Digital Community-Policing Application at Muloza Border of Malawi and Mozambique in Mulanje

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Abstracts: Information Communication Technology has created digital space to modernize citizens social networks and interaction to discuss and exchanging information. Social media has also become catalyst for citizen-police interaction to enhance security. The paper assessed Information Communication Technology applications in community policing in Malawi. Focus group discussions and key informant were used to gather qualitative data and was analysed using NVivo. Household structured questionnaire was collected and was analyzed using descriptive and inferential statistics (Chi-Square test) in SPSS version 20. Results show most commonly used Information Communication Technology (ICT) gadgets are mobile phones dominated by basic mobile phones. Most used applications were telephone call, SMS and WhatsApp respectively. Commonly used media communication format was calls followed by pictures then videos to communicate insecurity or criminal activities by informing, sharing, warning and tracing criminal activities. The ICT applications enabled citizens to initiate dialogue with authority, deposit evidence monitored in the community. The current study focused on the ICT application and how they have enabled citizens' participation in community policing. The study recommends future research on effectiveness, efficiency and ethics in community-policing amidst perverse applications of ICTs in Muloza and Malawi.

Keywords: ICT, Community Policing, Citizen Participation, Border Area, Social Media, Enabled, Malawi.

1. INTRODUCTION

This paper is about citizen participation in community policing and application of Information Communication Technology (ICT) in attainment of security in community. Community policing is policing philosophy that is tailored to changing needs of local communities in different geographical locations (Cossyleon, 2019; Czapska & Struzinska, 2018; Verma et al., 2013). However, common thread across all of its contemporary manifestations, can be distilled to focus on those activities which seek to forge close partnership between police and communities to reduce crime (Brewster et al., 2018; Nalla & Newman, 2013; Purdy, 2013; Roberts, 2018).

In digital era, social media has become a space for socialization and interaction of citizens, between themselves and police (Pulido et al., 2021). Scholars in developed countries in America, Europe and Asia report citizens and police can implement community policing through social media and influence creation of a sense of security (Fahmi et al., 2022; Khalid & Nyborg, 2022; Purdy, 2013). Therefore, social media platforms is playing a role to improving a state of decline. Fahmi et al. (2022) observe that conventional methods through social media in digital era has encouraged increased citizen's participation in policing efforts to create sense of security formally and informally.

Partnership between the police and the community working together to reduce crime (Cossyleon, 2019; Przeszlowski & Crichlow, 2018; Yero et al., 2012), accord communities participate in policing in many ways including; neighborhood policing (Czapska & Struzinska, 2018; Verma et al., 2013), social media e.g., Facebook, Twitter and WhatsApp (Clavell et al., 2018). These platforms offer police to participate digitally in security issues affecting community security before they can be physically present on ground.

This paper defines ICT as an umbrella term that includes any communication device or application encompassing radio, television, cellular phone, computer, as well as the various services that manage acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing and telecommunications. ICT gadgets include digital tool that have cameras, videos,
texts as well as audio mechanism to send and receive photos, videos, voice notes (VNs), texts audio related messages on daily basis.

Security is the absence of acute threats to the minimal acceptable levels of the basic values that people consider essential to its survival (Crause & Nye, 1975). Safety is not only a task for police, citizens, companies and organizations but joint responsibility (Pridmore et al., 2018).

Malawi police service adopted community policing since 1994, but more of it has been conventional community policing, which was characterized by low citizen participation due to lack of resources (Mutupha & Zhu, 2022). By 2023, 57.2% of population was owning mobile phone in Malawi and 5.04 million of the population had access to internet (Datareportal, 2023). Use of social media in Malawi has grown with increase access to mobile phones and internet. There has been social media information sharing related to security, but how pervasive application of ICTs have modified the community policing and security in the communities is important to know. The paper sought to investigate the role played by digital security and citizen participation in community policing. Specifically, the paper assessed ICTs used by citizen in community policing, analysed common applications used by different stakeholders in community policing, and community participation.

This study is important because policing through ICT may enhance police capability to swiftly and effectively respond to incidences of crime within local areas. Results in this paper have potential to improve on the citizens-police interaction through digital in community policing in Malawi.

The rest of the paper is organized as follows: methodology which describes the study area, methods of data collection and analysis. Then present results on identified ICTs applied in community policing, and analysis of the application and in the community policing in Malawi.

2. METHODOLOGY

2.1 Study Area

The study was conducted in Muloza- Mulanje. The area is located at 36 K 792628.97 m E 8220322.32 m S of Malawi. Muloza is on the Eastern of Mulanje along the border between Malawi and Mozambique. The nearest province is Villa Milanje to the East in Mozambique less than 10 km from border. Muloza has unique social security challenges including use of un chartered routes through Muloza river can be attributed to the fact that many border communities share common language and blood ties and claim reciprocal rights to access services. The existence on “international boundaries and territoriality” is often ignored. Formal migration and trade take place at Muloza border post controlled by Immigration Department and Malawi Revenue Authority (MRA). Mulanje mountain is the barrier between Muloza and Mulanje district centre. Hence criminals take the hard-to-reach areas as safe heaven (Mulanje District Council, 2017).

2.2 Research Design

The study adopted exploratory sequential mixed method design (Creswell, 2014; Löfgren, 2013). Mixed methods offset weaknesses of the other (McNiff, 2000). Qualitative was collected through oral interviews with focus group discussions and quantitative data was collected through household survey.

Focus group discussion

The focus group discussions purposely identified four groups of participants within Muloza-Mulanje (1) 10 participants police officers, (2) 10 Community Police Forum (CPF) members, (3) 10 citizens and (4) 10 business people. The focus group discussions with participants from police, business persons, citizens and CPF members were important because these are stakeholders who interact on daily basis in community policing in Muloza.
Household survey

Household individual survey used structured questionnaire and simple random sampling technique was used to select 432 respondents in this paper. Sample size calculation was guided by Yamene (1969) formular from population size of 23,408 (NSO, 2018). The sample size was distributed as in Table 1. The structured questionnaire had questions on demographics, type of ICTs used in community policing, application and type of information format shared to enhance security.

Table 1. Showing quantitative randomly distribution of respondents in locations of Muloza

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limbuli</td>
<td>43</td>
</tr>
<tr>
<td>Muloza</td>
<td>44</td>
</tr>
<tr>
<td>Gawani</td>
<td>43</td>
</tr>
<tr>
<td>Maliyera</td>
<td>43</td>
</tr>
<tr>
<td>Naamani</td>
<td>43</td>
</tr>
<tr>
<td>Sathawa</td>
<td>43</td>
</tr>
<tr>
<td>Songwe</td>
<td>43</td>
</tr>
<tr>
<td>Manayamba</td>
<td>43</td>
</tr>
<tr>
<td>Namasalima</td>
<td>43</td>
</tr>
<tr>
<td>Ruo</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>432</td>
</tr>
</tbody>
</table>

2.3 Data analysis

Qualitative interviews were transcribed, edited then uploaded in NVivo (Version 12) software package. An initial coding scheme was developed with research questions providing framework for labelling each category of data. Thematic analysis was conducted, utilizing nodes as method of identifying emerging themes. Described this as a ‘cross sectional code and retrieve method’, which is used to organize and highlight in a systematic manner emerging themes found in data. This method of analysis, however, is not without its critics with arguments made regarding a loss of context during coding process. In an attempt to retain important contextual information where appropriate larger ‘chunks’ of data were included in coding process which allows contextual information to be maintained (Aston et al., 2021).

Data from structured questionnaires were analyzed by descriptive statistics using frequencies, percentages, charts and chi-square test was conducted to identify association in use of ITCs among the study population in Statistical Package for Social Sciences version 20.

3. RESULTS AND DISCUSSION OF THE STUDY

3.1 Demographic Profile of Respondents

Based on the data collected from 432 respondents, there were 49.1% females and 50.9% males with an average age of 38.96 years. The findings showed that 5.3% were divorced, 7.2% were separated, 10.2% widowed, 20.8% were single, and 56.5% were married. It was found that 16.0% never attended and 2.5% attended adult school. The larger proportion of the respondents attained primary, secondary and tertiary education 32.2%, 38.9% and 10.4% respectively. The occupations of the respondents were 6.7% school going, 7.6% casual labour, 16.2% formal employment, 16.4% skilled employment, 26.2% farming, 26.9% petty traders/business with an average income of MK 103, 262.82.

3.2 ICTs usage by citizens and the police in community policing

Table 2 shows that ITCs used in Muloza were basic mobile phones, smart phones, laptops, desktops, televisions and radios. The largest used ITCs in community policing were basic phone at 74.07% and WhatsApp enabled phones at 41.20%. The laptops and desktops were mainly found to be used by the police officers. The television
and radios were used to receive any security messages by the police. Results show citizens are able to possess both basic mobile phones and WhatsApp enabled mobile phone. Use of ICTs is supported by 4 cellular networks namely Airtel, Telecom Network Malawi (TNM), MTL and Access in Mulanje which extends to Muloza. The networks service providers also anchor internet services which was available on subscription by android phone users with internet application. The setback to internet use was high tariffs (Mulanje District Council, 2017). The results showed increase of usage of mobile telephones as compared to NSO (2020) where it was reported there were 72.3% of individuals in urban areas compared to 37.3% of individuals in rural areas used mobile phones.

Table 2: Communication gadgets used by the respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic mobile phone</td>
<td>320</td>
<td>74.07</td>
</tr>
<tr>
<td>WhatsApp enabled</td>
<td>178</td>
<td>41.20</td>
</tr>
<tr>
<td>Laptop</td>
<td>30</td>
<td>6.94</td>
</tr>
<tr>
<td>Desktop</td>
<td>9</td>
<td>2.08</td>
</tr>
<tr>
<td>Television</td>
<td>58</td>
<td>13.43</td>
</tr>
<tr>
<td>Radio</td>
<td>68</td>
<td>15.74</td>
</tr>
</tbody>
</table>

n=432 Source: Own survey (2023)

In response to the question, “What ICT gadgets do you use for community policing initiatives?”

Quantified responses during focus group discussions results in Figure 2, revealed that WhatsApp enabled phone were used more by police officers, while basic phones were used more by the business persons, citizens and community policing members the majority in community policing. Results showed there was more usage of mobile phones in community policing compared to other ICT gadgets. Ringo and Busagala (2012) also found that mobile phones were playing the biggest role compared with all other ICT tools as a means of reporting crime incidents in Tanzania.

Figure 1: ICT gadgets do you use for community policing initiatives
Access and use of the ICTs were differentiated by gender. It was found that more women used basic phones than men significantly at p=0.048. On the other hand, more men used WhatsApp enabled phones than women significantly at p=0.001. The other ICTs that showed significant association between gender groups were use of laptops, television and radio. The findings of the paper collaborate with Pettinotti and Raga (2023) in Togo who found that control over economic asserts continued to favour men over women. The implication is that women may likely not report crimes in the community using ICTs like WhatsApp enabled phone i.e., voice notes, pictures and videos.

Table 3: ICT used in Muloza, Mulanje

<table>
<thead>
<tr>
<th>Gadget</th>
<th>Sex of respondent</th>
<th>Total</th>
<th>$X^2$</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic mobile phone</td>
<td>38.9</td>
<td>36.6</td>
<td>75.5</td>
<td>3.925</td>
</tr>
<tr>
<td>Smart phone</td>
<td>16.5</td>
<td>25.5</td>
<td>42.0</td>
<td>11.070</td>
</tr>
<tr>
<td>Laptop</td>
<td>2.4</td>
<td>4.7</td>
<td>7.1</td>
<td>3.099</td>
</tr>
<tr>
<td>Desktop</td>
<td>0.7</td>
<td>1.4</td>
<td>2.1</td>
<td>0.883</td>
</tr>
<tr>
<td>Television</td>
<td>3.8</td>
<td>9.9</td>
<td>13.7</td>
<td>12.126</td>
</tr>
<tr>
<td>Radio</td>
<td>5.2</td>
<td>10.8</td>
<td>16.0</td>
<td>8.790</td>
</tr>
</tbody>
</table>

n=432 
Source: Own survey (2023)

However, some of respondents from community policing focus group discussion mentioned that many of them were not employed and could not afford WhatsApp enabled phones as indicated in their recorded statement during interviews:

“We have ambitions to buy phones which use WhatsApp and Facebook, but we lack funds” (BFGD, Reference 2).

3.3 Applications of ICTs in Community Policing

Results in Table 4 indicate that most used application was direct phone calls at 82%, followed by SMS and WhatsApp at 55% and 37.7 percent respectively. Phone calls application was mentioned by community forum groups (CFGD) and business forum groups (BFGD) because it was easy to talk than write SMS:

“I use SMs and direct calls” (CPFGD Reference 1).

“We use Telephone call” (CFGD Reference 3).

“I use Telephone calls” (BFGD Reference 1).

Table 4. ICT applications used by the respondents

<table>
<thead>
<tr>
<th>Application</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>WhatsApp</td>
<td>162</td>
<td>37.7</td>
</tr>
<tr>
<td>Facebook</td>
<td>82</td>
<td>19.1</td>
</tr>
<tr>
<td>Twitter</td>
<td>16</td>
<td>3.7</td>
</tr>
<tr>
<td>SMS</td>
<td>240</td>
<td>55.8</td>
</tr>
<tr>
<td>Phone call</td>
<td>353</td>
<td>82.1</td>
</tr>
<tr>
<td>Instagram</td>
<td>13</td>
<td>3.0</td>
</tr>
<tr>
<td>Email</td>
<td>21</td>
<td>4.9</td>
</tr>
<tr>
<td>Hotline</td>
<td>8</td>
<td>1.9</td>
</tr>
<tr>
<td>TikTok</td>
<td>14</td>
<td>3.3</td>
</tr>
<tr>
<td>YouTube</td>
<td>3</td>
<td>.7</td>
</tr>
</tbody>
</table>

The police were using a wide range of applications such as WhatsApp, SMS, YouTube, Facebook, Instagram, email, and TikTok because of the nature of their job which require them to do complicated cyber crime
investigations as compared to community forums and business forums. The key informant interviews with police focus group discussion (PFGD) revealed the following applications:

“I use Share it, WhatsApp, Facebook” (PFGD Reference 1).

“We use YouTube, Facebook” (PFGD Reference 2).

“I use WhatsApp, YouTube, google” (PFGD Reference 4).

“I do use WhatsApp, SMS” (PFGD Reference 5).

Results are similar to Czapska & Struzinska (2018) who found that in South Eastern Europe majority of respondents named phone calls as the main mean and fastest way to report a crime. ICTs are influencing citizens’ participatory culture. Fahm et al. (2022) WhatsApp group initiatives allow villagers to communicate with authorities in creation of community security.

3.4 Commonly Used Media Communication Format

It was found that commonly used media were calls, pictures, videos, SMS and audios (see Figure 3) of quantified results from focus group discussions and key informant interviews. It was found that calls were most used communication format by all community police stakeholders. The police officers used mostly videos, pictures, calls and SMS and no audios in their communication. The results showed that community members used pictures and videos in the communication with the police or community police members. Citizens could just take a picture and share because a picture communicates thousand words. Citizen could also use voice notes or video which will be self-explanatory. Results are similar to Mols (2021) in The Netherlands where neighbors were connected via a WhatsApp group to communicate warnings, concerns, information about incidents, and suspicious situations in their locations.

![Commonly used formats for communicating](image)

**Figure 2**: Commonly used formats for communicating

In response to the question, *how do you apply ICTs in community policing initiatives?* The results in Figure 4 show information communication technology was mainly used to communicate with the community police as well as police (mentioned 57 times).

The data and information was shared for the purpose of communication of insecurity or criminal activities, inform, share, warn, and trace criminal or insecurity with community police. Figure 4 shows that communication function was the most mentioned, seconded by informing and warning.
To confirm and generalize the participants statements from focus group discussions, we found that ICT applications enabled respondents to participate in community policing in multiple answers in Table 5 indicate that ICT applications have improved communication sharing between citizens and police (77.7%), increased awareness of crime and safety concerns (57.0%), enabled citizen participation in crime management (56.5%), community-policing (42.3%), promoted dialogue, crime response, and evidence sharing, 29.3%, 17.0% and 11.9% respectively. This gives chance to citizens to warn and alert each other on security issues. The evidence is from the household survey collaborated with qualitative findings:

“I Send, share, alerting, informing through telephone call” (PFGD Reference 13).

“We Share, warn new trends of crime from particular areas through videos” (PFGD Reference 6).

“We Warn each other of criminal strategies through calls” (CPF GD Reference 7).

“Alert each other informing how criminology is done through videos” (CPF GD Reference 8).

“Warn each other by sharing videos” (CPF GD Reference 9).

“Communicate, warning others on flooding rivers through calls” (CFGD Reference 5).

Table 5: In your opinion, in what ways have the ICT applications enabled citizens’ participation in community policing initiatives?

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved communication and information sharing between citizens and police</td>
<td>334</td>
<td>77.7</td>
</tr>
<tr>
<td>Increased awareness of crime and safety concerns</td>
<td>245</td>
<td>57.0</td>
</tr>
<tr>
<td>Enabled citizens involvement in crime and suspicious activities</td>
<td>243</td>
<td>56.5</td>
</tr>
<tr>
<td>Increased citizen involvement in crime prevention and community policing efforts</td>
<td>182</td>
<td>42.3</td>
</tr>
<tr>
<td>Provided a platform for community dialogue and engagement</td>
<td>126</td>
<td>29.3</td>
</tr>
<tr>
<td>Facilitated faster emergency response times</td>
<td>73</td>
<td>17.0</td>
</tr>
<tr>
<td>Provided a means for citizen to provide evidence and share information with law enforcement</td>
<td>51</td>
<td>11.9</td>
</tr>
</tbody>
</table>

n=430
3.5 Citizens Participation in Community Policing Initiatives

Citizens were able to initiate dialogue with authorities, deposit evidence of what they have monitored in their community to police as well as their friends through ICT initiatives. ICT applications have also allowed prompt link on communication between citizens and police. Whenever citizens saw security threat along the border, they instantly link up with authorities to either side of the border without waiting to go and follow formal immigration processes: “We talk and share with police officers in Mozambique through WhatsApp” (PFGD Reference 8). Results are similar to Clavell et al. (2018) and Czapska & Struzinska (2018) that social media improves police-citizen relations. Due to reciprocal interaction through social media, it facilitates two-way communication. It gives citizens an easier way to access the police in cases of emergency, share their opinions, ask for advice and find some information. Police can share success stories to citizens, as well as know about citizens needs in the local community. Police can use social media to identify specific demands of any given community and the causes of their feeling of insecurity and can also employ crowd sourcing techniques to gather information about crime, crime patterns and other hazards, and effectively respond to those. Social media can help police to inform and make its work more transparent and relatable. In turn, ICTs can help establish better police accountability as the public can employ media channels for “policing the police” and communicating cases of police abuse.

Results comprehend to Narcyz (2019) that information and communication technologies play a significant role in all aspects of modern life. ICTs allow dialogue which improves communication, citizens are able to warn, inform, consult, deposit evidence and share security related information. Through survey results participants reveal that almost all of respondents agree that they have ever used ICT applications to report a crime or suspicious activity. It is very important for citizens to participate in community policing in Muloza because citizens will know strangers, will know those who may commit crime and receive crime proceeds. Due to police lacking resources, the citizens as social actors may improve surveillance and monitoring and help police maintain law and order through partnership. However, challenges of community policing are; difficult to reach terrains, unchartered routes, lack of transport facilities, police have one vehicle and shortage of manpower with only 52 officers (Mulanje District Council, 2017).

The partnership between police and citizens through ICT applications in community policing may help reduce some common criminal cases including smuggling, house breaking, robberies, theft, trafficking, defilement, rape, malicious damage, murder, unlawful wounding, bicycle theft, murder, burglary, intimidation and abduction. Reported criminal cases year 2017 were 56, while 2022 were 70 (South East Region, 2022 annual report).

Results comprehend with Pulido et al. (2021) that digital platform has become a space for the socialization, expressing and interaction of citizens with police to improve security. Czapska & Struzinska (2018) in South Eastern Europe, ICTs enables participatory culture by simplifying contacts and improves police image. Fahm et al (2022) report ICTs allow citizens to communicate with authorities. Purdy (2013) ICT can be viewed as a cure.

CONCLUSION AND RECOMMENDATIONS

The paper sought to investigate the role played by digital security and citizen participation in community policing. Specifically, the paper assessed ICTs used by citizen in community policing, analysed common applications used by different stakeholders in community policing, and community participation. Results show most commonly used ICT gadgets are mobile phones dominated by basic mobile phones. Most used application was telephone call seconded by SMS and followed by WhatsApp. Commonly used media communication format was calls followed by pictures then videos. Media communication format in applications were used to communicate insecurity or criminal activities by informing, sharing, warning and tracing with police. The ICT applications enabled citizens to initiate dialogue with authority, deposit evidence monitored in the community. The participation through ICT applications improved social cohesion, collective efficacy and community guardianship that resulted in reducing and preventing crime.

The current study focused on the ICT application and how they have enabled citizens’ participation in community policing. The study recommends future research on effectiveness, efficiency and ethics in community-policing amidst perverse applications of ICTs in Muloza and Malawi.
DECLARATION OF CONFLICT OF INTEREST

The authors declare no conflicts of interest. Co-authors have reviewed and agreed to the manuscript, and there is no financial interest to report. The submission is original and not under review elsewhere.

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In addition, we would like to express our sincere gratitude to all the participants who generously shared their time, experiences, and insights with us. Their willingness to engage in our research was essential to the project's success, and we sincerely appreciate their participation.

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