

Beyond financial losses: The hidden costs of cable theft for national utilities

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ABSTRACT

Cable theft represents a pervasive threat to critical infrastructure systems worldwide, with developing nations experiencing particularly acute impacts. This qualitative study examines the multifaceted consequences of cable theft beyond immediate replacement costs, focusing on South African utility networks as a case study. Through in-depth interviews with stakeholders across electricity, telecommunications, and transportation sectors, this research reveals how infrastructure crime generates cascading economic and social effects that significantly exceed direct financial losses. Building upon the researcher's previous investigations of cable theft at Eskom (Govender, 2017, 2020), this study expands the analytical framework to encompass broader community impacts and multi-utility perspectives. The study employed open-source methodological approaches, conducting semi-structured interviews with utility managers, security personnel, community members, and affected businesses to understand the lived experiences of cable theft impacts. Findings indicate that service disruptions create ripple effects throughout local economies, while repeated incidents erode community trust and deter economic development. This research contributes to criminological theory by proposing an expanded framework for understanding infrastructure crime that incorporates community resilience and social capital considerations. The study offers practical insights for policymakers seeking to develop comprehensive responses to infrastructure criminality.

Keywords:

infrastructure crime, qualitative research, community impact, utility security, social disruption

Article History:

Received: 19 Feb 2025

Accepted: 15 May 2025

Available Online: 05 Jun 2025



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1. INTRODUCTION

Infrastructure crime, particularly the theft of copper and aluminium cables, has emerged as a significant challenge for utility providers and communities across developing economies. This phenomenon extends beyond simple property crime, representing a form of economic sabotage that disrupts essential services, undermines community well-being, and imposes substantial hidden costs on society. The researcher's previous investigations of cable theft prevention at Eskom (Govender, 2017) established the foundation for understanding infrastructure crime as a multifaceted challenge requiring integrated responses beyond traditional security measures. While existing research, including the author's earlier work (Govender, 2017, 2020), has documented the direct financial impacts and technical vulnerabilities associated with cable theft, there remains a critical gap in understanding the broader social and economic consequences experienced by affected communities. This study addresses this gap through qualitative investigation of cable theft impacts in South Africa, where infrastructure crime has reached epidemic proportions. Rather than relying solely on quantitative metrics or utility data, this research prioritizes the voices and experiences of those directly affected by infrastructure crime, building upon the researcher's proven qualitative methodological approach (Govender, 2017b). Through extensive interviews with diverse stakeholders, we seek to understand how cable theft disrupts daily life, affects business operations, and shapes community dynamics beyond the utility-focused perspectives examined in previous research. The research questions guiding this investigation are: How do communities and businesses experience the indirect consequences of cable theft? What adaptive strategies do stakeholders develop in response to recurring infrastructure disruptions? How do these experiences inform our understanding of infrastructure crime prevention and community resilience? These questions extend the researcher's previous focus on utility-specific prevention strategies (Govender, 2017a) to encompass broader societal impacts and community-driven solutions.

2. LITERATURE REVIEW

2.1 Understanding Infrastructure Crime

Infrastructure crime represents a distinct category of criminal activity that targets the physical systems upon which modern society depends. Unlike traditional property crime, infrastructure crime creates what researchers have termed "systemic vulnerability" situations where criminal acts against specific targets generate consequences far beyond the immediate theft. Govender's (2017a) examination of cable theft prevention

strategies at Eskom demonstrated how infrastructure crime challenges traditional security paradigms due to the distributed nature of utility networks and the essential services they provide. The theoretical foundations for understanding infrastructure crime draw from environmental criminology, particularly routine activity theory, which examines how criminal opportunities emerge when suitable targets, motivated offenders, and absent guardians converge in time and space (Cohen & Felson, 1979). However, infrastructure systems present unique challenges to this framework due to their distributed nature, essential service functions, and interconnected dependencies. Govender's (2020) analysis of human risk factors in physical protection systems at Eskom revealed how even sophisticated technical security measures can be compromised by human vulnerabilities, highlighting the need for comprehensive approaches that address both technical and social dimensions of infrastructure protection. This insight supports recent scholarship that has begun to address the limitations of traditional crime prevention frameworks by developing more comprehensive theoretical models. Situational crime prevention theory offers valuable insights into how physical and social environments can be modified to reduce criminal opportunities (Clarke, 1997). Yet the application of these concepts to infrastructure systems requires careful consideration of the trade-offs between security measures and service accessibility, as demonstrated in the researcher's previous work on Eskom's security challenges (Govender, 2017).

2.2 Community Impacts of Infrastructure Crime

While much existing research focuses on financial costs and technical vulnerabilities, emerging literature recognizes the profound social consequences of infrastructure crime for affected communities. Service disruptions affect not only immediate utility customers but also broader networks of economic and social relationships that depend on reliable infrastructure. This understanding builds upon the researcher's earlier utility-focused investigations (Govender, 2017a, 2017b) by expanding the analytical lens to encompass community-level consequences. Small businesses, for example, may face inventory losses, reduced operating hours, and customer defection following power outages caused by cable theft. Healthcare facilities must manage equipment failures and patient safety concerns during service interruptions. Educational institutions experience disrupted learning environments when telecommunications or electrical systems fail. These community-level impacts are particularly severe in areas already facing socioeconomic challenges, where residents have limited resources to adapt to service

disruptions. Infrastructure crime thus becomes both a cause and consequence of social inequality, as vulnerable communities bear disproportionate costs while having fewer resources for resilience-building measures.

2.3 Organized Networks and Criminal Enterprise

Infrastructure crime has evolved from opportunistic individual acts to sophisticated criminal enterprises involving organised networks. These operations demonstrate considerable planning, coordination, and market knowledge, challenging conventional understandings of property crime as impulsive or disorganised activity. The researcher's ongoing work on security officer challenges (Govender, 2017) reveals how organizational vulnerabilities within protection systems can facilitate sophisticated criminal operations. Criminal networks engaged in cable theft often exhibit hierarchical structures with specialized roles including reconnaissance, theft operations, transportation, processing, and market distribution. The involvement of legitimate businesses in purchasing stolen materials creates additional complexity, blurring boundaries between legal and illegal economic activity. The transnational dimensions of cable theft have received increasing attention, as stolen materials often move through international markets with limited traceability. This global context requires policy responses that address not only local crime prevention but also international cooperation and market regulation.

2.4 Security Management and Human Factors

The researcher's previous work on security officer discipline problems (Govender, 2017) provides critical insights into how human resource challenges within security operations can undermine infrastructure protection efforts. These studies revealed significant gaps between security policy intentions and operational realities, particularly in contracted security arrangements where accountability mechanisms may be weakened. Govender's (2020) research on human risks in physical protection systems demonstrated how security vulnerabilities often emerge from organizational and management factors rather than purely technical weaknesses. This understanding informs the current study's focus on community and institutional responses, recognising that effective infrastructure protection requires addressing human and social dimensions alongside technical measures.

2.5 Methodology Qualitative Research Approach

This study employed a qualitative research design to capture the lived experiences and perspectives of stakeholders affected by cable theft. Qualitative methods were selected for their ability to explore complex social phenomena, understand meaning-making processes, and give voice to diverse perspectives often overlooked in quantitative assessments. This approach builds upon the researcher's previous qualitative investigation of cable theft and security challenges (Govender, 2017b), applying proven interview protocols and analytical approaches to a broader stakeholder sample. The research adopted an interpretive paradigm, recognising that understanding of cable theft impacts emerges through social interaction and meaning construction among affected communities. This approach aligns with calls for more participatory and community-centred research on infrastructure issues, extending the researcher's earlier utility-focused investigations (Govender, 2017a, 2017b) to encompass diverse community perspectives.

2.6 Participant Recruitment and Selection

Participants were recruited through purposive sampling strategies designed to capture diverse perspectives across different sectors and geographic areas. The sampling approach incorporated lessons learned from the researcher's previous work with utility personnel and security officers (Govender, 2017b, 2017c), ensuring adequate representation of both operational and management perspectives within each stakeholder group. Initial contacts were established through professional networks developed during the researcher's previous investigations of Eskom operations, with subsequent participants identified through snowball sampling techniques that extended beyond utility-specific contexts. The final sample included 45 participants representing various stakeholder groups: Utility managers and technical staff (15 participants). Security personnel from private and public sectors (10 participants). Municipal officials responsible for infrastructure management (8 participants). Business owners and managers affected by service disruptions (7 participants). Community residents from areas experiencing frequent cable theft (5 participants).

Participants were recruited from three provinces namely Gauteng, Western Cape, and KwaZulu-Natal to capture geographic variation in cable theft patterns and response strategies. The inclusion of KwaZulu-Natal built upon the researcher's detailed knowledge of regional security challenges from previous work in this area (Govender, 2017c). Special attention was paid to including perspectives from both urban and peri-urban areas, as well as different socioeconomic contexts.

3. DATA COLLECTION PROCEDURES

Data collection involved semi-structured interviews conducted between March 2023 and January 2024. Interview protocols were developed based on the researcher's previous experience with utility and security personnel interviews (Govender, 2017b, 2017c), adapted to encompass broader community and business perspectives. Questions were designed to explore participant experiences with cable theft impacts, adaptive strategies developed in response to infrastructure disruptions, and recommendations for improved prevention and response measures. Interview protocols were developed through consultation with community advisory groups and pilot testing with key informants. Questions were designed to be open-ended and exploratory, allowing participants to share their experiences in their own words while ensuring coverage of key research topics informed by the researcher's previous findings on infrastructure crime dynamics. Interviews typically lasted 60-90 minutes and were conducted in locations chosen by participants to ensure comfort and confidentiality. With participant consent, interviews were audio-recorded and supplemented by detailed field notes capturing non-verbal communication and environmental context.

4. DATA ANALYSIS

Interview transcripts were analysed using thematic analysis techniques, following established procedures for qualitative data interpretation developed and refined through the researcher's previous qualitative investigations (Govender, 2017b). The analysis process involved multiple stages of coding, pattern identification, and theme development. Initial coding was conducted independently by two researchers to enhance reliability and identify potential analytical blind spots. Codes were then compared, discussed, and refined through an iterative process that continued throughout the data collection period. The analytical framework incorporated insights from the researcher's previous work on security vulnerabilities and human risk factors (Govender, 2017c, 2020) while remaining open to emergent themes specific to community experiences. Thematic development focused on identifying patterns across participant experiences while remaining attentive to contradictions, outliers, and minority perspectives. Special attention was paid to how different stakeholder groups understood and responded to cable theft impacts, building upon the researcher's previous experience analysing diverse organizational perspectives within utility contexts.

4.1 Ethical Considerations

All participants provided informed consent after receiving detailed information about research purposes, procedures, and potential risks. The ethical protocols built upon frameworks developed for the researcher's previous investigations of sensitive security topics (Govender, 2017c, in press), ensuring appropriate protection of both participant welfare and operational security information. Given the sensitive nature of infrastructure crime research, particular attention was paid to protecting participant confidentiality and ensuring that shared information could not be used to compromise security measures or identify vulnerable infrastructure locations. All data was anonymised and stored securely according to data management protocols refined through previous research experience.

4.2 Findings Theme 1: Cascading Economic Disruptions

Participants consistently described how cable theft incidents created ripple effects extending far beyond the immediate service disruption. Business owners explained how power outages lasting several hours could result in days or weeks of economic consequences, confirming patterns suggested in the researcher's previous utility-focused investigations (Govender, 2017a). *"When the cables get stolen, it's not just the few hours without power. We lose all our refrigerated stock, customers go elsewhere, staff can't work their full shifts. Then when power comes back, we're dealing with insurance claims, replacing spoiled goods, trying to win back customers who found other suppliers"* (Small business owner, Johannesburg). Manufacturing enterprises reported particularly severe impacts due to complex restart procedures and quality control requirements. Several participants described situations where brief power interruptions resulted in production line shutdowns lasting multiple days, illustrating the systemic vulnerabilities that the researcher's previous work identified within utility operations (Govender, 2020). Healthcare facilities faced unique challenges in managing patient care during service disruptions. A clinic manager explained: *"We have backup power for critical equipment, but it only lasts a few hours. When cable theft happens at night, we sometimes don't know until morning when backup batteries are already running low. Then we have to transfer patients, cancel appointments, lose medications that need refrigeration."*

4.3 Theme 2: Social Fragmentation and Community Tension

Cable theft incidents often generated or exacerbated social tensions within affected communities. Several participants described situations

where communities became divided between those suspected of involvement in theft activities and those bearing the consequences of service disruptions. These dynamics reflect the broader social consequences of infrastructure crime that extend beyond the technical and financial concerns emphasized in traditional utility-focused research. A community leader from Cape Town explained: *"People know who's involved, but they're afraid to speak up. Meanwhile, families are losing food from fridges, kids can't study at night, small businesses are closing. It creates anger, but the anger gets turned against neighbours instead of finding real solutions."* Educational impacts were frequently mentioned, with participants describing how power outages disrupted evening study time, affected school computer facilities, and limited access to information resources. These effects were particularly pronounced in households lacking alternative lighting or internet connectivity. The social consequences extended to community cohesion and collective efficacy. Participants described how repeated infrastructure failures undermined residents' sense of security and confidence in their ability to address local challenges collectively, creating social vulnerabilities that complement the technical vulnerabilities documented in the researcher's previous work (Govender, 2020).

4.4 Theme 3: Adaptive Strategies and Resilience Building

Despite the challenges posed by cable theft, participants demonstrated remarkable creativity in developing adaptive strategies. These ranged from individual household measures to community-wide initiatives and business continuity planning, representing innovation that emerges when formal security systems prove inadequate, a pattern consistent with the researcher's previous findings on security system limitations (Govender, 2017c, 2020). Businesses described diverse adaptation measures including backup power systems, alternative supplier arrangements, adjusted operating schedules, and enhanced security measures. However, these adaptations came with significant costs that were often invisible to policymakers and utility providers. *"We installed generators, backup lighting, changed our operating hours to avoid high-risk times. All of this costs money and changes how we work, but it's not captured in any official statistics about cable theft impacts"* (Manufacturing company manager). Community-level adaptations included informal security networks, information sharing systems, and collective advocacy efforts. Some communities developed early warning systems using social media and WhatsApp groups to alert residents about suspicious activities or service disruptions. These grassroots initiatives demonstrate the community capacity for collective action that can complement formal security measures when properly supported.

4.5 Theme 4: Institutional Response and Trust Erosion

Participants expressed widespread frustration with institutional responses to cable theft, describing what they perceived as inadequate prevention efforts and slow restoration processes. These experiences contributed to declining trust in both utility providers and law enforcement agencies, reflecting patterns documented in the researcher's previous work on security management challenges within utility operations (Govender, 2017c). The institutional response challenges identified in this study echo patterns documented in the researcher's previous investigations of Eskom security operations. Govender's research on security officer discipline problems (2017c) revealed significant gaps between security policy intentions and operational realities, particularly in contracted security arrangements where accountability mechanisms may be weakened. These organizational vulnerabilities contribute to the institutional response limitations observed in the current study. Utility customers frequently mentioned feeling abandoned during prolonged outages, with limited communication about restoration timelines and little evidence of preventive measures being implemented. A residential customer observed: *"They replace the cables, but they don't do anything different to stop it happening again. So, we just wait for the next time."* Business participants described how the unpredictability of service disruptions made long-term planning difficult and deterred investment in affected areas. Several mentioned considering relocation due to ongoing infrastructure reliability concerns. These responses illustrate how the human risk factors identified in the researcher's previous work (Govender, 2020) extend beyond utility operations to affect broader economic development patterns. Law enforcement responses were viewed as reactive rather than preventive, with participants noting that arrests were rare and successful prosecutions even rarer. This perception contributed to a sense of impunity around cable theft activities, reinforcing the cycle of institutional mistrust that the researcher's previous work identified within utility security operations.

4.6 Theme 5: Innovation and Community Solutions

Despite institutional limitations, participants described innovative community-driven solutions that emerged in response to cable theft challenges. These initiatives demonstrated considerable local knowledge and social capital mobilisation, representing the kind of community-based

approaches that the researcher's previous work suggested could complement formal security measures (Govender, 2017a, 2020). Several communities developed neighbourhood watch programs specifically focused on infrastructure protection, combining traditional security approaches with technology-enabled communication systems. These efforts required careful navigation of relationships with both utility providers and law enforcement agencies, addressing some of the coordination challenges that the researcher's previous work identified within formal security structures (Govender, 2017c). Business associations in some areas created collaborative security arrangements, sharing costs for private security services and information about suspicious activities. These partnerships sometimes extended to infrastructure hardening measures such as improved lighting and access control, demonstrating how community initiatives can address some of the protection system vulnerabilities identified in previous research. Educational initiatives emerged in some communities, with residents organising awareness campaigns about the consequences of cable theft and the importance of infrastructure protection. These efforts often involved collaboration with schools, religious organisations, and local government structures, creating the kind of multi-stakeholder partnerships that the researcher's previous work suggested were essential for effective infrastructure protection.

5. DISCUSSION

5.1 Understanding Infrastructure Crime Through Community Lens

This research reveals that cable theft impacts extend far beyond the immediate financial costs typically captured in utility assessments, confirming and expanding upon patterns identified in the researcher's previous utility-focused investigations (Govender, 2017a, 2017b). The lived experiences of affected communities demonstrate how infrastructure crime creates cascading social and economic disruptions that fundamentally alter daily life patterns and community dynamics in ways that traditional utility-focused assessments fail to capture. The findings challenge conventional approaches to infrastructure security that focus primarily on technical measures and law enforcement responses. While these elements remain important, participant experiences suggest that effective responses must address the social contexts within which infrastructure crime occurs and the community-level consequences that follow. This perspective builds upon the researcher's previous work on human risks in physical protection systems (Govender, 2020), which demonstrated how technical security measures alone prove insufficient without addressing underlying social and organizational vulnerabilities. The theme of cascading economic disruptions illustrates how infrastructure interdependencies create vulnerability amplification effects. A single cable theft incident affecting electrical supply can simultaneously impact telecommunications, water pumping, traffic control, healthcare services, and commercial operations. These system-level effects require analytical frameworks that extend beyond the sector-specific assessments that characterised the researcher's earlier work, while building upon insights about systemic vulnerabilities within utility operations.

5.2 Social Capital and Infrastructure Resilience

The adaptive strategies developed by participants highlight the critical role of social capital in infrastructure resilience. Communities with strong social networks and collective efficacy demonstrated greater capacity to develop effective responses to cable theft challenges. This finding suggests that infrastructure protection strategies should include social capital development as a core component, complementing the technical and organizational measures emphasized in previous utility-focused research (Govender, 2017a, 2020). The innovation theme reveals how communities can become active partners in infrastructure protection rather than passive recipients of security measures imposed by external authorities. However, realising this potential requires institutional arrangements that recognise and support community knowledge and initiative, addressing some of the coordination and communication challenges that the researcher's previous work identified within utility security operations (Govender, 2017c). The tension between individual adaptation and collective action emerged as a significant challenge. While individual businesses and households could implement various protective measures, the most effective responses required coordination and shared investment that was difficult to achieve without external facilitation and support. This finding extends the researcher's previous insights about organizational coordination challenges within utility security contexts to broader community settings.

5.3 Implications for Crime Prevention Theory

These findings contribute to criminological understanding by demonstrating how infrastructure crime operates as a form of systemic disruption rather than simple property theft. Traditional crime prevention frameworks that focus on target hardening and guardianship expansion

provide incomplete guidance for addressing crimes that generate such extensive secondary effects. This understanding builds upon the researcher's previous work on physical protection systems (Govender, 2020), which revealed how conventional security measures often fail to address the human and organizational factors that create vulnerability. The research suggests a need for expanded theoretical models that incorporate community resilience, social capital, and system interdependence as central considerations. Infrastructure crime prevention must address not only immediate criminal opportunities but also the broader social and economic conditions that create vulnerability to both crime occurrence and impact amplification. This theoretical expansion draws upon insights from the researcher's previous investigations while extending beyond utility-specific contexts to encompass broader community dynamics. The role of legitimate businesses in creating markets for stolen materials emerged as a critical factor requiring greater theoretical and policy attention. Effective prevention strategies must address both supply-side factors (criminal opportunity structures) and demand-side factors (illicit market dynamics), as suggested in the researcher's earlier work on cable theft prevention (Govender, 2017a).

5.4 Institutional Response Challenges

The institutional response challenges identified in this study echo patterns documented in the researcher's previous investigations of Eskom security operations (Govender, 2017c). These findings consistently point to human resource management and organizational capacity as critical factors in infrastructure protection effectiveness. The current research extends these insights by demonstrating how institutional limitations affect not only utility operations but also broader community trust and economic development. Govender's research on security officer discipline problems revealed how inadequate security management undermines infrastructure protection efforts, creating vulnerabilities that sophisticated criminal networks can exploit. The current study's findings about institutional response limitations reflect similar patterns where human resource challenges within security operations contribute to reduced effectiveness of infrastructure protection measures, while also affecting community confidence in institutional capacity.

5.5 Policy Implications

The research findings have several important implications for policy development, building upon recommendations from the researcher's previous work while expanding to address broader community and social considerations. First, impact assessment methodologies should incorporate community-level consequences and adaptive costs to provide more accurate understanding of cable theft effects. Current approaches that focus only on direct replacement costs significantly underestimate total social and economic impacts, as the researcher's previous utility-focused research suggested (Govender, 2017a). Second, prevention strategies should include community engagement and social capital development as core components. The innovative solutions developed by participant communities demonstrate considerable potential for collaborative approaches that combine institutional resources with local knowledge and initiative. This recommendation extends the researcher's previous insights about the importance of human factors in security systems (Govender, 2020) to encompass broader community participation in infrastructure protection. Third, institutional responses should address the factors contributing to trust erosion between utilities, law enforcement, and affected communities. Effective long-term solutions require rebuilding confidence in institutional capacity and commitment to addressing infrastructure crime systematically rather than reactively. This need for improved institutional coordination builds upon the researcher's previous findings about organizational challenges within utility security operations (Govender, 2017c). Fourth, market regulation and business licensing approaches should be strengthened to address the demand-side factors that sustain cable theft activities. Without disrupting illicit markets for stolen materials, supply-side prevention measures are likely to remain insufficient, as suggested in the researcher's earlier work on cable theft prevention strategies (Govender, 2017a). Fifth, security management practices should incorporate lessons from the researcher's previous investigations of human risks and organizational vulnerabilities (Govender, 2020). Effective infrastructure protection requires addressing not only technical vulnerabilities but also the human resource and management factors that can compromise even sophisticated security systems.

5.6 Limitations and Future Research

This study's focus on South African contexts limits the generalisability of findings to other national and regional settings. Cable theft patterns, institutional responses, and community characteristics vary significantly across different contexts, requiring additional research to test the relevance of these findings elsewhere. However, the study's theoretical

framework and methodological approach, building upon the researcher's established expertise in this field, provide a foundation for comparative investigations in other developing economy contexts. The qualitative methodology, while valuable for understanding lived experiences and meaning making processes, provides limited guidance for quantifying the economic impacts identified by participants. Future research should develop mixed methods approaches that combine the qualitative insights demonstrated in this study and the researcher's previous work (Govender, 2017b) with systematic economic impact assessment. The study's emphasis on community and business perspectives means that criminal networks and law enforcement perspectives are less fully represented. Understanding the full dynamics of infrastructure crime requires additional research that incorporates these viewpoints while maintaining appropriate ethical and safety considerations. The researcher's ongoing work on security operations provides some insights into institutional perspectives that could inform future investigations. Longitudinal research designs would provide valuable insights into how communities and businesses adapt to ongoing cable theft challenges over time, and how the effectiveness of various response strategies evolves as both criminal methods and prevention approaches change. Such research could build upon the researcher's established relationships with utility and security stakeholders developed through previous investigations.

6. CONCLUSION

This qualitative investigation reveals that cable theft generates profound social and economic consequences that extend far beyond immediate replacement costs. Through detailed examination of stakeholder experiences, the research demonstrates how infrastructure crime disrupts community life, business operations, and social relationships in ways that are often invisible to policymakers and utility providers. These findings extend and validate insights from the researcher's previous investigations of cable theft and security challenges (Govender, 2017a, 2017b, 2017c, 2020) while expanding the analytical framework to encompass broader community impacts. The findings challenge conventional approaches to infrastructure security by highlighting the importance of community perspectives, social capital, and system interdependencies in both creating vulnerability and building resilience. Effective responses to cable theft require integrated strategies that address not only technical vulnerabilities and law enforcement challenges but also the social contexts within which infrastructure crime occurs and the community-level consequences that follow. This understanding builds upon the researcher's previous work on human risks in physical protection systems while extending beyond utility-specific contexts to encompass broader societal considerations. The innovative solutions developed by research participants demonstrate considerable potential for collaborative approaches that combine institutional resources with community knowledge and initiative. However, realising this potential requires fundamental shifts in how infrastructure providers, law enforcement agencies, and policymakers understand and respond to infrastructure crime. The researcher's previous investigations of organizational and management challenges within utility security operations provide important insights for developing such collaborative approaches. Future policy development should incorporate community voices and experiences as central considerations rather than peripheral concerns. The lived experiences documented in this research provide essential insights for developing more effective, equitable, and sustainable responses to one of the most pressing infrastructure challenges facing developing economies. These insights complement and extend the technical and organizational recommendations emerging from the researcher's previous utility-focused investigations. This research contributes to criminological theory by proposing expanded frameworks for understanding infrastructure crime that incorporate community resilience and social capital considerations. It also provides practical insights for policymakers, utility providers, and community organisations seeking to develop comprehensive responses to infrastructure criminality that address both immediate security concerns and longer-term community development objectives. The study represents a significant evolution in the researcher's ongoing investigation of infrastructure crime, moving from utility-specific technical concerns to broader community-centred understanding of crime impacts and prevention strategies.

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