Open Access Library Journal
2026, Volume 13, e15706
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Community Livelihood under Cattle Rustling-Related Insecurity: Evidence from Pastoral Communities in Baragoi Sub-County, Kenya

Mercy Jennes Lekimain

Development Studies, St. Paul's University, Limuru, Kenya
Email: mercylekimain@gmail.com

How to cite this paper: Lekimain, M.J. (2026) Community Livelihood under Cattle Rustling-Related Insecurity: Evidence from Pastoral Communities in Baragoi Sub-County, Kenya. *Open Access Library Journal*, **13**: e15706.
https://doi.org/10.4236/oalib.1115706

Received: June 29, 2026
Accepted: August 16, 2026
Published: August 19, 2026

Abstract

Insecurity in pastoral areas has remained an ongoing problem and has continued to affect lives through loss of cattle, limited movement, and limited access to basic resources in Baragoi Sub-County, Kenya. This study investigated the link between insecurity as a result of cattle rustling and livelihood outcomes of the communities. It focused on fear of attacks, limited movement, and perceived safety dimensions on herd sizes and access to resources and livelihoods. Anchored on Risk and Uncertainty Theory and the Conflict Theory of social change, study used a descriptive survey research design. It targeted 13,284 heads of households out of which 360 households were selected using stratified, purposive, and simple random sampling techniques. A total of 321 valid responses were collected (89.2%). Information was gathered using structured questionnaires, key informant interviews, and FGDs, whereas quantitative data were analyzed using SPSS software to perform descriptive statistics, Chi-square test, and ordinal logistic regression, while qualitative data were analyzed thematically. Ethical clearance was done, and informed consent was sought. Results showed that restriction of mobility had the greatest relationship with livelihood in the community ($\chi^2 = 34.271$, $p < 0.001$), and it was related to 52% less likelihood of being in a better livelihood category (OR = 0.48, $p < 0.001$). Qualitative results revealed that cattle raiding associated with obtaining cattle for marriage purposes is responsible for continued fear of attacks. The study finds a strong link between cattle rustling insecurity and pastoral livelihoods, with mobility restriction as the main driver of poor outcomes.

Subject Areas

Art

Keywords

Cattle Rustling-Related Insecurity, Community Livelihoods, Livelihood Outcomes, Pastoral Communities, Baragoi Sub-County, Kenya

1. Introduction

In spite of several efforts made towards security operations and peace-building activities, cattle rustling continues to persist as an issue among the pastoral community [1]. Livestock is a vital resource for approximately 1.3 billion people across the globe and has continued to remain very important in ensuring food security, providing employment and income, and even development in general, particularly in developing countries [2]. Livestock for pastoralists are not simply sources of production. They give food and income; they signify status, cultural obligations are fulfilled through them, and they serve as a form of protection against environmental and economic risks [3] [4]. Such an intimate relationship between people and livestock implies that any form of insecurity which undermines livestock production will have repercussions going beyond the loss of livestock. Access to grazing grounds becomes limited, movement is constrained, and markets are hard to reach [5].

The nature of cattle rustling in Sub-Saharan Africa has also changed over time. The practices that once formed part of the traditional arrangements are now acts of violence through the use of armed bands and advanced weaponry [6]. There has also been the occurrence of loss of livestock, displacement of families, destruction of property, killings, food shortages, and the lack of economic opportunities in several pastoral communities [7] [8]. This is accomplished indirectly to a large extent because the constant fear of an attack means that individuals are unable to move about freely, they have difficulty accessing grazing areas and water sources, they cannot conduct trade, and they find themselves restricted in terms of earning a living in general [1].

In Kenya, cattle rustling is a continuous issue especially in arid and semi-arid lands among the Samburu, Turkana, Pokot and Marakwet people, where cattle define not only their livelihood but also the structure of their society [9]. Baragoi Sub-County in Samburu County is an example of this fact. Although there have been repeated government efforts to restore security and efforts to bring peace to the communities, the cattle raids still keep happening [10]. The killing of 42 police officers in the 2012 Baragoi operation has been considered one of the most discussed incidents relating to cattle rustling in Kenya [11]. Since then, the problem of insecurity continues to negatively impact various livestock rearing processes such as water sourcing, grazing among others.

Previous studies have shown remarkable progress in understanding the relationship between cattle rustling and conflict, peace building, inter-ethnic relations and security management [3] [12] [13]. In comparison, little research has consid-

ered the role of insecurity in influencing the livelihood of the people. Little evidence exists in terms of the impact of the risk of attack, movement constraints, and sense of insecurity in influencing the access to grazing land, water, market, and other sources of livelihood. This is important since efforts to enhance the livelihood of the pastoralists cannot only focus on mitigating violent conflicts.

The present study examined the relationship between cattle rustling-related insecurity and community livelihood among pastoral households in Baragoi Sub-County, Kenya. Community livelihood was assessed using herd size, access to grazing and water resources, market access, and marriage-related livelihood practices, while insecurity was examined through fear of attack, restricted mobility, and perceived safety. The research was based on two major theories, the Theory of Risk and Uncertainty, and the Conflict Theory whose interlinking views can shed light on the processes through which the perception of risk and competition over limited resources affect livelihood choices and livelihoods in such risky pastoral environment. While the data presented in this research are based on the case study of Baragoi, its findings provide insights into the general question of the impact of security on livelihood resilience in pastoral environments affected by recurring resource-related conflicts. The remainder of the study includes the literature review, methodological approach, results and discussion of these, a concluding section of the paper including implications, policy suggestions, limitations and suggestions for further research.

2. Literature Review

2.1. Theoretical Framework

This research was informed by the Theory of Risk and Uncertainty and the Conflict Theory of change. The theories jointly offer explanation for the relationship between the cattle rustling related insecurity and community livelihood. Whereas theory of Risk and Uncertainty explains how households cope with and make livelihood choices under conditions of insecurity and uncertainty, Conflict Theory provides the rationale why insecurities thrive. They together can offer a logical link for assessing how insecurity affects community livelihoods.

The Risk and Uncertainty theory, originally developed by Frank Knight in 1921, separates risk, which is the situation where probability of occurrence of events in the future can be estimated, from uncertainty, where probabilities are largely unknown [14]. Households in pastoral environments usually make decisions under circumstances that are insecure and uncertain in relation to access to resources and environment. According to Ibrahim [15] repeated cattle rustling in these areas affects the existing systems of livelihood and makes it difficult to predict the status of livestock ownership and sustenance of livelihoods. Similarly, Shanguhyia [16] has reported that continued cattle rustling and banditry in North West Kenya makes the households insecure, which affects decision-making process in the utilization of resources.

Relevance of the theory to the present study emanates from its capability to

describe the behavioural reactions of pastoralist families in face of insecurity situations. Families who have a high perception of the risk of being attacked tend to avoid places that they consider risky such as some grazing lands, migration pathways or markets. Similarly, insecurity may limit the movement of families hence making it difficult for them to access water, pastures and other means of livelihood. The level of safety perceptions affects the degree to which families participate in productive activities. However, although the theory describes the response of families to insecurity situations, it fails to describe the circumstances under which insecurity is created. This creates the need for inclusion of Conflict Theory.

According to Conflict Theory, which was advanced by Karl Marx in 1976, conflict is as a result of competition over scarce resources and differences in power and opportunities [17]. In modern research, the theory has been used to examine insecurity in pastoral settings. For instance, Marigat [18] discovered competition for scarce resources, poverty, unemployment, small arms, and cultural issues to be some of the causes of cattle rustling and insecurity in North West Kenya. Likewise, Bello and Abdullahi [19] observed that conflicts caused by livestock rustling and resource competition are highly related to struggles over grazing and water resources.

The Conflict Theory, within the scope of this study, helped explain the circumstances under which insecurity from cattle rustling is perpetuated. On the other hand, the Theory of Risk and Uncertainty will be used to explain how households respond to such insecurity during their livelihood practices. The competition for grazing areas, water sources and livestock results in circumstances under which cattle rustling continues to exist, resulting in fear, lack of mobility and lack of safety perception. Ultimately, this impacts livelihood including herd size, access to water and grazing sources, market access and marriage culture. The convergence of the two theories thus explains and offers a complete explanatory framework of the link between livestock rustling-related insecurities and community livelihood diversity of pastoral households.

2.2. Historical Perspective of Cattle Rustling in Kenya from the Colonial Era

The literature reveals that cattle rustling in Kenya has gone through a remarkable change in terms of development from being a cultural activity to a multi-faceted problem relating to security and survival. The history of cattle raiding is linked to some social and economic activities such as restocking of the livestock, wealth distribution, payment of bride wealth, and enhancement of social prestige within the pastoral communities. As indicated by Akama and his colleagues [20] the above activities used to be conducted through customary structures that defined how and to what extent raids were supposed to be done. Colonial administration led to the disruption of customary grazing arrangements through the introduction of borders, tribal reserves, and pastoral movement.

One of the areas that the literature shows agreement on is that there was a fun-

damental change in the nature of cattle rustling in the latter half of the twentieth century. As pointed out by Kimani [21], the 1990s saw the rise of organized cattle rustling, which was accompanied by violence and involved the sale of stolen livestock through the market. In a similar vein, Amutabi and Hamasi [22] contend that cattle rustling became increasingly economic rather than cultural and formed part of a broader network of criminal activities. The rise in small arms due to the instability of neighboring countries and the resulting increase in scarcity of resources led to cattle rustling becoming a far deadlier crime involving death and destruction of property [18]. However, despite their agreement, there are some differences in regard to the causes of cattle rustling in the contemporary times. While the authors view the continuation of cultural practices like the payment of dowry, circumcision, and other cultural issues associated with cattle keeping as being responsible for the persistence of cattle rustling. Kimani [21] views commercialization as an increasingly influential cause of cattle rustling. In a similar vein, Kamais and Mosol [23] point to political incitement, poor governance, resource competition, and collapse of traditional institutions as key causes of cattle rustling in the modern times.

While the literature is abundant with information on the history and causes of cattle rustling, some issues have yet to be clarified. The current body of literature emphasizes the causes and security impacts of cattle rustling and does not provide sufficient information on how these changes in history affect livelihoods at the household level. Furthermore, while there are numerous studies on cattle rustling at more regional levels, there is a lack of specific evidence from places like Baragoi, which continues to experience insecurity. Literature provides abundant proof of the fact that cattle rustling is a major security issue nowadays, but little evidence is provided regarding the influence of such insecurity on livelihoods because of fear, lack of mobility, and sense of insecurity.

2.3. Empirical Review on Cattle Rustling-Related Insecurity and Community Livelihood

Recent scholarship increasingly demonstrates that the consequences of cattle rustling extend beyond the direct loss of livestock to encompass broader forms of insecurity that affect community livelihood. Rather than functioning solely as an economic crime, cattle rustling has evolved into a complex security challenge that influences access to resources, market participation, mobility, social relations, and overall livelihood wellbeing. Across the contemporary literature, three interrelated themes emerge consistently: fear of attack, restricted mobility, and perceived safety. Although scholars generally agree that cattle rustling-related insecurity undermines livelihood outcomes, there are notable differences regarding the mechanisms through which these effects occur and the dimensions of livelihood most affected.

Fear of attack emerges as one of the most significant consequences of cattle rustling-related insecurity. Ibrahim [15], in a study examining cattle rustling and live-

lihood transformation in Nigeria, found that recurrent cattle raids disrupt traditional pastoral livelihoods and generate uncertainty that affects household wellbeing and livelihood adaptation. Similarly, Ojo *et al.* [24], in their study about armed banditry and insecurity in North-west Nigeria, established that persistent attacks contribute to displacement and declining agricultural productivity by exposing communities to continuous threats. Both studies converge on the view that fear associated with recurrent violence constrains livelihood activities and weakens household resilience. Comparable findings were reported by Chemase and Muhindi [25] in their research about the implications of banditry on socio-economic development in Baringo South Sub-County, Kenya. The authors observed that contemporary cattle rustling has evolved into a serious security threat characterized by loss of life, destruction of property, and prolonged insecurity. Their study identified poverty, unemployment, competition over scarce resources, proliferation of small arms, and cultural practices as factors sustaining cattle rustling and insecurity in the region. Unlike Ibrahim [15] who emphasizes livelihood transformation, Chemase and Muhindi [25] place greater emphasis on the broader security implications of cattle rustling and its threat to human security. Despite these differences, all three studies agree that fear generated by recurrent attacks significantly disrupts normal livelihood activities.

Restricted mobility is yet another prominent theme in the literature. Free mobility is an essential attribute of the pastoral way of life since access to grazing grounds, water sources, migration routes, markets, and social networks is dependent on free movement of the households. Defere *et al.* [26] observed that insecurity resulting from cattle rustling is responsible for restricting household mobility and limiting access to productive resources. The same was observed by Anno and Ameripus [27] in their analysis of resource-based conflicts experienced by livestock traders in pastoral settings of Kenya and Uganda where the conflict had a significant impact on access to grazing resources, water sources, and livestock production possibilities. A clear trend emerging from these studies is that insecurity causes restricted mobility and, as such, is a factor limiting access to productive resources for pastoral livelihoods. What differentiates the two studies is that while one emphasizes displacement and reduced production as major effects of restricted mobility, the other focuses on disruption of livestock production systems and market integration.

The literature further identifies perceived safety as an important determinant of livelihood wellbeing. Ibrahim [15] argues that persistent insecurity weakens household wellbeing by creating uncertainty regarding the protection of productive assets and future livelihood prospects. Similarly, Amutabi and Hamasi [22] found that insecurity discourages market participation by creating uncertainty among traders and producers, thereby limiting access to economic opportunities. Both studies imply that perceptions of safety influence the willingness of households to engage in productive activities and invest in livelihood strategies. A recurring pattern across the literature is that communities characterized by low lev-

els of perceived safety tend to exhibit poorer livelihood outcomes than communities operating within relatively secure environments. Nevertheless, a notable limitation is that most studies treat safety as an indirect outcome of insecurity rather than measuring perceived safety as a distinct analytical construct. Consequently, the role of subjective security perceptions in shaping livelihood decisions remains insufficiently explored.

Further, the literature points out that perceived safety is one of the significant factors driving livelihood wellbeing. The contention of Ibrahim [15] is that chronic insecurity negatively impacts household well-being through uncertainty about the safety of one's productive assets, and livelihood future. Similarly, Amutabi and Hamasi [22] discovered insecurity in their study results as the deterrent of participation of both producers and sellers to local markets because it instills uncertainty of business. In northern Kenya, a recent study conducted by Schilling and Werland [1] indicates that there are overlapping threats affecting pastoral communities' perceptions about security status in the area with decreased mobility and reduced access to important water and grazing resources, as well as eroded security needed for sustenance of livelihoods.

These analyses signal that the level to which communities assess security impacts the behavior of engaging in productive activities and securing livelihood resources. Therefore, security and peace are crucial determinants of livelihood sustenance. In most studies reviewed there is overwhelming evidence indicating that, generally households based in insecure environments has lower livelihood wellbeing compared with those inhabiting the relatively safer contexts. Nevertheless, many scholars have either regarded security or, viewed perceived security as the outcome or by-product of insecurity instead of as a significant factor affecting the decisions made regarding livelihoods. The implication of this perspective is the dearth of evidence that provides a clear answer on what shape household decisions regarding livelihood, and wellbeing by communities experiencing recurrent Cattle rustling have as per their level of their perception of safety.

Several areas of agreement emerge across the reviewed studies. First, there is broad consensus that cattle rustling-related insecurity affects livelihoods through mechanisms that extend beyond livestock losses. Second, the studies consistently demonstrate that insecurity disrupts access to productive resources, limits economic participation, and undermines household wellbeing. Third, there is agreement that cattle rustling has increasingly evolved from a traditional livestock acquisition practice into a more complex security challenge characterized by violence, displacement, and livelihood disruption. These patterns are evident across studies conducted in Nigeria, Kenya, and cross-border pastoral regions.

Despite these areas of convergence, important disagreements and inconsistencies are also apparent. Ibrahim [15] emphasizes livelihood transformation and declining wellbeing as the principal outcomes of cattle rustling, whereas Anno and Ameripus [27] concentrate on resource access and livestock production, while Amutabi and Hamasi [22] emphasize market access and economic participation.

Similarly, Chemase and Muhindi [25] frame cattle rustling primarily as a national security challenge. These variations suggest that the consequences of cattle rustling-related insecurity are context-specific and may differ according to environmental conditions, livelihood systems, and conflict dynamics.

There are also notable limitations in terms of research methodology. Current studies are largely based on review-based, descriptive and secondary sources of information, which prevents them from exploring the experience of households related to insecurities and consequences of insecurities on livelihoods. Most of the research is focused on the changes in livelihoods, resource conflicts, or livestock production, while paying little attention to such aspects of insecurity as the fear of being attacked, restrictions on movements, and safety. Overall, the current literature gives an incomplete picture of the relationship between insecurities and pastoral livelihoods.

A further limitation concerns geographical context. Most of the reviewed studies were conducted in Nigeria or in broader pastoral settings within East Africa. Although these studies provide valuable insights into the relationship between insecurity and livelihood, their findings may not adequately capture the realities of Baragoi, where cattle rustling is shaped by unique historical, cultural, ecological, and socio-economic factors. Moreover, empirical studies explicitly examining fear of attack, restricted mobility, and perceived safety as dimensions of cattle rustling-related insecurity remain limited within northern Kenya.

The reviewed literature therefore demonstrates a strong consensus that cattle rustling-related insecurity constitutes a significant livelihood challenge. However, important conceptual, methodological, and contextual gaps remain. In particular, limited empirical evidence exists on how fear of attack, restricted mobility, and perceived safety collectively influence community livelihood among pastoral households in northern Kenya. This study addresses these gaps by examining the association between these dimensions of cattle rustling-related insecurity and community livelihood in Baragoi Sub-County, thereby contributing context-specific evidence to the growing literature on pastoral insecurity and livelihood outcomes.

2.4. Conceptual Framework

The conceptual framework was instrumental in guiding the study by providing a basis for investigating the relationship between insecurity associated with cattle rustling and community livelihood in pastoral communities. The conceptual framework for this study draws on Theory of Risk and Uncertainty [14] and the conflict theory [17], which combined together guide us how the insecurity occasioned by cattle rustling affect household livelihoods among the pastoral communities as shown in **Figure 1**. Theory of Risk and Uncertainty defines household approach towards decision making under insecurity and unknown circumstances while conflict theory define the how contest over scarce resources lead to conflict which gives rise to cattle rustling and in security it triggers.

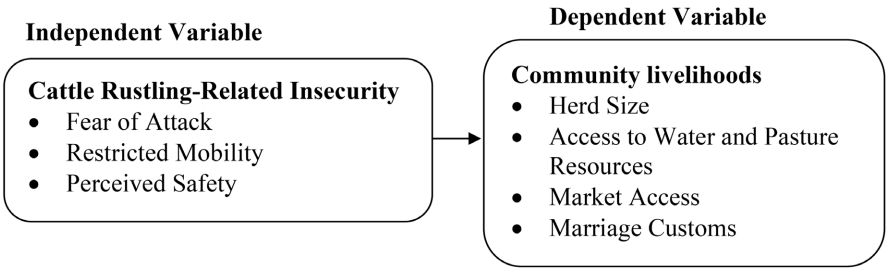

Figure 1. Conceptual framework.

The framework defined cattle rustling related insecurity as an independent variable by capturing its elements such as fear of being attacked, limited mobility, and perceptions about security while community livelihood was defined as a dependent variable through elements like herd size, water and pasture availability, market access, and marriage practices. The framework was helpful in defining the research objective, in designing instruments for data collection, and the variables used in the analysis.

This study was anchored on the assumption that insecurity associated with cattle rustling affects livelihood through various channels. Fear of being attacked prevents the community from engaging in any livelihood practice, limited mobility affects access to necessary livelihood resources and opportunities, while perceptions of being safe enhance productivity. Thus, household members with high levels of insecurity would be predicted to have poorer livelihood outcomes than those that had low levels of insecurity. The model hence acted as a tool that was used in the analysis of how fear of attack, restricted movement, and perception of security affected livelihood in communities.

3. Methodology

Descriptive survey was used in this research to investigate cattle rustling insecurity and its impacts on the livelihoods of households in Baragoi Sub-County, Samburu County, Kenya. Descriptive survey enables data collection from a population to help in describing variables and the relationships that exist between them in a real-world situation [28]. This research design is commonly used in livelihood and rural security researches because it helps in incorporating both quantitative measurement and qualitative interpretations in situations where there are complex social dynamics [29]. There is high insecurity caused by cattle rustling in the study area.

The study population comprised households in Baragoi Sub-County, Kenya, which served as both the study area and the administrative unit from which the sampling frame was drawn. According to the Kenya National Bureau of Statistics [30], the sub-county has 13,284 households. The study focused on households affected by cattle rustling, with the household head serving as the respondent because they are ordinarily responsible for decisions on livestock ownership, resource use, and household livelihoods [31]. A household head was defined as the person recognized by other household members as having primary responsibility for managing household affairs. In a few cases, household heads were younger

than 18 years because they had assumed responsibility for their households following the death of a parent, prolonged parental absence, separation, or other family circumstances. These respondents were included only after the approved ethical procedures had been followed, including obtaining parental or guardian consent, where applicable, together with the minor's assent.

The sample size of 360 households was determined using the Krejcie and Morgan [32] sample size table. The sampling frame was stratified into the four administrative wards of El-Barta, Nachola, Ndoto, and Nyiro, and the sample was allocated proportionately according to the number of households in each ward to ensure adequate representation across the study area. Within each ward, households affected by cattle rustling were first identified from records maintained by local administrators (chiefs and assistant chiefs), and the records were verified by village elders. Purposive sampling was then used to compile a list of eligible households affected by cattle rustling. From this list, simple random sampling was used to select the required number of households, after which the household head in each selected household was interviewed. Of the 360 questionnaires administered, 321 were completed and returned, yielding a response rate of 89.2%.

Primary data were collected through structured questionnaires, key informant interviews, and focus group discussion (FGDs). In the structured questionnaire, relevant information that was needed quantitatively and gathered consisted of: fear of attack, movement restriction, safety of life and property of household members, herd size, availability of water and pasture resources to herders, access to markets, and household livelihood characteristics. The qualitative information through key informant interviews and FGDs shed more light on the impact and lived experiences of insecurity and restrictions of movement of herds and stock raiding on households. The qualitative component included eight key informant interviews involving two chiefs, two assistant chiefs, two National Police Reservists, one livestock officer, and one community elder. In addition, three focus group discussions were conducted with a total of 36 participants, comprising youth (male), women (including young women), and elders, with each group consisting of 12 participants. Separating participants into these groups created a comfortable environment for discussing their experiences and perspectives on cattle rustling and its effects on livelihoods.

Community livelihood, the dependent variable, was measured using a Community Livelihood Index (CLI) based on four indicators: herd size, access to water and pasture resources, market access, and marriage customs. Each indicator was rated on a five-point Likert scale ranging from 1 (very low) to 5 (very high), with higher scores indicating better livelihood conditions. Since all the four indices were on the same scale and measured some important facets of life in pastoral livelihoods, they were assigned equal weight. The CLI for each respondent was calculated as the average of the four indicator scores and then classified into three categories: low livelihood (1.00 to 2.49), moderate livelihood (2.50 to 3.49), and high livelihood (3.50 to 5.00). Marriage customs were included because, in pasto-

ral communities, marriage practices are closely linked to livestock ownership, bride wealth, and household socio-economic wellbeing, making them an important livelihood-related institution rather than solely a cultural practice [33].

Quantitative data were analysed using SPSS. The analysis included descriptive statistics, cross-tabulations, chi-square tests, and ordinal logistic regression. Internal consistency was assessed using Cronbach's alpha, with fear of attack ($\alpha = 0.81$), mobility limitations ($\alpha = 0.84$), perceived safety ($\alpha = 0.79$), and the Community Livelihood Index ($\alpha = 0.86$), all exceeding the recommended reliability threshold of 0.70. The assumptions for ordinal logistic regression were assessed before fitting the model. Multicollinearity was examined using Pearson correlation coefficients, with the highest correlation (r = 0.72) indicating no evidence of problematic multicollinearity. The proportional odds assumption was assessed using the Test of Parallel Lines ($\chi^2 = 5.741$, p = 0.453), while overall model fit was evaluated using the likelihood ratio test ($\chi^2 = 47.686$, $p < 0.001$).

Qualitative data were analyzed using Braun and Clarke's thematic analysis approach [34]. The interview and focus group transcripts were read repeatedly before being coded. Related codes were grouped into broader themes, which were then compared with the quantitative findings to explain the observed patterns and identify areas where the two sets of findings converged or differed, thereby strengthening the interpretation of the results through methodological triangulation [28].

Information was collected and analyzed according to ethical protocols. Before every interview and focus group discussion, the purpose of the study, the extent of the participants' contribution to the study, and right to withdraw without penalty at any time were explained. For those under 18 years, the approved assent and consent protocols would have followed the ethical approval of the study. To maintain participant anonymity and confidentiality all interview and focus group transcriptions were fully anonymized removing personal data through deleted from transcripts at point of Transcription. Analysis of data was also fully anonymized. All interviews and focus group discussions were carried out at private, impartial places where participants feel more relaxed and were be able to share openly their experiences.

4. Findings

4.1. Socio-Demographic Characteristics of Respondents

The socio-demographic factors were investigated to give a description of the research sample and to ascertain whether the respondents had the requisite experience in households and livelihoods to give credible responses regarding cattle rustling and insecurity.

The data collected in **Table 1** indicates that the respondents were mostly male and majority represented young age groups. More than half (46.1%) of the respondents were 18 - 26 years old, and 48.9% were married; therefore, many of them had responsibility for household affairs and livelihood activities. Further-

more, most of the respondents were from medium and large families, as about three quarters indicated that their family size was four members and above. This is typical to pastoral communities because the respondents had experiences and information on the issue of cattle rustling insecurity.

Table 1. Socio-demographic characteristics of respondents (n = 321).

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	189	58.9
	Female	132	41.1
Age (Years)	Below 18	90	28.0
	18 - 26	148	46.1
	Above 26	77	24.0
	No response	6	1.9
Marital Status	Married	157	48.9
	Single	96	29.9
	Widowed	35	10.9
	Divorced	23	7.2
	Separated	10	3.1
Household Size	2 - 3 members	83	25.9
	4 - 6 members	128	39.9
	Above 6 members	110	34.3

4.2. Community Livelihood Index

Community livelihood served as the dependent variable and was measured as a composite variable composed of four indicators, which include: herd size, water and pasture resources, market access, and marriage customs. The respondents provided details about these indicators based on their household's experiences within the study community. The four indicators were coded through structured answers and expressed as standard scores for purposes of comparisons. The scores of the four indicators were combined to create a Community Livelihood Index (CLI), which was created by calculating the average of the four indicators per respondent. The method involved giving equal weight to all the indicators of community livelihood.

Community Livelihood Index (CLI), computed from the four livelihood indicators outlined in Chapter 3 was used as the dependent variable in this research. Households fall into 3 livelihood groups, high, moderate and low. Table 2 presents frequency distribution of respondents in respective livelihood groups based on CLI. Later CLI was used to carry out crosstabulation chi-square analysis, ordinal logistic regression analysis, in exploring the relationship between cattle rustling and community livelihoods.

Table 2. Distribution of community livelihood levels.

Livelihood Category	Frequency (n)	Percentage (%)
Low livelihood	98	30.5
Moderate livelihood	145	45.2
High livelihood	78	24.3
Total	321	100

According to the findings, the majority of those sampled (45.2%) belong to the moderate livelihood category. Those belonging to the low livelihood category are represented by 30.5%, while those belonging to the high livelihood category are represented by 24.3%. This distribution helps in analyzing the differences in livelihood outcomes with respect to insecurity caused by cattle rustling.

4.3. Results on Cattle Rustling-Related Insecurity and Community Livelihood

Participants were asked to articulate their perceptions of the insecurities associated with cattle rustling in terms of fear of attack, lack of movement, and safety concerns. Responses were then classified into three ordinal levels (low, medium, and high) depending on intensity and frequency. From the distribution of answers, it can be clearly seen that there is a significant pattern of high insecurity within the region under study. As for the fear of attacks, 44.2% of the respondents showed high levels of fear, while only 18.1% showed low levels, implying that insecurity from cattle rustling is widespread. In terms of restricted movements, the same pattern emerges, with 42.1% of the respondents showing high levels of restricted movements and 17.7% reporting low restriction. Perceived safety is also shown to have a similar trend, with 46.1% of the respondents reporting low safety in their day-to-day activities (see Table 3).

Table 3. Descriptive results for cattle rustling-related insecurity indicators.

Variable	Category	Frequency (n)	Percentage (%)
Fear of Attack	High exposure to attack situations	142	44.2
	Moderate exposure	121	37.7
	Low exposure	58	18.1
Restricted Mobility	High movement restriction	135	42.1
	Moderate restriction	129	40.2
	Low restriction	57	17.7
Perceived Safety	Low perceived safety	148	46.1
	Moderate perceived safety	120	37.4
	High perceived safety	53	16.5

Analysis of the frequency of responses shows that there is a common trend in terms of insecurity. With regard to the fear of being attacked, 44.2% of respondents have reported experiencing high fear, while 18.1% of them have experienced low fear. This shows that people in Baragoi sub-county experience insecurity due to cattle rustling. In terms of restricted movements, 42.1% have experienced high restrictions, while 17.7% have experienced low restrictions. With regards to the sense of security, 46.1% of respondents have shown low sense of security. From the above analysis, insecurity is commonly experienced in the area due to cattle rustling.

To analyze the association between insecurity due to cattle rustling and the livelihood of the communities, a cross tabulation test and Chi-Square Test of Independence were conducted where the livelihood levels of the community were classified into low, moderate, and high livelihoods depending on the composite livelihood score.

Table 4 presents the distribution of respondents across livelihood categories according to their reported levels of fear of attack.

Table 4. Cross-tabulation between fear of attack and community livelihood.

Fear of Attack	Low Livelihood	Moderate Livelihood	High Livelihood	Total
High Exposure	63 (44.4)	57 (40.1)	22 (15.5)	142
Moderate Exposure	28 (23.1)	61 (50.4)	32 (26.5)	121
Low Exposure	7 (12.1)	27 (46.6)	24 (41.3)	58
Total	98	145	78	321

χ^2 (4) = 31.824, $p < 0.001$.

The findings show clear disparities in the livelihoods experienced by various levels of fear of attack. Of those respondents who indicated high levels of experience of attack situations, 44.4% were found in the low livelihood group, while only 12.1% of those respondents who indicated low levels of experience of attack situations fell in the low livelihood group. Likewise, respondents who indicated high levels of experience of attack situations were found to be in the high livelihood group at 15.5%, while those who reported low experience of attack situations were in the high livelihood group at 41.3%.

A further concern in this study is whether the observed differential outcomes are explained by differential movement restriction due to cattle rustling-related insecurity. The results for this analysis are in Table 5.

As can be seen in Table 5, there were major differences in livelihood outcomes for different degrees of mobility restrictions. Close to 44% (43.7%) of the participants with high degrees of movement restrictions belonged to the low livelihood category while only 14% (14.0%) of the participants who reported having low mobility restrictions belonged to the same category. On the other hand, those that

were categorized into the high livelihood category increased from 15.6% to 43.9%. The results indicate that higher mobility restrictions led to relatively poor livelihood outcomes. Chi-square showed a statistically significant association between the two variables.

Table 5. Cross-tabulation between restricted mobility and community livelihood.

Restricted Mobility	Low Livelihood	Moderate Livelihood	High Livelihood	Total
High Restriction	59 (43.7)	55 (40.7)	21 (15.6)	135
Moderate Restriction	31 (24.0)	66 (51.2)	32 (24.8)	129
Low Restriction	8 (14.0)	24 (42.1)	25 (43.9)	57
Total	98	145	78	321

χ^2 (4) = 34.271, $p < 0.001$.

The last dimension considered was perceived safety. Table 6 indicates the distribution of livelihoods categories based on respondents' perception of safety in their communities.

Table 6. Cross-tabulation between perceived safety and community livelihood.

Perceived Safety	Low Livelihood	Moderate Livelihood	High Livelihood	Total
Low Safety	65 (43.9)	61 (41.2)	22 (14.9)	148
Moderate Safety	26 (21.7)	58 (48.3)	36 (30.0)	120
High Safety	7 (13.2)	26 (49.1)	20 (37.7)	53
Total	98	145	78	321

χ^2 (4) = 29.115, $p < 0.001$.

The result shows that there is a similar trend in relation to fear of attack and restricted mobility. The percentage of the people who perceived low levels of safety and had low livelihood outcome status was 43.9%, while the percentage of the people who reported high levels of safety and had low livelihood outcome status was 13.2%. On the other hand, the percentage of people who perceived low level of safety and had high livelihood outcome status was 14.9%, while the percentage of the people who reported high levels of safety and had high livelihood outcome status was 37.7%.

From the findings, a clear trend has been observed from all three dimensions of insecurity in relation to cattle rustling. Those respondents who recorded high levels of fear of attacks, more movement restrictions, and less perception of safety have often been found in the low livelihood group. On the other hand, those respondents who recorded lower levels of insecurity often belonged to the high livelihood group. The significant Chi-square findings show that there is an association between cattle rustling insecurity and livelihood in the community and need

further investigation using multivariate analysis. Among the three measures, restricted mobility showed the highest association with livelihood in the community, followed by fear of attack and safety perception.

From the bivariate analysis, there were some strong relationships established between the following factors—fear of attack, restricted mobility, perceptions of safety, and community livelihood. But these analyses did not take into consideration the joint impact of all these insecurity dimensions. For that reason, ordinal logistic regression was carried out to test the relationship of one factor with community livelihood.

Diagnostic tests were performed before modeling to establish whether the data were fit for applying the ordinal logistic regression. Pearson correlation coefficients between the independent variables were carried out in an effort to detect the presence of multicollinearity among the predictor variables. The highest correlation between any of the predictors is between restricted mobility and perceived safety (r = 0.72) which is less than the recommended 0.80, therefore, indicating the absence of multicollinearity. In addition, the parallel lines test was conducted in order to validate the assumption of proportional odds resulting in non-significant results (χ^2 = 5.741, p = 0.453). Therefore, the assumption of proportional odds holds. For this study, higher values of fear of attack and restricted mobility denote higher levels of insecurity while higher values of perceived safety represent high levels of security.

The results of the analysis showed that the model was statistically significant (χ^2 = 47.686, df = 3, $p < 0.001$). This shows that there is a statistically significant association between cattle rustling insecurity and community livelihood. The model did not violate the assumption of proportional odds (χ^2 = 5.741, p = 0.453). The Nagelkerke R^2 was 0.196, meaning that the model explained 19.6% of the variance in community livelihood. Results of the ordinal logistic regression are presented in Table 7.

Table 7. Ordinal logistic regression results for community livelihood.

Predictor	β	SE	Wald χ^2	p-value	Odds Ratio (Exp(B))	95% CI Lower	95% CI Upper
Fear of attack	−0.684	0.173	15.63	<0.001	0.5	0.36	0.7
Restricted mobility	−0.741	0.181	16.76	<0.001	0.48	0.34	0.68
Perceived safety	0.592	0.162	13.35	<0.001	1.81	1.32	2.49

Model Fit Statistics: Model χ^2 = 47.686***; Degrees of Freedom = 3; Nagelkerke R^2 = 0.196; Cox & Snell R^2 = 0.138; McFadden R^2 = 0.117; Test of Parallel Lines (p-value) = 0.453. ***$p < 0.001$.

Results indicate that there is a significant relationship between fear of attacks and community livelihood (β = −0.684, OR = 0.50, 95% CI = 0.36 - 0.70, $p < 0.001$). Individuals with higher fear of attack had 50 percent lower odds of being classified under a high livelihood category compared to a low livelihood category relative to

those who reported low levels of fear. Restriction of mobility is significantly associated with community livelihood ($\beta = -0.741$, OR = 0.48, 95% CI = 0.34 - 0.68, $p < 0.001$). Individuals with high restriction of mobility have 52 percent lower odds of being classified under a high livelihood category compared to a low livelihood category relative to those who had low restriction of mobility. Among all the predictor, restricted mobility was the most influential variable, as shown by the highest coefficient value and Wald statistic. Safety was positively and significantly related to community livelihood ($\beta = 0.592$, OR = 1.81, 95% CI = 1.32 - 2.49, $p < 0.001$). Respondents with high safety had 1.81 times higher odds of being classified under a high livelihood category than those with low safety.

Based on the ordinal logistic regression results, there appears to be a significant association between cattle rustling-related insecurity and community livelihood. This association varied depending on the type of insecurity measure considered. Increased fear of attack and movement restrictions were found to be associated with increased probability of being categorized in lower livelihood statuses, while increased feelings of safety were positively associated with better livelihood status. In terms of predictor variables, the variable of movement restriction was found to be the most significant correlate of community livelihood. The general conclusion from these results is that increased fear of attacks and movement restrictions led to the increased probability of falling into lower livelihood statuses while increased feelings of safety increased the probability of falling into higher livelihood categories.

This is further corroborated by the qualitative information provided by the key informants. For instance, one key informant pointed out that the social expectations about marriage are the cause of cattle rustling in the community because most young people are supposed to own enough cattle before getting married:

> "Cattle rustling can by and large be attributed to marriage expectations; when the time for a moran to marry closes up, he is usually required to have a good number of cattle to show that he is a responsible young man capable of taking care of his family," (KII02, Field Data, 2024)

This information proves that the continued practice of cattle rustling has perpetuated insecurity and fear of attack in the community. Also, another key informant stated that it is due to the cultural significance associated with the acquisition of cattle through cattle rustling that most of the people without cattle engage in the practice to acquire them to complete the ritual:

> "The need to go through this rite encourages those without cattle to go raiding to get cattle to undergo it. Without a marriage ceremony, one becomes a laughing stock in the community." (KII02, Field Data, 2024)

Combined, the results of the study suggest that insecurity caused by cattle rustling is closely linked to livelihood and that fear of being attacked, lack of mobility, and security are significant pathways through which livelihoods differ among the pastoral communities.

5. Discussion

Across the various analytical perspectives revealed a recurring trend is that cattle rustling insecurity is linked to poor livelihood outcomes for communities. Descriptive findings indicate that insecurity was prevalent in the sense that there was a lot of fear of attacks, restricted mobility and low perceptions of safety. Bivariate analysis confirms the trend since individuals who experienced higher insecurity were placed in lower livelihood categories, while those with lower insecurity were in higher livelihood categories. The trend is upheld in the multivariate analysis since fear of attacks and restricted mobility had negative correlations with community livelihood while perceived safety had positive correlation with livelihood. From the bivariate and multivariate analyses, it appears that restricted mobility is the most important aspect of insecurity since it is highly correlated with livelihood.

The findings corroborate with the Theory of Risk and Uncertainty which holds the assumption that people make their decisions on livelihoods in a state of risk and uncertainty [14]. Fear of attack was linked to a 50% reduction in the likelihood of being in a higher livelihood category (OR = 0.50, $p < 0.001$), implying that insecurity leads to reduced involvement in livelihood activities for the households. These results are supported by Ibrahim [15], who shows that the continued raids lead to disruption of the traditional livelihood systems of households and create uncertainty in their livelihoods. The large number of people fearing attacks (44.2%) is an indication of how insecurity affects livelihoods in pastoral communities. The results further validate Conflict Theory where insecurity is viewed as a consequence of rivalry for limited resources [17]. Insecurity, as manifested by high levels of fear, restrictions on movement, and low levels of safety among others, prevalent within the research area can be attributed to resource rivalries common in most pastoral settings. The above analysis is in agreement with Chemase and Muhindi [25] where resource rivalries, small arms proliferation, poverty, and culture are listed as the main contributors to cattle rustling and insecurity in North West Kenya. Likewise, Defere *et al.* [26] found that livestock disputes and resource rivalries lead to insecurity that hampers livelihood activities. The substantial goodness of fit of the overall model ($\chi^2 = 47.686$, $p < 0.001$) is additional proof that insecurity is indeed one of the major factors related to livelihoods.

In the three dimensions that were considered, restricted mobility was found to be the most significant factor associated with livelihood (OR = 0.48, $p < 0.001$). Mobility restriction among respondents resulted in 52% fewer odds of being in higher livelihood categories, implying the significance of movement to pastoral livelihoods. This is in line with the findings by Defere *et al.* [26] where insecurity causes limited mobility and limited access to productive assets. Additionally, it aligns with the study by Anno and Ameripus [27] where resource conflicts limit access to grazing lands, water points, and opportunities for livestock production. It implies that cattle rustling influences pastoral livelihoods through limiting access to the productive resources and economic opportunities that the pastoral

household uses. Policy-wise, efforts towards promoting security of access to grazing lands, water points, livestock passages, and markets will be immensely beneficial to the livelihood of pastoralists.

The positive impact of perceived safety on livelihoods serves to corroborate findings from existing literature. For instance, in the present research, people with higher levels of perceived safety were 1.81 times more likely to be in a better livelihood category (OR = 1.81, $p < 0.001$). This is consistent with the findings of Ibrahim [15] linking insecurity with reduced household welfare and Amutabi and Hamasi [22] indicating that insecurity makes people stay away from participating in the economy. Overall, the findings are in tandem with existing literature showing that cattle rustling impacts livelihood through multiple channels beyond livestock losses. Nonetheless, contrary to many other existing studies which focus on single aspects like displacement, productivity or market participation, the present study shows the combined impact of fear of attacks, restricted mobility and perceived safety on livelihoods, where restricted mobility was the most important aspect.

6. Conclusions

Findings revealed that insecurity attributed to cattle rustling is strongly associated with the livelihood of pastoralists in Baragoi Sub-County. All the three variables (fear of attack, mobility restriction and perception of security) have a strong association with the livelihood outcomes and mobility restriction is the most influential. This suggests that cattle rustling has caused to the pastoralists livelihood more beyond the losses incurred in form of livestock since livelihood have been limited by inadequate grazing lands, water, markets and alternatives activities. Moreover, qualitative data collected indicated that cultural pressure on existence of cattle that leads to payment of bride price continue to prompt cattle raids, hence creating insecurity and its related negative impacts on livelihood.

The research has made contributions to theory and practice by demonstrating that cattle rustling insecurity influences the pastoralist livelihoods primarily through restricted movement, fears of attacks, and perceived safety. Mobility restriction has proven to be the most powerful factor among these. The theory is reinforced by empirical evidence that shows that households living under high perceived insecurity levels end up experiencing poor livelihood results since fear limits their ability to exploit grazing lands and water resources. However, the theory falls short in that other social and cultural factors are involved in exposing the household to risks. In addition, the research also helps to reinforce the Conflict Theory owing to the competition over cattle and resources among different pastoralists. This theory is also extended in that apart from resource competition, insecurity is also caused by cultural factors. In terms of practicality, the findings of the research call for securing grazing paths, water sources, and market routes in order to alleviate movement limitations, developing community peace-building initiatives to enhance perceptions of safety, involving cultural leaders in resolving normative

issues sustaining cattle rustling, and promoting diversification of livelihoods so as to limit dependency on livestock for income and status.

There are various shortcomings associated with the study. The cross-sectional nature of the design constrained the ability to monitor any change in insecurity and livelihoods over time. The narrow geographical scope of the study, confined within Baragoi Sub-County, limits the ability to generalize results to other pastoral settings with varying ecological and security environments. The use of self-reported information was likely to generate biases on account of recall or response bias, especially when dealing with sensitive topics such as cattle rustling. Additionally, the study did not adequately control for extraneous variables like climatic variations, government policies, and market shocks that may affect livelihoods.

Conflicts of Interest

The author declares no conflicts of interest.

References

[1] Schilling, J. and Werland, L. (2023) Facing Old and New Risks in Arid Environments: The Case of Pastoral Communities in Northern Kenya. *PLOS Climate*, **2**, e0000251. https://doi.org/10.1371/journal.pclm.0000251

[2] Adesogan, A.T., Mckune, S.L., Serra, R., Miller, L.C., Bamikole, M.A., Andrade Laborde, J.E., *et al.* (2026) Animal Board Invited Review: Benefits of Livestock and Animal-Source Foods in Developing Countries. *Animal*, **20**, Article 101722. https://doi.org/10.1016/j.animal.2025.101722

[3] Erick, D.S. (2022) The Role of Livestock Marketing in Improving the Livelihoods of Pastoralists. *International Journal of Livestock Policy*, **1**, 63-79. https://doi.org/10.47941/ijlp.844

[4] Timpong-Jones, E.C., Samuels, I., Sarkwa, F.O., Oppong-Anane, K. and Majekodumni, A.O. (2023) Transhumance Pastoralism in West Africa—Its Importance, Policies and Challenges. *African Journal of Range & Forage Science*, **40**, 114-128. https://doi.org/10.2989/10220119.2022.2160012

[5] Etzold, B. and Müller-Koné, M. (2023) Intersecting (im)mobilities in the Context of Drought, Hunger and Conflict—Reflections Inspired by Research in Kenya. *International Migration*, **61**, 345-348. https://doi.org/10.1111/imig.13202

[6] Keitany, S.B., Mwaruvie, J. and Osamba, J. (2024) The Origin and Causes of Cattle Rustling and Banditry in Baringo Lowland, Kenya. *Journal of Frontiers in Humanities and Social Sciences*, **2**, 33-49. https://bluprintpub.com/index.php/JOFHSCS/article/view/105

[7] Obi, E.N. (2023) Effects of Farmers-Herders Conflicts on Food Security in Agatu Local Government Area of Benue State, Nigeria. *NIU Journal of Social Sciences*, **9**, 159-168. https://doi.org/10.58709/niujss.v9i3.1721

[8] Wakhisi, N., Mwangi, S. and Nason, V. (2025) Cattle Rustling and Its Influence on Girl Child Educational Performance in Tiaty Constituency, Baringo County, Kenya. *East African Journal of Arts and Social Sciences*, **8**, 474-485. https://doi.org/10.37284/eajass.8.1.2889

[9] Ong'eta Mose, W. (2021) Resources, Climate Change, and Implications to Positive Peace among the Pastoral Communities in Kenya. In: Standish, K., Devere, H., Suazo,

A. and Rafferty, R., Eds., *The Palgrave Handbook of Positive Peace*, Springer, 761-774. https://doi.org/10.1007/978-981-16-0969-5_41

[10] Okumu, W. and Kioko, E.M. (2021) Ungoverned Spaces and Informalization of Violence: The Case of Kenya Police Reservists (KPRs) in Baragoi. In: Steinforth, A.S. and Klocke-Daffa, S., Eds., *Challenging Authorities*, Springer International Publishing, 347-374. https://doi.org/10.1007/978-3-030-76924-6_13

[11] Mkutu, K. (2021) Anticipation, Participation and Contestation along the LAPSSET Infrastructure Corridor in Kenya (BICC Working Paper No. 4/2021). Bonn International Center for Conversion (BICC). https://nbn-resolving.org/urn:nbn:de:0168-ssoar-78075-6

[12] Ugar, A.A., Johnson, E.T. and Chukwuka, O.C. (2023) Rustling and Human Security in Nigeria—An Analysis of Ecowas Response. *American Journal of Society and Law*, **2**, 51-57. https://doi.org/10.54536/ajsl.v2i2.2014

[13] Maigari, M.A. (2022) The Role of Civil Society Organisations in Peacebuilding in Post-Conflict Society: Kenya and Nigeria. *Global Journal of Sociology*: *Current Issues*, **12**, 40-54. https://doi.org/10.18844/gjs.v12i1.6594

[14] Alhabeeb, M.J. (2021) Risk and Uncertainty Revisited: A Clarification of Theory and Application. *Journal of Finance and Bank Management*, **9**, 1-15. https://doi.org/10.15640/jfbm.v9n1a1

[15] Ibrahim, S.S. (2023) Livelihood Transition and Economic Well-Being in Remote Areas under the Threat of Cattle Rustling in Nigeria. *GeoJournal*, **88**, 1-16. https://doi.org/10.1007/s10708-022-10583-x

[16] Shanguhyia, M.S. (2021) Insecure Borderlands, Marginalization, and Local Perceptions of the State in Turkana, Kenya, Circa 1920-2014. *Journal of Eastern African Studies*, **15**, 85-107. https://doi.org/10.1080/17531055.2020.1868195

[17] Basu, D. (2022) The Logic of Capital: An Introduction to Marxist Economic Theory. Cambridge University Press. https://doi.org/10.1017/9781108937559

[18] Marigat, S.K. (2023) Managing Cattle Rustling by Enhancing Police-Community Cooperation in the Karamoja Cluster: Lessons from Baringo, Kenya. *African Security Review*, **32**, 81-98. https://doi.org/10.1080/10246029.2022.2141129

[19] Bello, B. and Abdullahi, M.M. (2021) Farmers-Herdsmen Conflict, Cattle Rustling, and Banditry: The Dialectics of Insecurity in Anka and Maradun Local Government Area of Zamfara State, Nigeria. *Sage Open*, **11**, 1-12.

[20] Akama, J.O., Okeche, P., Kandagor, D.R. and Ungaya, G. (2023) Assessment of Guns, Militarization and Insecurity in Cattle Rustling-Prone Regions of North Rift, Kenya. *Journal of Research Innovation and Implications in Education*, **7**, 78-83.

[21] Kimani, A.G., Okemwa, P.K. and Masiga, C. (2021) Changes in Cattle Rustling on Gender Relations among the Pokot in West Pokot, Kenya. *Path of Science*, **7**, 4027-4037. https://doi.org/10.22178/pos.70-13

[22] Amutabi, M.N. and Hamasi, L. (2023) Pastoralism and the Northern Kenya Economy. In: Nasong'o, W.S., Amutabi, M.N. and Falola, T., Eds., *The Palgrave Handbook of Contemporary Kenya*, Springer International Publishing, 97-108. https://doi.org/10.1007/978-3-031-15854-4_8

[23] Kamais, C.E. and Mosol, G.P. (2022) Recasting Low Intensity Conflicts in Laikipia County, Kenya, through Protracted Social Conflicts Paradigm: Causes, Socioeconomic, Political and Security Implications. *OALib*, **9**, 1-24. https://doi.org/10.4236/oalib.1108876

[24] Ojo, J.S., Oyewole, S. and Aina, F. (2023) Forces of Terror: Armed Banditry and In-

security in North-West Nigeria. *Democracy and Security*, **19**, 319-346. https://doi.org/10.1080/17419166.2023.2164924

[25] Chemase, D. and Muhindi, S. (2024) Banditry Implications on Socio-Economic Development in Baringo South Sub-County, Kenya. *Eastern African Journal of Humanities and Social Sciences*, **3**, 60-67. https://doi.org/10.58721/eajhss.v3i2.537

[26] Defere, G., Mulugeta, M. and Tolera, T. (2023) Effects of International Boundary Making on Pastoralists Transboundary Environmental Resource Use in the Ethiopia-Kenya Borderland. *The Rangeland Journal*, **44**, 203-212. https://doi.org/10.1071/rj22051

[27] Anno, E.F. and Ameripus, M.E. (2022) Effects of Internal and Cross-Border Resource-Based Conflicts on Livestock Market Performance in Pastoral Areas of Karamoja, Uganda and Turkana, Kenya. *American Journal of Environmental and Resource Economics*, **7**, 87-96.

[28] Creswell, J.W. and Creswell, J.D. (2022) Research Design: Qualitative, Quantitative, and Mixed Methods Approach. 6th Edition, SAGE Publications, 304 p.

[29] Saunders, C.H., Sierpe, A., von Plessen, C., Kennedy, A.M., Leviton, L.C., Bernstein, S.L., *et al.* (2023) Practical Thematic Analysis: A Guide for Multidisciplinary Health Services Research Teams Engaging in Qualitative Analysis. *BMJ*, **381**, e074256. https://doi.org/10.1136/bmj-2022-074256

[30] Kenya National Bureau of Statistics (2019) 2019 Kenya Population and Housing Census (Vol. I & II). Government Printer.

[31] Hirose, M. and Creswell, J.W. (2023) Applying Core Quality Criteria of Mixed Methods Research to an Empirical Study. *Journal of Mixed Methods Research*, **17**, 12-28. https://doi.org/10.1177/15586898221086346

[32] Krejcie, R.V. and Morgan, D.W. (1970) Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, **30**, 607-610. https://doi.org/10.1177/001316447003000308

[33] Elmira, E.S., Chichaibelu, B.B. and Qaim, M. (2024) Marriage Customs and Nutritional Status of Men and Women. *Food Policy*, **128**, Article 102734. https://doi.org/10.1016/j.foodpol.2024.102734

[34] Braun, V. and Clarke, V. (2020) Can I Use TA? Should I Use TA? Should I *Not* Use TA? Comparing Reflexive Thematic Analysis and Other Pattern-Based Qualitative Analytic Approaches. *Counselling and Psychotherapy Research*, **21**, 37-47. https://doi.org/10.1002/capr.12360