

Leveraging on Emerging Technologies for Security Management by Traditional Rulers in Highly Volatile Areas in Kwara State

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Abstract- The rate of insecurity in Kwara State is a major concern to individuals. This study investigated leveraging on emerging technologies for security management by traditional rulers in highly volatile areas in Kwara State. Descriptive survey research design was adopted in this study. The sample for the study consisted 150 adults (Traditional leaders inclusive) selected through purposive and stratified random sampling techniques. A researcher-designed instrument entitled: "Leveraging on Emerging Technologies for Security Management Questionnaire" (LETSMQ) was used to elicit relevant information from the participants. The research instrument was validated by five experts in the related areas. A reliability coefficient of 0.87 was obtained. Three research questions and one hypothesis guided the conduct of the study. Descriptive statistics of frequency, mean and rank ordering were used to answer the research questions raised, while inferential statistic of Analysis of Variance (ANOVA) was used to test the research hypothesis formulated at 0.05 level of significance. The findings of the study revealed that proliferation of small arms and porous borders ranked highest (Mean = 2.89) as a major cause of insecurity. Lack of timely security information ranked highest (Mean = 3.10) as a major challenge. Digital communication platforms ranked highest (Mean = 3.01). There was no significant difference in the perceptions of traditional rulers in leveraging on emerging technologies for security management in Kwara State based on location. Based on the findings of the study, it was recommended, among others, that capacity-building and training programmes should be designed for traditional rulers on the use of emerging technologies such as drones, GIS mapping, CCTV systems, and mobile-based alert systems to enhance local surveillance and intelligence gathering.

Keywords: *Technologies, Security management, Traditional rulers, Kwara State*

I. INTRODUCTION

Traditional rulers have historically played central roles in governance, dispute resolution, and community mobilisation. In recent years, their role in security management has gained critical importance due to rising insecurity in Kwara State and Nigeria as a whole such as kidnapping, banditry, cultism, communal clashes, herder-farmer crises, and insurgency. Despite their deep-rooted influence and respect within communities, traditional rulers often lack the training, and access to modern technologies required for effective security management. Kwara State is rapidly facing increasing security challenges such as crime, cultism, and communal clashes. While the police and other security agencies are the primary actors in security management, the role of traditional leaders in complementing their efforts is crucial. Traditional authority is a form of leadership in which the authority of an organization or a ruling regime is largely tied to tradition or custom (Akinnubi & Taiwo, 2013).

Security is the state of being free from danger or injury, the freedom from apprehension or anxiety; confidence of power of safety; hence, assurance and certainty (Are, 2011). To have security thus, mean to be safe, secured, protected and enjoy peace of life; that is, the state of being or feeling secure; freedom from fear, anxiety, danger, doubt; something that gives or assures safety, tranquility, certainty, protection and safeguard (Akinnubi and Adebayo, 2014). The rate of insecurity in Nigeria is increasing by the day. Most often, threats emanate from armed robbery, ritual killings, cult clashes, communal clashes, sectarian crises, farmer-herder clashes, militancy, insurgency etc. In the recent time, the spate of banditry and kidnapping has become quite worrisome. North-

central States in Nigeria are not immune from these threats and the relative peace being enjoyed is now dwindling. Precisely, kidnapping for ransoms, communal clash, coordinated random attack, targeted killings are common security challenges in these volatile areas (Oladipupo, 2022).

Insecurity is a risk factor which business, school owners and managers dread and avoid by relocating their businesses or schools elsewhere. When people's security are guaranteed, it gives them the freedom, physically and mentally to get on with the business of building their lives without fear of molestation or violent death. Thus, to experience a state of complete physical, mental and social well-being security is essential, without security, there can be no stable society rather there will be prevalent fear and danger from violent death. On the impact of insecurity on the economy, the productive aspect of most manufacturing business depends largely on the availability and regular supply of raw materials for production (Oladipupo, 2022).

Peaceful coexistence between people bring about unity, and this can only be achieved when people agree to organize themselves into one solid community. Abdullahi (2006) maintained that peaceful coexistence is necessary for the preservation of the centrality and integrity of the society's common interest. This study bridged this gap by exploring how traditional authorities can leverage emerging technologies for effective security management in volatile areas.

Objectives of the Study

The objectives of this study were to:

- i. identify the causes of insecurity in highly volatile areas of Kwara State.
- ii. identify the security challenges faced by traditional rulers in highly volatile areas of Kwara State.
- iii. explore emerging technologies and training strategies required by traditional rulers to curb insecurity in highly volatile areas of Kwara State.
- iv. investigate the difference in the perceptions of traditional rulers in leveraging on emerging technologies for security management in highly volatile areas of Kwara State.

Research Questions

1. What are the major causes of insecurity in highly volatile areas of Kwara State?
2. What are the security challenges faced by traditional rulers in highly volatile areas of Kwara State?
3. What are the emerging technologies and training strategies required by traditional rulers to curb insecurity in highly volatile areas of Kwara State?

II. METHODOLOGY

Descriptive survey research design was adopted in this study. The population of the study consisted all adults and traditional rulers residing in highly volatile communities in Kwara State. The sample for the study consisted 150 adults (Traditional rulers inclusive) selected through purposive and stratified random sampling techniques for the study from the volatile areas in Kwara State. A researcher-designed instrument entitled: "Leveraging on Emerging Technologies for Security Management Questionnaire" (LETSMQ) was used to elicit relevant information from the participants. LETSMQ was divided into two Sections. Section A sought demographic information of the participants, while Section B sought information on specific emerging technologies needed by traditional authorities. The questionnaire was drawn on a four-point Likert-type scale, ranging from Always (AL)-4 points, Sometimes (SO)-3 points, Rarely (RA)- 2 points, to Never (NE) - 1 point.

The research instrument was given to five experts in the related areas for face and content validity. The final draft of the questionnaire depended on the input of the experts. Test re-test method was applied using pilot test undertaken to ascertain the reliability of the questionnaire (LETSMQ). A reliability coefficient of 0.87 was obtained. Thus, the instrument was adjudged reliable. One Hundred and fifty copies of the questionnaire were administered on the participants in the volatile areas of Kwara State. Six trained research assistants complemented the efforts of the researchers. Data obtained were analysed using Statistical Package for Social Sciences (SPSS). Descriptive statistics of frequency, mean and rank ordering were used to answer the research questions raised in the study, while inferential statistic of Analysis of Variance

(ANOVA) was used to test the research hypothesis formulated in the study at 0.05 level of significance.

Research Question One: What are the causes of insecurity in highly volatile areas of Kwara State?

III. RESULTS

Table 1

<i>Causes of insecurity in highly volatile areas of Kwara State</i>		<i>n = 150</i>					
S/N	Items	AL	SO	RA	NE	Mean	Rank
1	Armed banditry and kidnapping causes insecurity in the community.	14	96	28	12	2.75	4
2	Farmer–herder conflict is a cause of violent insecurity in the community.	27	74	43	6	2.81	3
3	The proliferation of small arms and porous borders increases criminal activities in the community.	19	99	28	4	2.89	1
4	Youth unemployment and poverty contribute to rising insecurity in the community.	20	67	53	10	2.65	5
5	Political and communal tensions contribute to recurrent security breaches in the community.	32	74	29	15	2.82	2

The findings in Table 1 reveal that the proliferation of small arms and porous borders ranked highest (Mean = 2.89) as a major cause of insecurity. This suggests that easy access to illegal weapons significantly empowers criminal elements, thereby escalating crime, kidnapping and communal violence. Political and communal tensions also ranked high (Mean = 2.82). This indicates that unresolved disputes, political rivalries, and competition among community factions contribute to recurring violence. Communal clashes have historically been a dominant security concern in Kwara and neighbouring states. Farmer–herder conflict emerged as another strong cause (Mean =

2.81). This reflects national trends where pressure on land resources, climate change, and migration patterns intensify clashes. Armed banditry and kidnapping (Mean = 2.75) indicate growing concerns about attacks and abduction for ransom. Although ranked fourth, the severity remains undeniable. Youth unemployment and poverty (Mean = 2.65) ranked lowest, but still notable.

Research Question Two: What are the security challenges faced by traditional rulers in volatile areas in Kwara State?

Table 2

<i>Security challenges faced by traditional rulers in volatile areas in Kwara State n=150</i>		AL	SO	RA	NE	Mean	Remark
1	Traditional ruler faces direct threats such as attacks from criminal elements.	19	91	31	9	2.80	5
2	Traditional ruler lacks adequate enforcement capacity to address insecurity in the community.	29	77	37	7	2.85	3
3	The inability to protect the community weakens the legitimacy of traditional ruler.	24	94	23	9	2.89	2
4	Political interference limits the effectiveness of traditional ruler in handling security issues.	29	81	27	13	2.84	4
5	Traditional ruler lacks timely security information to respond effectively to emerging threats.	36	97	13	4	3.10	1

Table 2 shows that lack of timely security information ranked highest (Mean = 3.10). This implies that traditional rulers often operate with insufficient intelligence, making proactive response difficult. Threat response requires real-time information, which most rural communities lack due to inadequate ICT infrastructure. Weakening legitimacy of traditional rulers due to inability to protect residents ranked closely (Mean = 2.89). As insecurity rises, communities may lose confidence in their traditional leadership, especially when they perceive them as powerless in the face of violent groups. Limited enforcement capacity (Mean = 2.85) also emerged as a core challenge. Traditional rulers lack formal authority, trained personnel, equipment, and

operational structures needed to enforce security. Political interference (Mean = 2.84) highlights how political actors influence decision-making processes, sometimes undermining the authority of traditional rulers in sensitive matters. Direct threats from criminal elements (Mean = 2.80) ranked lowest, but still significant. It indicates that rulers themselves are sometimes targeted, discouraging assertive intervention in security matters.

Research Question Three: What are emerging technologies and training strategies required by traditional rulers to curb insecurity in volatile areas in Kwara State?

Table 3
Emerging technologies and training strategies required by traditional rulers to curb insecurity in volatile areas in Kwara State
n = 150

S/N	Items	AL	SO	RA	NE	Mean	Remark
1	Digital communication platforms (WhatsApp groups, community security apps) can strengthen information sharing and rapid coordination among residents and security agencies.	34	88	23	5	3.01	1
2	Early-warning systems (SMS alerts, community broadcasts) are needed to improve local security.	16	105	18	11	2.84	4
3	CCTV cameras and surveillance tools would enhance community safety.	44	64	25	17	2.90	3
4	Drones can be useful for monitoring hard-to-reach areas and detecting security threats.	21	105	16	8	2.93	2
5	Mapping and reporting technologies (GIS, mobile apps) would improve incident reporting.	22	85	19	24	2.70	5

Table 3 indicates that digital communication platforms ranked highest (Mean = 3.01). This reflects the growing role of instant messaging apps (WhatsApp, Telegram, community alert groups) in coordinating neighbourhood security efforts. Such platforms enable rapid reporting and mobilization. Drone technology was also seen as highly important (Mean = 2.93), suggesting participants acknowledge its usefulness for surveillance especially in bushes, farms, and remote settlements where criminals often hide. CCTV surveillance systems (Mean = 2.90) remain critical for monitoring hotspots within communities. This aligns with global best practices in urban and rural crime

prevention. Early-warning systems such as SMS alerts (Mean = 2.84) would assist in sharing verified intelligence to help residents take timely precautionary measures. GIS and mobile-based mapping tools ranked lowest (Mean = 2.70), possibly due to low community awareness of such technologies. Nevertheless, they remain vital for coordinated crime mapping and incident reporting.

Research Hypothesis

Ho: There is no significant difference in the perceptions of traditional rulers in leveraging on

emerging technologies for security management in Kwara State based on location.

Table 4

Perceptions of traditional rulers in leveraging on emerging technologies for security management in Kwara State

ANOVA					
Insecurity					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	111.213	2	55.607	23.485	.058
Within Groups	35.160	147	.239		
Total	146.373	149			

The ANOVA results show that the difference in perceptions of traditional rulers was not statistically significant at the 0.05 level ($p = 0.058$). Although the F-value (23.485) is high, the significance level slightly exceeds the threshold. This implies that traditional rulers across different locations generally share similar views regarding the usefulness of emerging technologies for security management.

IV. DISCUSSION OF FINDINGS

The findings of this study reveal a complex security landscape influenced by armed violence, political dynamics, socioeconomic factors, and limited technological adoption. The identification of small arms proliferation as the leading cause of insecurity supports current national reports indicating that over 6 million illicit weapons circulate in Nigeria (Sampson, 2022). This proliferation fuels banditry, kidnapping, and communal clashes, issues strongly echoed by participants in this study.

The prominence of farmer–herder conflict corroborates recent studies (Adewuyi, 2023) that attribute these clashes to climate change, resource competition, and migration. The resulting tensions destabilise community cohesion and overwhelm local governance structures.

The study also confirms that traditional rulers face major challenges, especially lack of timely security information and enforcement capacity. According to Akinwale and Adebisi (2024), traditional institutions in Nigeria are increasingly marginalised in formal security architecture despite their grassroots influence. Political interference further weakens their role, supporting findings from Ibrahim (2023) that

traditional institutions often navigate sensitive political pressures that hinder neutral conflict management.

The strong endorsement of emerging technologies reflects global security trends promoting community-based technology-driven surveillance. For instance, the UNODC (2023) underscores the effectiveness of ICT tools, drones, real-time alerts, and community mapping in early detection of rural insecurity. Similarly, Afolabi (2024) found that WhatsApp-based vigilance groups significantly improve local crime reporting and coordination.

The non-significant difference in perceptions across locations suggests that insecurity issues and technological needs cut across all volatile areas uniformly. This demonstrates the potential for a state-wide, technology-enabled community security framework.

V. CONCLUSION

This study concludes that insecurity in volatile areas of Kwara State is driven by multiple interacting factors including arms proliferation, farmer–herder conflict, communal tensions, banditry, and socioeconomic challenges. Traditional rulers play vital roles in community security but are constrained by lack of intelligence, limited enforcement capacity, political interference, and threats to personal safety. Participants strongly believe that leveraging emerging technologies such as digital communication platforms, drones, CCTV systems, GIS mapping tools, and early-warning systems would significantly enhance community safety. Since perceptions across locations do not differ significantly, a unified approach to

technology-supported traditional security management is feasible and desirable.

VI. RECOMMENDATIONS

Based on the findings of the study, it was recommended that:

- i. Capacity-building and training programmes should be designed for traditional rulers on the use of emerging technologies such as drones, GIS mapping, CCTV systems, and mobile-based alert systems to enhance local surveillance and intelligence gathering.
- ii. Government-traditional ruler partnerships should be strengthened to integrate traditional institutions into the formal security architecture, ensuring they receive timely and verified security information to support preventive interventions.
- iii. Community-based digital surveillance infrastructure (CCTV, drones, SMS alert systems, and community security apps) should be deployed, particularly in identified high-risk areas.
- iv. Policy frameworks should minimize political interference in the security roles of traditional rulers by establishing clear operational boundaries that protect their neutrality and enhance their authority in community security management.

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