

# **A customary land conflict resolution process under the asfo land secretariat**

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**Key words:** Customary land disputes, Asafo Stool Lands, Spatial analysis, Conflict resolution techniques, Demographic factors in conflict resolution

## **SUMMARY**

Customary land disputes in Ghana's Traditional Stool Lands pose a complex problem with significant socio-economic and cultural consequences. This study aims to investigate the complex nature of land conflicts under Asafo Stool Lands and how they can be resolved. The study utilized a mixed-method approach, combining both qualitative and quantitative methods with spatial analysis, to thoroughly investigate land conflict issues in specific towns. The data analysis prioritized detailed interpretation, employing content analysis to comprehensively understand complex land conflict scenarios in the study area. This approach facilitated an exploration of both the conflicts and their spatial context. The study explored community preferences for conflict resolution techniques, revealing mediation as the most popular option and demonstrating cultural preferences for collaboration. Demographic factors such as gender, age, and educational background exhibited nuanced impacts on these preferences. Using a Likert scale, we explored the effectiveness of existing conflict resolution processes. Although most respondents expressed comfort with the transparency of decision-making procedures, concerns arise regarding the representation of vulnerable or marginalized groups. This highlights a crucial area for improvement. Stakeholder interviews amplify these findings, emphasizing the need for improved communication and sensitivity to diverse community needs. The study also incorporated spatial analysis to uncover the geographic nuances of land conflicts. The Global Moran's I statistic indicated a dispersed pattern of conflicts, challenging assumptions of uniform spatial distribution. Notably, specific areas like Atwima Darko emerged as a conflict hotspot zone, demanding targeted interventions. These spatial patterns revealed a dynamic landscape of conflict, emphasizing the need for tailored strategies. Findings indicate that education levels significantly influence the choice of resolution mechanisms, calling for tailored training programs. Additionally, localized interventions should be prioritized based on spatial characteristics, with a special focus on identified hotspots. The inclusion of marginalized groups in the resolution process remains crucial. This research offers a crucial resource for refining conflict resolution strategies within the Asafo Traditional Stool Lands, highlighting the necessity for clear, data-driven approaches to address this complex socio-cultural issue.

## 1. INTRODUCTION

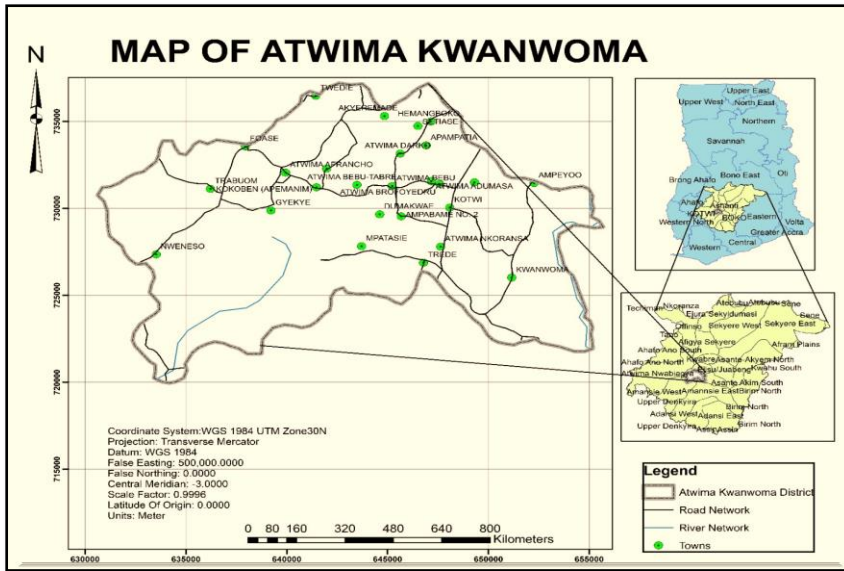
Land conflict, with its sophisticated historical, cultural, and socio-economic roots, has been a global concern affecting shelter, agriculture, industry, and cultural identity (UNHCR, 2015). The complexity of this issue is magnified in Africa, where historical colonization, diverse land tenure systems, and competition for finite resources fuel conflicts, as seen in countries like Kenya, Zimbabwe, and South Africa (Lund, 1996; Moyo, 2000; Peters, 2004). In the context of Ghana, particularly the Asafo stool lands, land transcends an economic resource and becomes an integral part of cultural identity, governed by customary laws (Aryeetey et al., 2007). Conflicts emanating from disputes over ownership, boundaries, and land use have led to community disruptions and violence (Kasanga & Kotey, 2001). While traditional mechanisms like mediation by chiefs and elders have been employed, challenges persist due to modern complexities, urbanization, and the waning influence of traditional authorities (Crook, 2005; Kalabamu, 2021). Furthermore, the authority of chiefs in land ownership transfer in the Western Regions of Ghana, as highlighted by Boone and Duku (2012), has resulted in a multitude of conflicts. These issues underscore the interwoven statutory and customary laws that add to disputes and uncertainties around land tenure. Understanding the land conflict resolution within Traditional Stool Lands requires a distinct examination of these global, African, and Ghanaian complexities, paving the way for insights and strategies to foster peace, stability, and sustainable development. Customary land involves various actors such as government officials, traditional leaders, family heads, communities, and individuals, and embodies different perspectives and interests (Aryeetey et al., 2007). These dynamics contribute to the rich and complex shades of land-related struggles in the region, reflecting the wider historical and contemporary challenges faced worldwide. Land disputes are multifaceted, arising between various ethnic groups, chiefs, and subjects, or even within families. As land is a finite and valuable resource, essential to human settlements, agriculture, and economic activities, conflicts over access, ownership, and usage are often complex and enduring. The situation can further escalate into violent confrontations, resulting in loss of life and property, and disrupting regular socio-economic activities (Kalabamu, 2021). Resolving these land-related conflicts is a challenging task that requires a thorough understanding of the underlying causes, as well as a commitment to openness, justice, accountability, negotiation, and compromise (Oppong-Kusi, 2019). Although traditional customary courts, mediation, and negotiation are commonly employed in the region, they have faced criticism for their limited capacity to manage complex disputes. This limitation stems from the absence of necessary technical expertise, resources, and a coherent legal framework (Crook, 2005). The situation is further complicated within the Western Regions of Ghana, where chiefs wield substantial authority over land ownership and arrangements, leading to a proliferation of land conflicts (Boone & Duku, 2012). Such conflicts often culminate in a "win-lose" outcome, creating an imbalance in

interests and undermining the fairness of resolutions (Ajayi & Buhari, 2014). Conflict resolution, therefore, seeks balanced solutions that consider the underlying concerns and interests of all parties involved. The complexities of land tenure within these traditional lands emphasize the necessity for a comprehensive understanding of the nature and dynamics of land disputes (Aryeetey & Urdry, 2010). Insecurity in land tenure can lead to reduced investment, productivity, and growth, adding another layer of complexity to the rural economies within Ghana's traditional stool lands. The synthesis of these factors highlights the profound challenges of land conflict resolution in the Traditional Stool Lands and underscores the need for an integrated approach that embraces both modern legal frameworks and traditional wisdom.

This study aims to fill this research gap by conducting a comprehensive examination of customary land conflict resolution in the Asafo Traditional Stool Lands. It seeks to assess the efficacy of prevailing traditional methods, explore the complex relationship between statutory and customary laws, and propose innovative resolutions that accommodate the concerns and interests of all involved parties. In bridging this research gap, the study endeavors to enrich the understanding of land conflicts in this region, providing more insights and strategies with potential applicability to other traditional lands in Ghana and analogous situations across the African continent.

## **2. Geographical Setting of Area of Study**

Situated centrally within the Ashanti Region, the Atwima Kwanwoma District occupies a geographical area of 251.9 square kilometers—representing about 1.03% of the region's total expanse of 24,389 square kilometers. The district's administrative capital, Atwima Twedie, is strategically located at a distance of approximately 18 kilometers from Kumasi. Geopolitically, it is bounded by Kwadaso Municipal to the north, Bosomtwe District to the east, Atwima Nwabiagya Municipal to the west, and Amansie West District to the southwest. According to the 2021 Population and Housing Census, the district has a population of 234,846, with a gender distribution of 114,123 males and 120,723 females (PHC, 2021). Geographically, it is positioned between latitudes 6.24°N and 6.43°S and longitudes 1.15°W and 1.46°E. The district plays a vital role in agriculture, constituting a significant avenue for output, income, and employment within the region. Nearly 62.6% of the district's workforce is engaged in agriculture, primarily in small-scale traditional farming practices (MOFA Office, 2009).

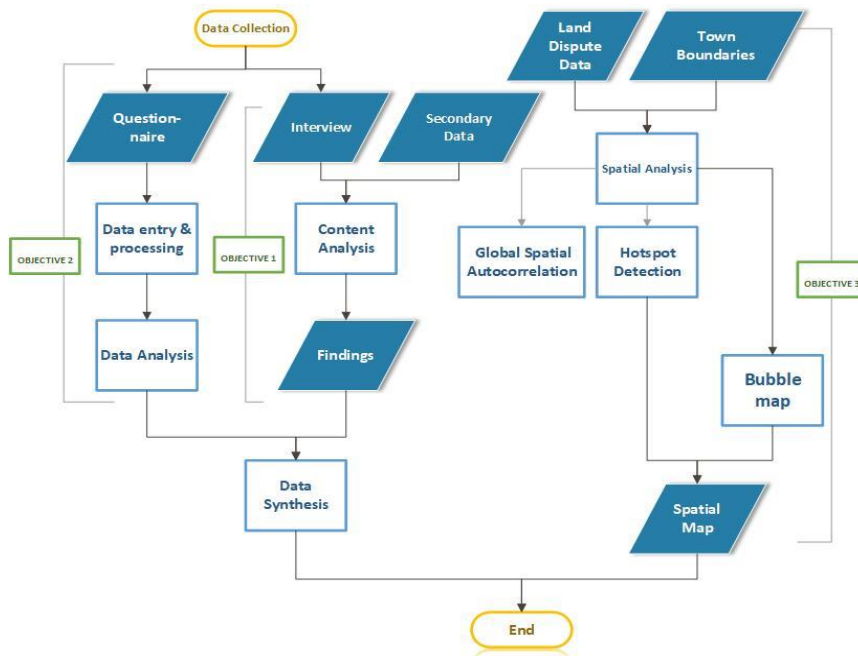


*Figure 1.0 Map of the study area*

### 3. MATERIALS AND METHODS

#### 3.1 Research Design

In outlining the research design for this study, a mixed-method approach combining both qualitative and quantitative methodologies was utilized to effectively address the research objectives. Complementing these approaches, spatial analysis was incorporated to enrich the study's comprehensiveness, given the geographically specific nature of the research focus. This addition enables an intricate analysis of spatial patterns, correlations, and distributions associated with land conflict issues in the selected towns. For a visual overview of the methodology (See Figure 2.0). The chosen data analysis technique was primarily descriptive in nature, designed to offer an exhaustive interpretation of the data collected, spanning both spatial and quantitative/qualitative elements. Content analysis was employed to scrutinize both types of data, facilitating a robust understanding of the complex land conflict scenarios in the study area. This integrative methodology not only provides depth in understanding the conflicts but also allows for an expansive exploration of their spatial context.



**Figure 1.0 Methodological flowchart**

### 3.2 Sampling procedure

A sample, from a statistical viewpoint, serves as a subset of a larger population and is chosen for detailed examination. This chosen subset allows for the estimation of fundamental characteristics of the broader population, such as means, proportions, and variances (Fowler, 2013). For this study, the unit of analysis included community members, traditional leaders (Chiefs), and other relevant stakeholders who have a direct bearing on the subject matter of land conflicts. To secure participants capable of providing insightful data, we employed purposive sampling, a non-probability sampling technique. This technique is particularly effective in qualitative research where the objective is to obtain a rich, in-depth understanding of a specific group or phenomenon. The application of purposive sampling was ideal for capturing nuanced qualitative responses, thereby facilitating deeper insights and more accurate findings related to the complex issue of land conflicts. Non-probability methods excel in capturing the intricacies of complex social phenomena, as emphasized by Small (2009). One of the key benefits of adopting non-probability sampling in this study was its efficiency. It provided a fast, straightforward, and cost-effective way of data collection without the need for a comprehensive survey framework (Gyamera et al., 2006).

### 3.3 Sampling size

A total of 200 respondents were surveyed through questionnaires, with a stratified approach that saw an average of 10 respondents selected from each of the 20 targeted towns. This sample size was strategically determined to enable robust generalization of the research findings and to draw conclusive insights. The surveyed respondents primarily consisted of individuals who have been directly impacted by land conflicts. For the interview component of the study, a smaller but more specialized sample of 20 respondents was interviewed. These

participants were carefully chosen based on their roles and influence within the community and included traditional leaders like chiefs and elders, as well as family heads. Additionally, key informants from various institutions were included to provide a diversified perspective. The rationale behind involving these particular individuals was to harness in-depth insights from stakeholders who hold significant knowledge, influence, and decision-making power in the community context. The inclusion of these participants was deliberate and designed to yield crucial perspectives and experiences that are instrumental for understanding and addressing the complex issues surrounding land conflicts. Through this sampling strategy, the study aimed to unearth valuable insights concerning the root causes, impacts, and prospective solutions for land conflicts in the study area.

### **3.4 Data collection and procedures**

In this study, a comprehensive approach was adopted, utilizing two primary data collection techniques to gather a robust dataset. Firstly, standardized questionnaires were administered to participants, facilitating consistent responses to specific inquiries. The questionnaire, meticulously crafted to align with the research objectives, encompassed various sections and was designed in a close-ended format. Additionally, personal interviews were conducted, serving as a crucial component of the research methodology. Through these interviews, the researcher engaged in profound discussions, thereby capturing qualitative insights that might not be attainable through questionnaires alone. These interviews provided a nuanced perspective on land-related conflicts and the mechanisms employed for dispute resolution. Notably, the interview process was augmented by involving key stakeholders with expertise in the subject matter. These individuals included representatives from the Lands Commission and District Assembly, representing governmental bodies, the Asafo Customary Land Secretariat, the Asantehene Land Secretariat, and the House of Chiefs, representing the traditional authority. The selection of these key informants was strategic, aiming to glean valuable insights from those with deep knowledge of the intricacies of land conflict issues. Secondary data, predominantly sourced from these institutions, was focused primarily on land conflicts among individuals, groups, stools as well as others. This secondary data played a significant role in facilitating the spatial analysis segment of the study, wherein the geographical aspects of the conflicts were explored. This integrative approach, spanning questionnaires, interviews, and spatial analysis, enabled a comprehensive exploration of the multifaceted dimensions of land conflicts within the study area.

### **3.5 Data Analysis and Processing**

The use of Excel, a widely adopted software for data manipulation, played a pivotal role in structuring the information derived from the questionnaires. The data collected from various sources were meticulously organized and prepared for subsequent analysis using Excel's comprehensive features. Subsequent to the data collection phase, a systematic process of coding and processing was undertaken. For this purpose, the Statistical Package for Social Sciences (SPSS), a versatile software extensively used in research, was employed. Through the application of SPSS, a suite of descriptive statistical techniques was employed, encompassing the calculation of means, generation of frequency tables, determination of variable percentages, and execution of multiple regression analyses. These techniques

collectively empowered a profound understanding of the dataset, aiding in the extraction of insights and conclusions from the collected data. Spatial analysis was conducted using the ArcGIS Software, a robust tool renowned for its spatial data processing capabilities. Hotspot maps and kernel density maps were generated using ArcGIS, enabling a visual representation of spatial trends and patterns within the collected data. By utilizing a combination of powerful software tools, this research journey harnessed the capabilities of ArcGIS, Excel, and SPSS to seamlessly progress from data collection to insightful analysis, facilitating a comprehensive exploration of the research questions at hand.

### **3.6 Spatial data preparation**

A systematic approach was adopted to integrate town boundaries and land conflict case data. This preparation ensured accurate spatial representation and contextualization of the conflict incidents within their respective administrative regions. Key datasets were collected, the first containing spatial information about land conflict case locations, and the second comprising town boundary shapefiles. Ensuring proper georeferencing and alignment of both datasets to a consistent coordinate system was crucial for accurate spatial analysis and visualization. Attribute data from the land conflict case dataset, which included information about the number of cases at each location, was integrated, allowing the incorporation of case density information into the spatial analysis. By utilizing ArcGIS, the town boundary shapefiles were imported into the project. These shapefiles defined the administrative boundaries of towns, thereby establishing the geographical context of conflict incidents.

### **3.7 Spatial Analysis Techniques**

The utilization of hotspot analysis and kernel density estimation, incorporating land conflict data count and town boundaries, formed the core of the spatial analysis methodology.

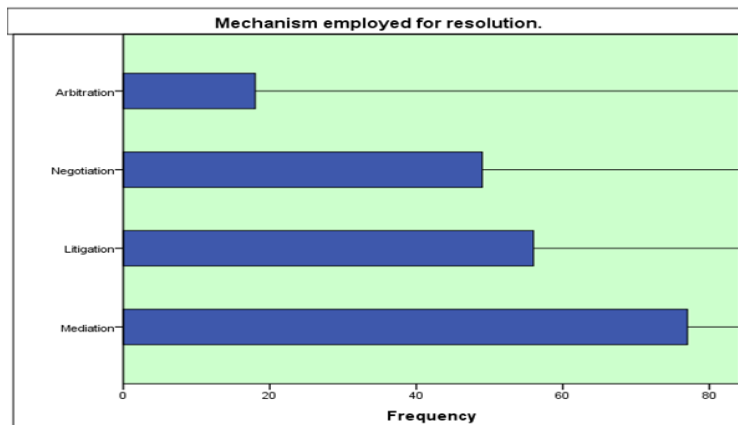
### **3.8 Hotspot Detection**

Hotspot analysis involved identifying areas of statistically significant clustering or dispersion of land conflict incidents within the context of town boundaries. Land conflict data, containing incident counts and corresponding geographic locations, were integrated with town boundary shapefiles within the ArcGIS environment. Computation of the Getis-Ord  $G_i^*$  statistic was conducted in ArcGIS, considering the incident count as the attribute for analysis. The statistics facilitated the identification of statistically significant hotspots (areas with high incident counts surrounded by other high-count areas) and cold spots (areas with low incident counts surrounded by other low-count areas). Calculation of Global Moran's  $I$  was carried out in ArcGIS to indicate the pattern within the data, factoring in incident counts and spatial relationships within town boundaries. The results of hotspot analysis were translated into thematic maps generated in ArcGIS. These maps visually portrayed the distribution of hotspots, cold spots, and spatially significant clusters of land conflict incidents within town boundaries.

## 4. RESULTS AND DISCUSSION

### 4.1 Conflict Resolution Mechanisms

From the questionnaires of this study, the mechanisms for conflict resolution exhibited distinct preferences among the respondents. Mediation emerged as the predominant choice, capturing 38.5% of the respondent base. Litigation followed closely, having 28.0% of the total responses. This substantial figure implies that formal legal channels maintain a significant role in land conflict resolution, likely attributed to the binding and structured nature of court proceedings.



*Figure 3.0 The mechanisms employed for resolution*

Negotiation was favored by 24.5% of respondents, indicating a substantial inclination towards direct communication and compromise as an effective way to settle land-related conflicts. Although Arbitration was chosen by a comparatively modest 9.0% of respondents, its presence in the data set signified an openness to third-party adjudication as a mechanism for resolving disputes. This suggested a nuanced willingness among community members to entertain a variety of resolution frameworks, whether traditional or formalized.

### 4.2 Preferred Conflict Resolution Avenues

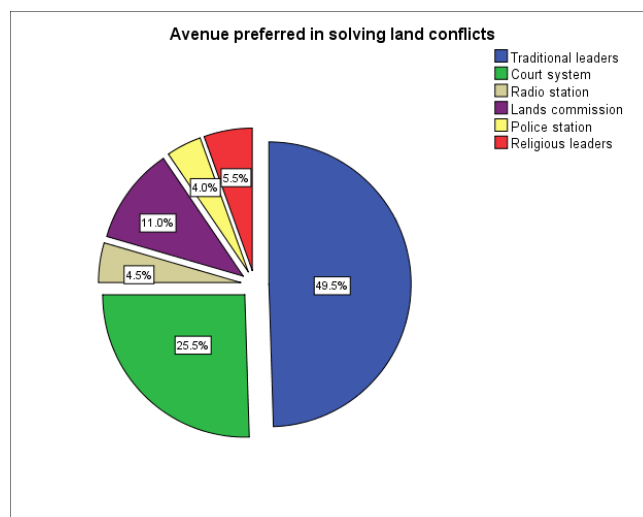
Notably, Traditional Leaders emerged as the most favored option for mediating land disputes, securing 49.5% of the respondents' choices. In an interview, one of the Town chiefs elaborated,

*"We possess a nuanced understanding of land-related issues and can often make decisions that align with the community's longstanding norms and expectations."*

Following the Traditional Leaders, the Formal Court System was the second most preferred option, drawing 25.5% of respondents. During a focus group discussion, a local farmer commented,

*"Courts may seem fair, but they often lack the contextual sensitivity that traditional leaders offer."*





**Figure 4.0** Avenue preferred in solving land conflict

Interestingly, this study revealed that some respondents veered away from traditional and non-traditional channels. Specifically, Radio Stations were chosen by 4.5% of participants, perhaps signifying an unconventional belief in the role of public communication and community awareness as mechanisms for conflict resolution. The Lands Commission was another notable avenue, earning the trust of 11% of the survey participants. This indicates a certain level of faith in specialized governmental bodies dealing with land matters. Police Stations and Religious Leaders each garnered 4% and 5.5% of preferences, respectively. These options may indicate unique circumstances where legal enforcement via police intervention or moral guidance through religious figures are seen as viable paths for conflict resolution.

### 4.3 Preferences in the Land Conflict Resolution Process

**Table 1.0** Gender and Avenue preferred for resolution

		Traditional leaders	Court system	Radio station	Lands commission	Police station	Religious leaders	Total
<b>Gender</b>	Male	75	38	7	20	7	10	157
	Female	24	13	2	2	1	1	43
<b>Total</b>		99	51	9	22	8	11	200

A cross-tabulation shows that both males and females have preferences for different avenues to resolve land conflicts. Traditional leaders and the court system are more commonly

preferred by males, while females show a preference for traditional leaders. Chi-square tests indicate that gender does not significantly influence the choice of conflict resolution avenue.

**Table 2.0 Gender and Mechanism employed for resolution**

		Mediation	Litigation	Negotiation	Arbitration	
Gender	Male	59	43	39	16	157
	Female	18	13	10	2	43
Total		77	56	49	18	200

The results from the cross-tabulation suggest that males tend to utilize mediation, litigation, and negotiation more frequently than females. However, chi-square tests reveal that gender does not significantly impact the choice of resolution mechanism. The analysis revealed that the p-values indicated the lack of statistical significance in the observed associations between gender and the examined categorical variables at the conventional 0.05 significance level. As a result, the analysis did not provide substantial evidence to assert that gender was significantly linked to any of the explored categorical variables.

**Table 3.0 Age and Avenue preferred for resolution**

		Traditional leaders	Court system	Radio station	Lands commission	Police station	Religious leaders	
Age	0-29	22	18	3	5	3	4	55
	30-59	59	20	4	15	3	6	107
	above 60	18	13	2	2	2	1	38
Total		99	51	9	22	8	11	200

The data from the cross-tabulation shows variations in preferences across age groups, with traditional leaders and the court system being more favored by older individuals (above 60), while those aged 30-59 prefer traditional leaders and the Lands Commission. However, chi-square tests indicate that age does not significantly affect the selection of conflict resolution avenues.

**Table 0.0 Age and Mechanism employed for resolution**

		Mediation	Litigation	Negotiation	Arbitration	
Age	0-29	11	24	11	9	55
	30-59	50	18	30	9	107
	above 60	16	14	8	0	38
Total		77	56	49	18	200

The results from the cross-tabulation suggest that individuals aged 30-59 tend to prefer mediation, litigation, and negotiation, while those above 60 show a preference for mediation. Chi-square tests reveal that age significantly influences the choice of resolution mechanism, with older individuals more inclined toward mediation. Findings portrayed that age groups

held a notable influence over preferences for mechanisms employed in resolution. This influence was demonstrated by statistically significant associations. On the other hand, the relationship between age groups and preferred avenues for solving land conflicts appeared less definite, with evidence of association being less robust.

**Table 5.0 Level of education and Mechanism employed for resolution**

		Mediation	Litigation	Negotiation	Arbitration	
Level of education pursued	Basic	11	12	17	1	41
	Secondary	35	28	17	14	94
	Tertiary	31	16	15	3	65
Total		77	56	49	18	200

The data from the cross-tabulation indicates differences in preferences across education levels, with traditional leaders and the court system being more favored by those with basic education. However, chi-square tests show that the level of education pursued does not significantly impact the choice of conflict resolution avenue.

**Table 6.0 Level of education and Avenue preferred for resolution**

		Traditional leaders	Court system	Radio station	Lands commission	Police station	Religious leaders	
Level of education pursued	Basic	18	10	1	7	1	4	41
	Secondary	48	22	7	9	4	4	94
	Tertiary	33	19	1	6	3	3	65
Total		99	51	9	22	8	11	200

The results from the cross-tabulation reveal that individuals with basic education tend to utilize mediation and negotiation more often, while those with tertiary education prefer litigation. Chi-square tests indicate a significant relationship between the level of education pursued and the choice of resolution mechanism. While education level displayed a significant association with the mechanism employed for resolution, it did not exert significant influence over preferred avenues for solving land conflicts.

#### **4.4 Assessing the Efficiency of the Land Conflict Resolution Process**

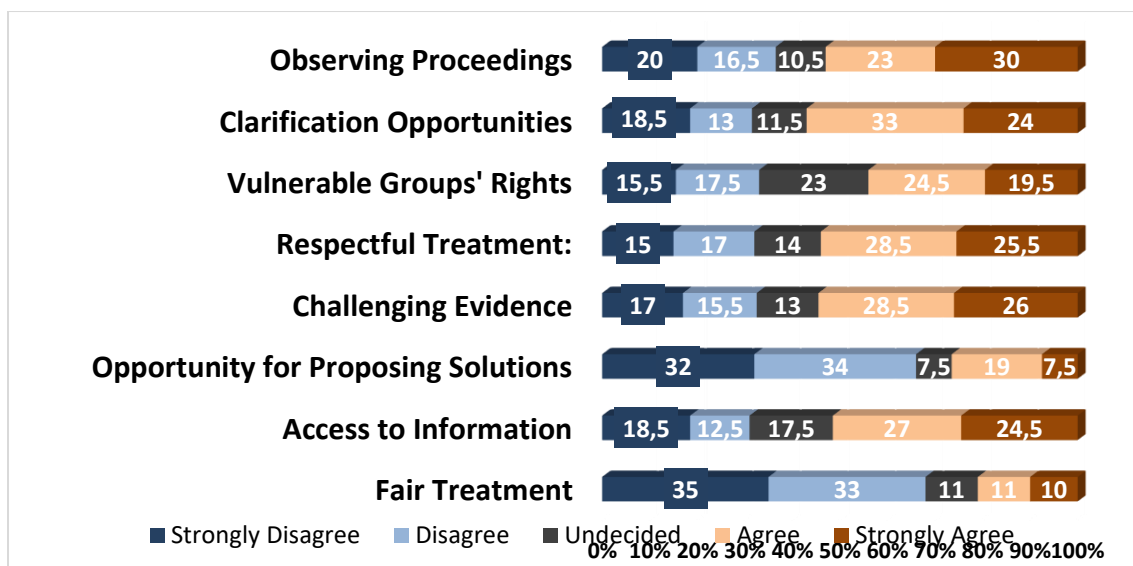


Figure 5.0 Likert scale questionnaire on efficiency

Table 7.0 Cronbach alpha test for reliability

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.635	.633	8

In the assessment of the decision-making process for land conflicts, the data revealed a variety of opinions across multiple facets. For instance, regarding the observation of proceedings, 53% of respondents collectively expressed either "Agree" or "Strongly Agree." This sentiment was echoed in a focus group discussion by a local farmer, who noted,

*"In most cases, we get the opportunity to observe but not much say in the decisions. Even proposing solutions seem to fall on deaf ears."*

When considering the ability to ask questions and seek clarifications, a majority (57%) fell within the "Agree" and "Strongly Agree" categories. A native of Atwima Adumasa substantiated this finding, stating,

*"...Most of the time, we have access to documents and can ask questions."*

However, when it came to protecting the rights and interests of vulnerable or marginalized groups, there was a more divided stance. A combined 44% leaned towards agreement, with 23% remaining neutral. The Chief of Nkoranza commented,

*"...I feel the traditional authority does well in upholding respect and dignity, but when it comes to vulnerable groups, they often get left out."*

Respect and dignity during the process was an area where 58% of respondents agreed, with 14% being neutral. One of the town elders of Setiase weighed in on this, stating,

*"We try to incorporate everyone's views, but the outcome often fails to please everyone. The disagreements are possible because we couldn't arrive at a consensus."*

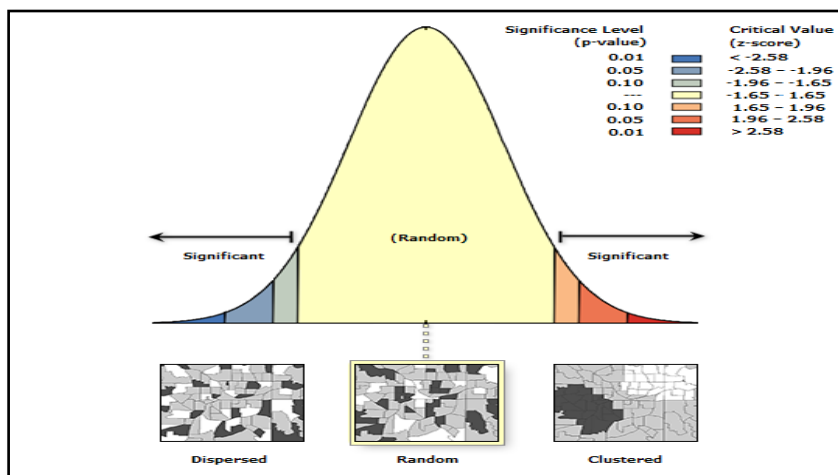
When allowed to challenge and question evidence, a significant 58% collectively responded in agreement. However, for proposing solutions and compromises, a striking 66% either "Strongly Disagree" or "Disagree," which was substantiated by interviews. One of the respondents noted,

*"The process is not as transparent as it should be. My concerns aren't often taken seriously, especially when proposing compromises."*

Access to relevant documents and information saw a 52% agreement rate. Fair treatment of all parties involved was the most contentious, with 68% either "Strongly Disagree" or "Disagree." One of the community leaders of Atwima Darko highlighted this point by stating,

*"The system is good but needs fine-tuning. At times, even if a majority agrees, it doesn't ensure that the decision is fair to everyone."*

#### 4.4 Spatial analysis



**Figure 6.0 Global Moran I report**

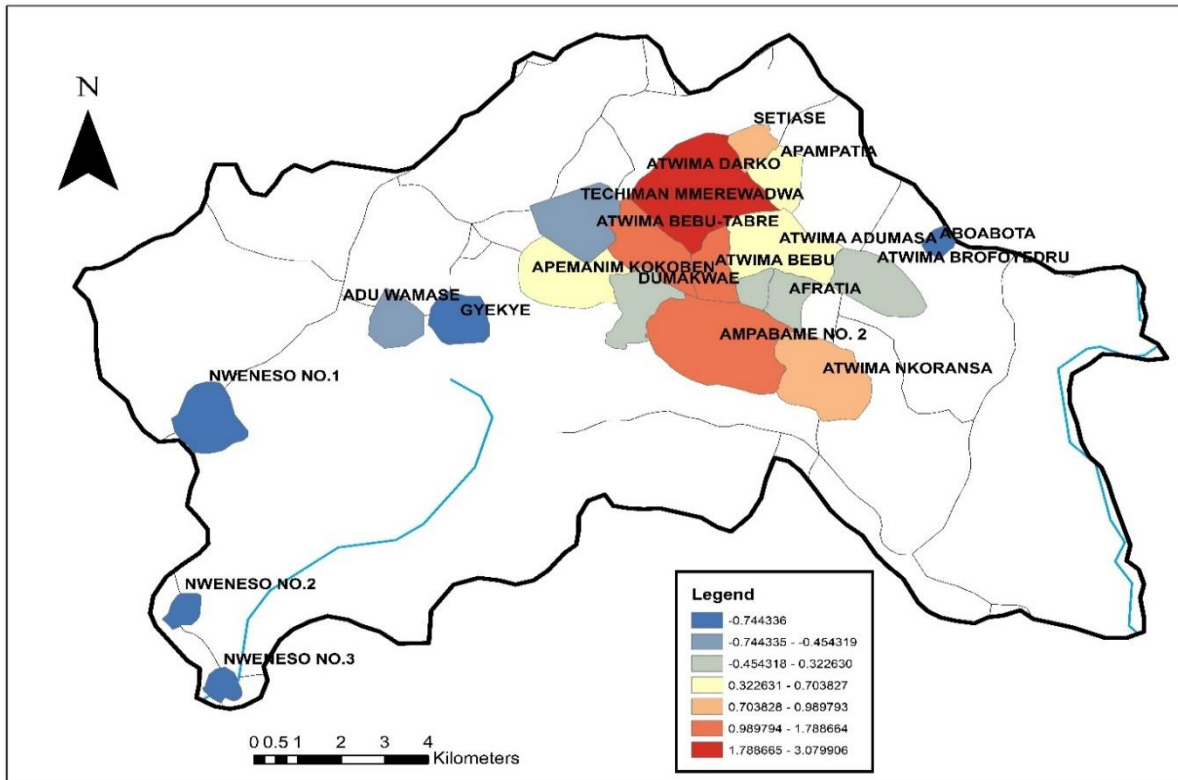
The results of the Global Moran's I analysis (Table 8) provided insights into the spatial characteristics of the dataset under investigation. The negative value of Moran's I (-0.027143) suggested a tendency toward a dispersed or random spatial pattern. However, it was crucial to note that this negative spatial autocorrelation is not particularly strong, as the value is relatively close to zero. Comparing the actual Moran's I to the expected index (-0.052632) further supported the notion of a slight negative spatial autocorrelation. While there is evidence of some spatial clustering in the data, it did not deviate significantly from what would be expected under complete spatial randomness (CSR). The low variance in Moran's I values across different spatial arrangements indicated a degree of stability in the results. This stability is important when assessing the statistical significance of spatial patterns. The z-score near zero (0.355372) reinforced the idea that the observed spatial pattern is not markedly different from randomness. Moreover, the high p-value (0.722311) affirmed that Moran's I value was not statistically significant. This suggested that the spatial distribution observed in the dataset could likely be attributed to random chance. The Global Moran's I analysis indicates a modest tendency toward a dispersed spatial pattern in the dataset, but this pattern is not statistically significant. Therefore, it was reasonable to assume that any spatial structure in the data was not driven by underlying spatial processes but is likely due to random variation.

**Table 8.0 Global Moran's Summary**

<b>Global Moran Index</b>	
<b>Moran's Index:</b>	-0.027143
<b>Expected Index:</b>	-0.052632
<b>Variance:</b>	0.005144
<b>z-score:</b>	0.355372
<b>p-value:</b>	0.722311

#### 4.4.1 Hotspot analysis

Hotspot analysis provided nuanced insights into the spatial distribution of land conflicts, adding a layer of complexity to our understanding of the issue. Significantly, Atwima Darko manifested as statistical hotspot with elevated positive z-values. The prevalence of such hotspots in these towns is indicative of an acute concentration of land conflict incidents compared to neighboring areas. Conversely, Apampatia, Apemanim Kokoben and Atwima Adumasa exhibited negligible z-values, highlighting an even distribution of land conflicts in comparison to their surrounding localities.



**Figure 8.0 Hotspot map**

The absence of pronounced hotspots or coldspots in these towns is influenced by factors like effective administration for the uniform spatial distribution of conflicts in these towns. Insights gleaned from these towns may illuminate particular conditions that either mitigate or fail to trigger a concentration of land disputes, thus informing broader conflict resolution strategies. Towns such as Gyekye, Aboabota, and the Nweneso towns were characterized by low negative z-values, categorizing them as statistically significant coldspots. These localities experience fewer land conflict incidents than their neighboring towns, indicating either harmonious land tenure systems or effective conflict resolution mechanisms are in place.

## 4.5 Discussion of results

### 4.5.1 Community Preferences on Conflict Resolution Mechanisms

Utilizing chi-square statistical tests, the study discerned notable variations in community preferences for conflict resolution mechanisms. Mediation emerged as the most prevalent choice (38.5%), reflecting the cultural propensity for collaborative dialogues. Formal litigation accounted for 28% of preferences, underscoring the enduring trust in legal systems. The study revealed that community preferences were significantly influenced by demographics such as gender, age, and educational background. For instance, males, representing 78.5% of respondents, were disproportionately more active in customary land dispute discussions, a trend confirmed during interviews with traditional leaders. Age and

education further influenced resolution mechanism choices, yet surprisingly had no significant impact on the preferred avenues for conflict resolution. A local farmer noted that;

*"The process is not as transparent as it should be. My concerns aren't often taken seriously, especially when proposing compromises."*

This comment underlines the need for increased transparency and consideration of diverse viewpoints, particularly from local farmers who are often directly affected by land conflicts but feel underrepresented in the resolution processes.

#### **4.5.2 Effectiveness of Conflict Resolution Processes**

To assess the efficacy of existing conflict resolution processes, a Likert scale was deployed, yielding a Cronbach's Alpha score of 0.635, indicating moderate internal consistency. Around 67% of respondents were comfortable with the level of transparency in decision-making proceedings. However, the rights of vulnerable or marginalized groups were not adequately represented, with 72.5% of respondents expressing concern. A significant 68% of respondents disagreed with the notion that the resolution process ensures fair treatment for all parties involved. These results align with traditional leaders' emphasis on the need for improved communication and heightened sensitivity to diverse community needs. As one of the town chiefs stipulated:

*"Efficiency is often compromised due to various complexities, including the need to balance modern laws with traditional customs."*

This remark reflects the inherent challenges faced by local leadership in amalgamating modern legal frameworks with longstanding traditional customs, a complexity that further necessitates the refinement of existing resolution mechanisms.

#### **4.5.3 Spatial Analysis of Conflict-Prone Areas**

In an innovative step, this study incorporated spatial analysis to uncover the geographic nuances of land conflicts. Utilizing the Global Moran's, I statistic, a negative value suggested that the conflicts are dispersed rather than clustered, which adds another layer of complexity to the issue at hand. Certain areas like Atwima Darko stood out as conflict hotspots, revealing the need for targeted, location-specific interventions. Conversely, areas such as Gyekye, Aboabota, and the Nweneso towns emerged as "cold spots," indicating lower levels of land conflict. While the traditional methods focus on individual attributes and societal norms, spatial analysis brings forth the role of geographical locations as either conflict accelerators or peace maintainers. It is crucial to note that these geographically low-conflict zones may possess specific environmental, cultural, or infrastructural features that mitigate conflicts. For example, more equitable land distribution or effective local governance systems could be factors that contribute to the observed peace in these regions. The significance of understanding these geographical patterns cannot be overstated, as they offer critical insights for policymakers looking to design targeted conflict resolution interventions. Moreover, the spatial analysis reveals a more dynamic landscape where conflicts are not uniformly distributed. For instance, an area like Adumasa also emerged as a hotspot indicating that certain locations may be grappling with specific types of land disputes that require



specialized forms of intervention. In contrast, communities like Apampatia, Apemanim Kokoben, and Atwima Adumasa displayed negligible z-values, suggesting that conflicts in these areas are more evenly spread. Such information is invaluable for refining the focus of future research studies, as well as community development projects aimed at conflict prevention and resolution.

## 5. CONCLUSION

This study explored the multifaceted area of land conflicts and achieved its three main objectives, providing profound insights into the conflict dynamics. The study analyzed the community preferences for conflict resolution mechanisms and found that education level influenced the preference for mediation or litigation. The study also heard the concerns of a local farmer, who called for more transparency in decision-making processes, highlighting the importance of inclusive approaches.

The study evaluated the existing conflict resolution processes and found that they had a moderate level of internal consistency, suggesting the need for improvement. The study also noted concerns about the representation of vulnerable groups and the fairness of the system, emphasizing the need for continuous improvement. The study also learned from the traditional leaders, who stressed the need for balancing modern laws and customs, underscoring the need for better communication and sensitivity. The study performed a spatial analysis and added a geographic dimension to the land conflicts, identifying hotspots and coldspots, such as Atwima Darko and Gyekye, Aboabota, and Nweneso towns. The study also observed the dispersion of conflicts, adding complexity and indicating the need for targeted interventions. The study also examined the landscape of conflict distribution, characterized by specific hotspots and evenly spread conflicts, offering valuable insights for policymakers and community development initiatives.

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## **BIOGRAPHICAL NOTES**

Poku Appiagyei Kwabena is a dedicated professional with an educational background and expertise in Geomatic Engineering. He holds both a BSc. in Geomatic Engineering from the esteemed Kwame Nkrumah University of Science and Technology, Kumasi. Poku's academic journey has equipped him with comprehensive knowledge and skills in the field, emphasizing his commitment to excellence. Poku Appiagyei Kwabena's research interests are centered around crucial areas within Geomatic Engineering, mainly in land conflict management, land administration, cadastral surveying, and engineering surveying. His focus on these domains reflects a passion for addressing real-world challenges and contributing to effective and sustainable solutions in the geospatial field. A distinguished member of the Ghana Institute of Surveyors, Poku Appiagyei Kwabena actively engages in professional networks to stay abreast of industry developments and foster collaborations. Poku Appiagyei Kwabena's academic achievements, coupled with his research interests and active participation in professional organizations, position him as a dynamic and forward-thinking Geomatic Engineer contributing to the advancement of land management and surveying practices in Ghana.

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