholders interact. Moreover, little is known about the specific barriers that hinder effective community participation and how these might be mitigated to improve conflict resolution outcomes. By focusing on these gaps, the primary focus of this study is to delve into the role and impact of community involvement in resolving land conflicts within Dodoma City. The study explores how communities in the selected wards of Nzuguni, Kizota, Nkuhungu, Kilimani, and Mkonze actively address land conflicts. It involves a detailed examination of the effectiveness of community-based conflict resolution mechanisms and their implications on social cohesion, economic development, and overall community wellbeing. Key aspects of focus include identifying the specific land conflicts in the selected wards, understanding the root causes, evaluating the efficiency of community-based resolution mechanisms, and assessing the support from local government and institutions. Additionally, the study provides grassroots-specific recommendations for enhancing community participation and resolving land conflicts.

## 2. Data and Methods

The study was conducted in urban areas of Dodoma City, specifically in Nzuguni, Kizota, Nkuhungu, Kilimani, and Mkonze wards, Tanzania (See **Figure 1**), where land conflicts are prevalent (URT, 2020). These areas were chosen to provide a comprehensive understanding of land conflicts in urban settings, reflecting a diverse urban landscape characterized by various physical features, population demographics, economic activities, and social services.

The study adopted a mixed approach, which enabled the collection of quantitative and qualitative data. To achieve this, the researchers used a cross-sectional explanatory research design. Probability sampling was used to get community members involved in the study, while non-probability sampling was adopted to select critical informants and areas for the study. A random sample of 156 landholders' household heads was extracted from a list of all landholder household heads with land conflict cases residing or operating within the selected study areas.

At first, with the assistance of the leaders of the City Council of Dodoma, using a simple random sampling technique, 159 landholders were initially acquired in five wards from 50,230 households. However, due to incomplete information from 3 landholders, they were excluded, leaving a total of 156 landholders who were used for analysis. The sample of 159 landholders was obtained using the Yomane formula as presented in 1967 with 8% error, then proportional sampling was undertaken to divide the sample size for each selected ward, and then the simple random sampling process was undertaken. A pilot study was undertaken to pre-test the questionnaire for the primary data collected to ensure validity.



**Figure 1.** Location map describing chosen wards.

Primary data were collected directly from the field through administered questionnaires, focus group discussions, and interviews, while secondary data were gathered from existing records, reports, and scholarly literature. This included historical documents detailing past land conflicts, municipal records, and academic publications that offered insights into the broader context of land conflicts in Dodoma City and worldwide. Additionally, representatives of the ward tribunal committees, Ward Executive Officers (WEOs), community leaders, and departments responsible for land administration and conflict resolution within the respective wards were interviewed to gather in-depth insights and perspectives on land conflicts and the mechanisms employed to resolve such conflicts. This approach ensured that participants with unique perspectives were selected, contrib-

uting to a comprehensive understanding of the land conflicts and community-based resolution mechanisms in urban areas. Qualitative variables were treated through classification, interpretation, and grouping of information. All ethical considerations were strictly upheld during data collection.

Descriptive analysis was used to analyze community-based mechanisms employed for conflict resolution and their influence on land conflict resolution in each of the five wards. This analysis involved summarizing the characteristics of the variables, including frequencies, percentages, and means. This provided a comprehensive overview of the prevalence and utilization of various community-based mechanisms for conflict resolution across the wards. The variables related to community participation in land conflict resolution were measured to capture different aspects of involvement. The frequency of community-led conflict resolution was measured by counting the instances of community-led activities specifically aimed at resolving land conflicts. Participation rates of stakeholders were assessed using a Likert scale, where respondents indicated their level of involvement in conflict resolution efforts. On the other hand, the perceived effectiveness of the strategies was evaluated through a Likert scale where participants rated the perceived impact and success of their involvement. Finally, barriers to community participation were identified through a checklist of potential obstacles to participation, which respondents ranked in terms of relevance. Together, these measurements provided a comprehensive understanding of the extent, effectiveness, and challenges of community involvement in land conflict resolution.

### 3. Results and Discussion

#### 3.1. Demographic Characteristics of Respondents

##### *Age and land conflicts*

The results in **Table 1** demonstrate a statistically significant association between age and land conflicts ( $\chi^2 = 14.631$ ,  $p = 0.012$ ). The highest incidence of land disputes was reported among respondents aged 26 - 35 years (30 cases) and 36 - 45 years (33 cases). In contrast, younger respondents (18 - 25 years) and older age groups (56 - 65 years and above 65 years) reported relatively fewer experiences of land conflicts. This distribution suggests that land conflicts are most prevalent among individuals in their economically active and productive years. At this stage of life, individuals are more likely to engage in land acquisition, inheritance negotiations, agricultural expansion, and investment activities, all of which increase exposure to competing claims and tenure insecurity. These findings corroborate those of [Say and César \(2021\)](#), who observed that middle-aged populations are more actively involved in land disputes due to heightened economic participation and ownership aspirations. The lower incidence of conflicts among younger individuals may be attributed to limited land ownership, while older individuals may experience fewer disputes due to settled land claims or reduced economic engagement. Overall, these findings highlight the importance of age-sensitive land governance interventions. Conflict prevention and resolution mechanisms should

particularly target individuals aged 26 - 55 years through land education programs, accessible dispute resolution institutions, and transparent land administration systems.

**Table 1.** Demographic characteristics of respondents.

Categories	Experience of land conflicts in the community		Chi-Square Value ( $\chi^2$ )	p-Value
	Experienced (F)	Not experienced (F)		
<b>Age of respondents</b>			14.631	0.012
Under 18 years	-	-		
18 - 25 years	26	4		
26 - 35 years	30	0		
36 - 45 years	33	2		
46 - 55 years	20	0		
56 - 65 years	18	5		
Over 65 years	18	0		
<b>Education level of respondents</b>			8.047	0.045
Non-formal education	13	0		
Primary education	24	3		
Secondary education	58	8		
Tertiary education	50	0		
<b>Occupation status of respondents</b>			21.461	0.001
Employed (full-time)	28	2		
Employed (part-time)	43	2		
Unemployed	18	7		
Self-employed	32	0		
Student	4	0		
Retired	20	0		
<b>Monthly Household Income</b>			11.866	0.018
Below 500,000 TZs	44	7		
500,000 TZs - 1,000,000 TZs	66	0		
1,000,001 TZs - 1,500,000 TZs	23	4		
1,500,001 TZs - 2,000,000 TZs	8	0		
Above 2,000,000 TZs	4	0		

## Continued

<b>Marital Status of Respondents</b>			19.117	0.000
Single	24	6		
Married	95	0		
Divorced	8	2		
Widowed	18	3		
<b>Years of Residence in the Community</b>			13.406	0.004
Less than 1 year	12	4		
1 - 5 years	57	0		
6 - 10 years	30	4		
More than 10 years	46	3		

***Education level and land conflicts***

The findings in **Table 1** also reveal a statistically significant relationship between education level and land conflicts ( $\chi^2 = 8.047$ ,  $p = 0.045$ ). Respondents with secondary education reported the highest incidence of land conflicts (58 cases), followed closely by those with tertiary education (50 cases). In comparison, respondents with primary education reported fewer conflicts (24 cases), while those with non-formal education recorded the lowest number of conflict experiences (13 cases). This pattern suggests that higher levels of education may increase individuals' awareness of land rights, legal procedures, and institutional mechanisms for claim enforcement. Educated individuals are more likely to question perceived injustices, challenge customary arrangements, and pursue formal legal avenues, which can escalate disputes. These findings are consistent with [Alananga et al. \(2019\)](#) and [Atkinson and Wright \(2017\)](#), who noted that education enhances legal consciousness and assertiveness in land matters, often leading to increased conflict occurrence. However, this relationship does not imply that education causes conflict; rather, it reflects increased capacity to recognize, articulate, and contest land claims. The results underscore the need for integrating land rights education with conflict management training, particularly among educated land users. Strengthening mediation mechanisms, simplifying land dispute procedures, and promoting alternative dispute resolution approaches could help mitigate conflicts arising from heightened legal awareness.

***Occupation and land conflicts***

The findings in **Table 1** reveal a statistically significant association between occupation and the experience of land conflicts ( $\chi^2 = 21.461$ ,  $p = 0.001$ ). Self-employed respondents reported the highest incidence of land conflicts, with all 32 individuals indicating experiences of disputes and none reporting an absence of conflict. Full-time employed respondents also exhibited a high prevalence, with 28 reporting land conflicts and only 2 indicating no disputes. In contrast, unem-

employed respondents reported comparatively fewer conflicts, with 18 experiencing disputes and 7 reporting none, while students recorded the lowest incidence, with 4 reporting conflicts. The relatively high chi-square value indicates substantial variation in land conflict experiences across occupational categories. These results suggest that employment status, particularly self-employment and full-time employment, is a critical determinant of exposure to land conflicts. This pattern may be attributed to the fact that individuals engaged in entrepreneurial or stable employment activities are more likely to acquire, invest in, or depend economically on land, thereby increasing their exposure to competing claims and tenure disputes. These findings are consistent with Valerian et al. (2020), who reported that individuals with stable incomes or entrepreneurial engagement are more likely to own land and, consequently, face a higher risk of land-related conflicts. The results underscore the importance of integrating land tenure security measures within livelihood and employment-oriented development programs.

#### ***Monthly household income and land conflicts***

The analysis further demonstrates a statistically significant relationship between monthly household income and land conflicts ( $\chi^2 = 11.866$ ,  $p = 0.018$ ). Respondents earning between TZS 500,000 and TZS 1,500,000 per month reported a higher frequency of land conflicts compared to other income groups. This trend suggests that middle-income households are particularly vulnerable to land disputes. While this income level enables individuals to acquire or develop land, it may not provide sufficient legal, financial, or social leverage to effectively secure property rights. As a result, middle-income earners may find themselves exposed to disputes arising from unclear boundaries, competing claims, or weak enforcement of land tenure arrangements. These findings align with the Canberra Group (2011), which observed that middle-income groups often experience heightened land conflict exposure due to their capacity to acquire land without possessing the institutional or social power necessary to fully safeguard ownership. The results highlight the need for targeted interventions, including affordable legal support, accessible land registration services, and strengthened dispute resolution mechanisms, to enhance tenure security among middle-income households.

#### ***Marital status and land conflicts***

The results in Table 1 reveal a statistically significant association between marital status and land conflicts ( $\chi^2 = 19.117$ ,  $p < 0.001$ ). Married respondents reported the highest incidence of land conflicts, with 95 individuals indicating experiences of disputes. This elevated prevalence is likely linked to complexities surrounding joint land ownership, inheritance arrangements, and spousal claims. By comparison, single respondents reported fewer conflicts, with 24 experiencing disputes and 6 reporting none, while widowed respondents reported 18 conflicts and 3 cases without disputes. The comparatively lower incidence among single and widowed individuals may reflect simpler land ownership structures and a reduced likelihood of inheritance-related disputes. These findings highlight the role of household and family dynamics in shaping land conflict experiences. In line

with Alananga Sanga and Moyo (2019), the results demonstrate that marital arrangements, particularly joint ownership and inheritance practices, significantly influence land tenure security and dispute occurrence. Strengthening legal clarity around spousal land rights and inheritance procedures may therefore reduce land-related conflicts in marital contexts.

#### *Years of residence in the community*

The findings in **Table 1** indicate a statistically significant association between years of residence in the community and land conflicts ( $\chi^2 = 13.406$ ,  $p = 0.004$ ). Respondents who had lived in the community for less than one year reported 12 cases of land conflicts, while those with 1 - 5 years of residence recorded the highest number, with 57 cases. Long-term residents (more than 10 years) also reported a substantial number of conflicts, totaling 46 cases. Contrary to expectations that recent migrants would experience more land disputes due to unfamiliarity with local norms and regulations, the results suggest that prolonged residence may increase exposure to land conflicts. Longer-term residents are more likely to engage in land acquisition, inheritance processes, and boundary negotiations, which may elevate the likelihood of disputes over time. This finding is consistent with Say and César (2021), who noted that extended community residence often corresponds with deeper involvement in land ownership and tenure negotiations, thereby increasing conflict exposure. These results emphasize the need for continuous land governance support not only for newcomers but also for long-standing residents who may face cumulative land-related challenges over time.

### **3.2. Community-Based Strategies Implemented for Conflict Resolution in Each of the Five Wards**

#### *Existence of community conflict resolution committees*

**Table 2** shows that the vast majority of respondents (93.6%) reported the existence of community conflict resolution committees across the five wards in Dordoma. This high prevalence indicates that community-based structures for managing land conflicts are widely institutionalized at the local level. The presence of these committees reflects strong community engagement in conflict management and reliance on locally established mechanisms to address land disputes in contexts where formal state interventions may be limited. These findings are consistent with Lassenroot and Huggins (2019), who highlighted both the effectiveness and contextual challenges of community-based land conflict resolution mechanisms in the eastern Democratic Republic of the Congo.

#### *Utilization of mediation processes*

The use of mediation in resolving land conflicts appears inconsistent across the study area. As indicated in **Table 2**, slightly more than half of the respondents (50.6%) reported that mediation was not used, while 49.4% indicated that it was employed. This near-equal distribution suggests that, although mediation is recognized as a conflict resolution tool, it is not consistently applied. The limited utilization of mediation may reflect challenges related to accessibility, trust, or the

availability of trained mediators. As noted by Haider (2019), the effectiveness of mediation in community-based conflict resolution largely depends on community trust in the process and the presence of skilled mediators. Strengthening these elements could enhance the role of mediation in addressing land conflicts in Dodoma.

**Table 2.** Community-based strategies implemented for conflict resolution in each of the five wards.

Variables	Frequency	Percent
<b>Existence of community conflict resolution committees</b>		
Exist	146	93.6
Not exist	10	6.4
<b>Utilization of mediation processes</b>		
Used	77	49.4
Not used	79	50.6
<b>Involvement of local leaders</b>		
Actively involved	70	44.9
Not actively involved	86	55.1
<b>Customary dispute resolution practices</b>		
Followed	72	46.2
Not followed	84	53.8
<b>Community dialogues and forums</b>		
Present	96	61.5
Not present	60	38.5

#### *Involvement of local leaders*

Table 2 shows that 55.1% of respondents reported that local leaders are not actively involved in resolving land conflicts, while 44.9% indicated active participation. This suggests a notable gap in the engagement of local leaders across the wards, highlighting challenges in leveraging their authority and influence for dispute resolution. The limited involvement of local leaders may impede effective conflict management and community cohesion. These findings align with Meru and Mgendu (2015), who emphasize that local leaders play a pivotal role in mediating disputes, particularly in contexts where formal legal systems are less accessible or trusted.

#### *Customary dispute resolution practices*

Adherence to customary dispute resolution practices appears balanced but slightly lower, with 46.2% of respondents reporting use of such practices, while 53.8% do not follow them. This trend likely reflects the growing influence of formal legal systems and modernization in urban areas like Dodoma. Similar patterns have been observed in other African urban contexts; Charles (2019) and Haider (2019) note a declining yet persistent reliance on customary mechanisms,

especially in peri-urban settings, which is consistent with the findings from Doma.

#### ***Community dialogues and forums***

The use of community dialogues and forums as conflict resolution mechanisms is more pronounced, with 61.5% of respondents reporting their presence and 38.5% indicating their absence. These results demonstrate that participatory approaches remain an important tool in managing land disputes. Studies by [Masawe \(2019\)](#) in Tanzania and [Charles \(2019\)](#) in Kenya highlight the effectiveness of community dialogues and forums in facilitating inclusive, locally acceptable resolutions.

### **3.3. Trend of Land Conflict before and after Resolving Land Conflicts in the Targeted Wards**

#### ***Number of Land Conflict Cases Before and After Resolution***

**Table 3** presents the distribution of land conflict cases reported before and after implementing conflict resolution measures. The percentage of respondents reporting no conflicts decreased from 16.0% before to 8.3% after, while those reporting 1 - 5 cases increased from 7.7% to 11.5%. Similarly, respondents reporting 6 - 10 cases rose from 6.4% to 15.4%, whereas those reporting 11 - 20 cases decreased from 14.1% to 7.7%. These patterns suggest that although some conflicts were resolved, new or ongoing disputes emerged, indicating that underlying issues, such as unclear land tenure or weak enforcement, persist. [Lund Rahmah et al. \(2024\)](#) note that community-based conflict resolution often manages smaller or emerging disputes effectively, but long-standing or deeply rooted conflicts require more comprehensive strategies. [Guo \(2022\)](#) similarly found that land conflicts can persist or even increase after resolution if structural issues are not addressed.

#### ***Duration of land conflicts pre- and post-resolution***

**Table 3** further shows mixed outcomes regarding conflict duration. Conflicts resolved within less than six months decreased slightly from 32.7% before resolution to 30.1% after, while those lasting 6 - 12 months increased from 15.4% to 19.9%. This may reflect limited availability of evidence or engagement from the parties involved. These findings align with [Caron and Markusen \(2016\)](#), who observed that resolution measures often struggle to shorten the duration of entrenched disputes in areas with complex land ownership dynamics.

#### ***Frequency of community meetings on conflicts***

The implementation of conflict resolution measures significantly increased the frequency of community meetings. Before the interventions, 38.5% of respondents reported that community meetings “Never” took place, dropping sharply to 5.1% after the measures. This increase indicates enhanced community participation in conflict management, which is critical for early dispute identification and resolution. [Stepanova et al. \(2020\)](#) highlight that greater community engagement in conflict resolution can reduce both the frequency and severity of land disputes.

**Table 3.** Trend of land conflict before and after resolving land conflicts in the targeted wards.

Variables	Responses		
	Category	% (Bef)	% (Aft)
Number of land conflict cases reported before and after implementing conflict resolution measures	None	16.0	8.3
	1 - 5 cases	7.7	11.5
	6 - 10 cases	7.7	3.8
	11 - 20 cases	12.8	20.5
	More than 20	55.8	55.8
Duration of land conflicts pre- and post-resolution.	Less than 6 months	32.7	30.1
	6 - 12 months	15.4	19.9
	1 - 2 years	14.7	10.3
	More than 2 years	37.2	39.8
Frequency of community meetings on conflicts.	Never	38.5	5.1
	Rarely	37.2	71.8
	Sometimes	11.5	10.3
	Often	12.8	12.8
Frequency decisions of compliance with resolution	Always	3.8	3.8
	Often	23.1	28.2
	Sometimes	19.2	23.1
	Rarely	30.8	38.5
	Never	23.1	6.4

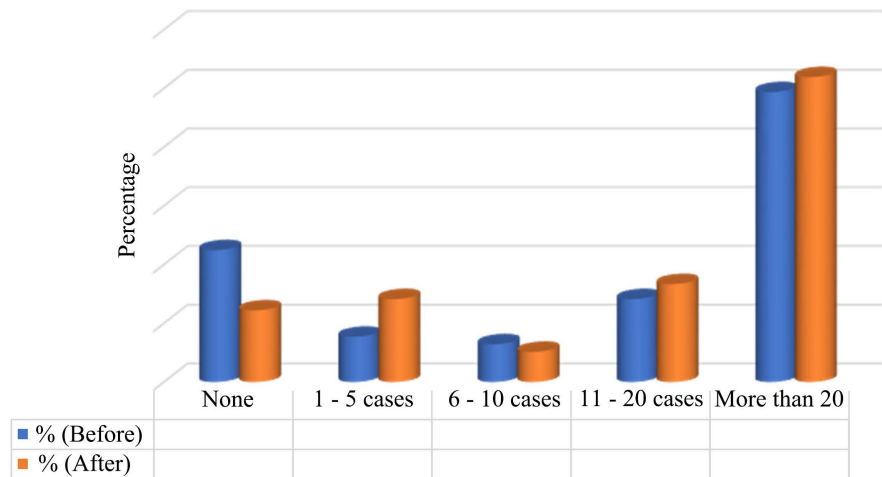
### *Compliance with resolution decisions*

**Table 3** also examines compliance with conflict resolution decisions. The percentage of respondents reporting that decisions were “Always” complied with remained constant at 3.8% before and after the measures. While compliance did not increase markedly, [Sackey \(2010\)](#) observed that community participation in resolution processes tends to improve compliance over time, particularly when stakeholders feel ownership of the outcomes.

### *Number of resolved cases before and after implementing conflict resolution measures*

**Figure 2** illustrates the percentage distribution of land conflict cases resolved before and after implementing conflict resolution measures in the selected wards of Dodoma City. The data show that the proportion of resolved cases increased across most categories following the interventions. For instance, cases in higher resolution brackets rose from 49.4% before to 51.9% after, while those in lower brackets decreased from 22.4% to 12.2%. These trends suggest that the implemented conflict resolution measures had a positive impact, improving the effectiveness of dispute resolution and contributing to greater stability and community cohesion. This finding aligns with [Rahmah et al. \(2024\)](#), whose study in Ghana

demonstrated that structured conflict resolution interventions significantly increased the proportion of resolved land disputes, mirroring the improvements observed in Dodoma.



**Figure 2.** Number of resolved cases before and after implementing conflict resolution measures.

***Paired Sample t-Test results for the trend of land conflict before and after resolution***

**Table 4** presents the results of a paired sample t-test examining changes in land conflict trends before and after implementing conflict resolution measures in the selected wards of Dodoma City. Nine paired categories were analyzed, including the number of reported cases, resolved cases, ongoing conflicts, duration of conflicts, property boundaries, land ownership, land use rights, frequency of community meetings, and compliance with resolution decisions.

**Table 4.** Paired sample t-test results for the trend of land conflict before and after resolving land conflicts.

Categories	Mean	Paired Samples Test					t	df	Sig. (2-tailed)
		Paired Differences			95% Confidence Interval of the Difference	t			
		Std. Deviation	Std. Error Mean	t					
Pair 1	SBB1-SBA1	-0.19231	0.82003	0.06566	-0.32200	-0.06261	-2.929	155	0.004
Pair 2	SBB2-SBA2	-0.21795	0.82926	0.06639	-0.34910	-0.08679	-3.283	155	0.001
Pair 3	SBB3-SBA3	-0.02564	0.53217	0.04261	-0.10981	0.05853	-0.602	155	0.548
Pair 4	SBB4-SBA4	-0.04487	0.66568	0.05330	-0.15015	0.06041	-0.842	155	0.401
Pair 5	SB511-SBA521	0.03846	1.15219	0.09225	-0.14377	0.22069	0.417	155	0.677
Pair 6	SB512-SBA522	0.00000	1.13023	0.09049	-0.17875	0.17875	0.000	155	1.000
Pair 7	SB513-SBA523	0.60256	0.83997	0.06725	0.46972	0.73541	8.960	155	0.000
Pair 8	SBB6-SBA6	-0.32051	0.67190	0.05379	-0.42678	-0.21425	-5.958	155	0.000
Pair 9	SBB7-SBA7	0.30769	0.85471	0.06843	0.17251	0.44287	4.496	155	0.000

The results indicate a statistically significant decrease in the number of land conflict cases reported after the implementation of the measures (Pair 1; mean difference =  $-0.19231$ ,  $t = -2.929$ ,  $p = 0.004$ ), suggesting that the interventions may have reduced the incidence of new conflicts or facilitated quicker resolution. Similarly, there was a significant increase in the number of resolved cases (Pair 2; mean difference =  $-0.21795$ ,  $t = -3.283$ ,  $p = 0.001$ ), reflecting the effectiveness of the measures in addressing existing disputes. In contrast, no significant changes were observed in the number of ongoing conflicts (Pair 3; mean difference =  $-0.02564$ ,  $t = -0.602$ ,  $p = 0.548$ ) or the duration of conflicts (Pair 4; mean difference =  $-0.04487$ ,  $t = -0.842$ ,  $p = 0.401$ ), highlighting that some disputes persisted and the time required to resolve conflicts remained largely unchanged.

Issues related to property boundaries (Pair 5; mean difference =  $0.03846$ ,  $t = 0.417$ ,  $p = 0.677$ ) and land ownership disputes (Pair 6; mean difference =  $0.00000$ ,  $t = 0.000$ ,  $p = 1.000$ ) also showed no significant change, indicating that these areas may require additional or targeted interventions. Notably, land use rights improved significantly after implementing the measures (Pair 7; mean difference =  $0.60256$ ,  $t = 8.960$ ,  $p < 0.001$ ), suggesting a clearer definition and better enforcement of rights.

Community engagement increased significantly, as reflected by the rise in the frequency of community meetings on conflicts (Pair 8; mean difference =  $0.32051$ ,  $t = -5.958$ ,  $p < 0.001$ ), which is critical for effective conflict management. Compliance with resolution decisions also improved markedly (Pair 9; mean difference =  $0.30769$ ,  $t = 4.496$ ,  $p < 0.001$ ), indicating that the interventions not only resolved disputes but also promoted adherence to resolutions, contributing to long-term stability and community harmony.

Overall, the paired sample t-test results provide strong evidence that the implemented conflict resolution measures had a positive impact on key aspects of land conflict trends in Dodoma, particularly in reducing reported cases, increasing resolved disputes, enhancing land use rights, fostering community participation, and improving compliance with resolution outcomes.

### 3.4. Effectiveness of Conflict Resolution Measures Implemented in the Community

**Table 5** presents the results of a binary logistic regression analysis assessing the effectiveness of conflict resolution measures across the five selected wards in Dodoma City. The variables included in the analysis were the presence of community committees, mediation processes, involvement of local leaders, customary dispute resolution practices, community dialogues, conflict documentation, and community education programs.

The analysis reveals that the presence of community committees significantly enhances conflict resolution processes ( $p < 0.001$ ;  $\text{Exp}(B) = 392.07$ ), indicating a remarkably strong positive association. Similarly, regular community dialogues were statistically significant ( $p < 0.001$ ;  $\text{Exp}(B) = 49.60$ ), reinforcing their critical

**Table 5.** Binary logistic regression results on the effectiveness of conflict resolution measures implemented in the community.

Variables	S.E.	Wald	Sig.	Exp(B)	S.E.
Community committees exist in your area.	5.97	1.25	22.80	0.00	392.07
Mediation processes are commonly used to resolve conflicts in the community.	1.25	1.25	1.01	0.31	3.50
Local leaders are actively involved in conflict resolution efforts.	-0.43	0.94	0.21	0.65	0.65
Customary dispute resolution practices are followed in your community.	0.60	0.88	0.47	0.50	1.83
Regular community dialogues or forums are held to discuss conflicts and find solutions.	3.90	0.93	17.56	0.00	49.60
Resolutions to conflicts are documented in your community.	-4.48	1.98	5.13	0.02	0.01
Community education programs related to conflict resolution are available.	4.84	1.82	7.05	0.01	126.28
Constant	-4.24	0.96	19.60	0.00	0.01

role in fostering consensus, mitigating tensions, and facilitating participatory decision-making. Community education programs also showed a meaningful positive effect ( $p = 0.01$ ;  $\text{Exp}(B) = 126.28$ ), highlighting the transformative impact of awareness and capacity-building initiatives in improving conflict management outcomes.

Conversely, the documentation of conflict resolutions exhibited a significant negative effect ( $p = 0.02$ ;  $\text{Exp}(B) = 0.01$ ), suggesting that inadequate or absent record-keeping can undermine continuity, institutional memory, and accountability in conflict resolution efforts. These findings are consistent with Rubakula et al. (2019), who emphasize that structured community engagement, particularly through institutionalized committees and participatory dialogues, is essential for achieving sustainable conflict resolution outcomes.

Overall, the results underscore the necessity of investing in community-led governance structures, consistent communication platforms, and systematic documentation to strengthen grassroots conflict management frameworks. By prioritizing these measures, communities can enhance the effectiveness, transparency, and sustainability of land conflict resolution initiatives.

#### 4. Conclusions and Recommendations

This study examines community participation in land conflict resolution across five wards in Dodoma City, offering valuable insights for policymakers and urban planners in rapidly urbanizing cities in Tanzania and sub-Saharan Africa. The findings highlight the critical role of community committees, regular dialogues, and education programs in facilitating effective conflict resolution, suggesting that decentralized, participatory governance structures should be prioritized in

urban development policies. Institutionalizing community engagement mechanisms and ensuring proper documentation of decisions can strengthen social cohesion and reduce disputes linked to urban pressures such as land use, housing, and service delivery. The study also demonstrates that culturally sensitive approaches, including the involvement of local leaders and the integration of customary dispute-resolution practices, are essential for addressing land conflicts in diverse community contexts.

The study recommends that the Tanzanian Ministry of Lands, Housing and Human Settlements Development should strengthen legal and policy frameworks to explicitly support community participation and provide capacity-building programs for community members, local leaders, and conflict resolution committees to improve mediation, negotiation, and management skills. Adequate resources should be allocated to support community mechanisms, including funding for dialogues, awareness campaigns, and proper documentation of resolutions. Land officers operating at local and district levels should establish a monitoring and evaluation system to track effectiveness, re-innovate and integrate traditional dispute resolution mechanisms, and collaborate with local authorities to develop context-specific guidelines that respect local customs and practices.

Moreover, transparency and accountability in land administration should be promoted by making information on land policies, regulations, and dispute resolution procedures accessible to all stakeholders. Awareness campaigns should be implemented to educate communities about land rights, responsibilities, and available resolution mechanisms. Finally, land policies should be regularly reviewed and updated to address emerging challenges, ensuring that they remain responsive to the evolving needs and concerns of local communities, thereby fostering sustainable, equitable, and participatory land management.

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### **Authors' Contribution**

SK conceptualized and designed the study and performed the statistical data analysis. DFS and TM contributed to data analysis, conducted literature searches, and assisted in drafting the initial manuscript. YJM supervised the overall study. All authors have read and approved the final manuscript.

### **Data Availability Statement**

The data supporting the findings of this study are available from the correspond-

ing author upon reasonable request.

### Conflicts of Interest

The authors declare that there is no conflict of interest concerning the publication of this manuscript.

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