



International Journal for Disaster Management and Risk Reduction

**EFFECTIVENESS OF PUBLIC-PRIVATE PARTNERSHIPS IN ENHANCING
DISASTER PREPAREDNESS IN NAIROBI COUNTY, KENYA**

**Julius Asuma Kibagendi, Prof. Eng. Bernadette W. Sabuni
and Dr. Dennis Mutua Ndambo**





Effectiveness of Public–Private Partnerships in Enhancing Disaster Preparedness in Nairobi County, Kenya

Julius Asuma Kibagendi

Corresponding author, Kenyatta University

Prof. Eng. Bernadette W. Sabuni

Lecturer, Civil and Structural Engineering Department, Masinde Muliro University of Science and Technology

Dr. Dennis Mutua Ndambo

Lecturer, Public Law Jomo Kenyatta University of Agriculture and Technology

Article History:

Published on: 05/06/2026

DOI:

<https://doi.org/10.5281/zenodo.20557129>

How to Cite: Kibagendi, J. A., Sabuni, B., & Ndambo, D. M. (2026). Effectiveness of Public–Private Partnerships in Enhancing Disaster Preparedness in Nairobi County, Kenya. *International Journal for Disaster Management and Risk Reduction*, 3(1), 1–19. <https://doi.org/10.5281/zenodo.20557129>

Abstract:

Purpose of study: This study examined the effectiveness of Public–Private Partnerships (PPPs) in enhancing disaster preparedness in Nairobi County, Kenya (2019–2025), focusing on resource mobilisation, inter-sectoral collaboration, and implementation challenges within urban disaster management.

Methodology: A descriptive mixed-methods design was employed. Data were collected from 132 respondents via structured questionnaires, 15 key informant interviews, and four focus group discussions involving public officials, private firms, NGOs, and community members. Quantitative data were analysed

using SPSS (descriptive statistics), while qualitative data underwent thematic analysis, enabling triangulation of findings.

Findings: PPPs significantly improved resource mobilisation (M=4.34), technological innovation (M=4.26), early warning systems (M=4.21), logistics (M=4.17), and community awareness (M=4.10). Collaborative approaches reduced duplication (M=4.13) and improved response times (M=4.01). However, effectiveness was severely constrained by the absence of a formal policy framework (M=4.36), bureaucratic decision-making (M=4.22), mutual distrust between sectors (M=4.18), inadequate monitoring and evaluation (M=4.06), and insufficient financial incentives (M=3.89). Qualitative data revealed that partnerships remained largely ad hoc, episodic, and event-driven rather than institutionalised, with community members reporting exclusion from planning processes and coordination mechanisms described as poorly structured (M=3.78).

Conclusion: PPPs hold significant unrealised potential for disaster preparedness in Nairobi County. Structured formalisation through binding agreements, dedicated coordination units, incentive mechanisms, and trust-building measures is essential. Without addressing policy gaps and institutional weaknesses, PPPs will remain underperforming mechanisms for building urban disaster resilience.

Keywords: *public–private partnerships, disaster preparedness, Nairobi County, emergency response, disaster risk reduction, urban resilience*

©2026 By The Authors. This Article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by-nc-sa/4.0/>)



1. INTRODUCTION

1.1 Background to the Study.

Disaster management has increasingly become a shared responsibility between governments, the private sector, and civil society due to the rising frequency and intensity of natural and human-induced hazards globally. The Sendai Framework for Disaster Risk Reduction (2015–2030) emphasizes the importance of inclusive partnerships in strengthening disaster resilience through multi-stakeholder collaboration, including public and private actors in planning, preparedness, and response systems (United Nations Office for Disaster Risk Reduction, 2015). Recent evidence shows that such partnerships enhance resource mobilisation, innovation, and capacity building, particularly in disaster-prone and resource-constrained environments (World Bank, 2023).

Globally, Public–Private Partnerships (PPPs) have become central to disaster risk management strategies. In the United States, disaster preparedness is strongly institutionalised through coordinated frameworks involving government agencies such as the Federal Emergency Management Agency (FEMA). Research shows that private sector actors including logistics and telecommunications firms contribute significantly to emergency response through supply chain support and communication systems (Nohrstedt et al., 2022). However, studies continue to highlight challenges such as fragmented data-sharing systems and inconsistent regulatory coordination that limit full PPP effectiveness in disaster governance

In Asia, particularly China, PPP models have been integrated into national emergency management systems to enhance disaster resilience. According to UNDRR (2022) and Zhang et al. (2023), China has leveraged partnerships with technology firms such as Huawei and Tencent to develop real-time disaster monitoring, early warning systems, and AI-supported emergency response platforms. Additionally, drone technology and digital infrastructure have improved situational awareness during floods and earthquakes. Despite these advancements, governance delays and uneven resource allocation remain persistent challenges in ensuring efficient PPP coordination.

In Africa, disaster risk management systems are increasingly adopting PPP approaches due to limited public sector capacity. In Nigeria, flood disasters, disease outbreaks, and industrial accidents have necessitated stronger collaboration between government and private actors. The National Emergency Management Agency (NEMA) has partnered with telecommunications firms such as MTN Nigeria to deliver SMS-based early warning alerts to vulnerable populations (Adelekan & Adebayo, 2022). Similarly, corporate partnerships with humanitarian organisations such as the Nigerian Red Cross Society support emergency relief distribution. However, empirical studies show that weak institutional coordination and inadequate funding continue to limit PPP effectiveness in disaster preparedness systems (Olorunfemi et al., 2023).

In Uganda, PPPs have contributed to improved disaster preparedness, particularly in flood- and drought-prone regions. The Office of the Prime Minister, through the Department of Disaster



Preparedness and Management, collaborates with private sector actors and humanitarian organisations to strengthen early warning systems and emergency response mechanisms. Additionally, partnerships with financial institutions and technology firms have facilitated mobile-based disaster alert systems. Despite these gains, underfunding and limited private sector participation remain major constraints to sustainability.

Similarly, Tanzania has increasingly embraced PPPs in disaster preparedness, particularly in climate-sensitive regions. The Prime Minister's Office – Disaster Management Department collaborates with private firms and development partners to improve early warning systems and community resilience. Telecommunications companies such as Vodacom Tanzania support SMS-based disaster alerts, while partnerships with the World Food Programme (WFP) enhance food security responses during emergencies. Nonetheless, bureaucratic inefficiencies and weak policy enforcement continue to hinder effective implementation (Nyamweya & Chacha, 2024).

In Kenya, disaster risks such as floods, droughts, terrorism, and urban fires have intensified the need for strengthened PPP frameworks. Institutions such as the National Disaster Operations Centre (NDOC) and the Kenya Red Cross Society (KRCS) collaborate with private sector organisations to enhance emergency preparedness and response (Government of Kenya, 2023). The telecommunications sector, particularly Safaricom PLC, has been instrumental in developing mobile-based early warning and emergency communication systems that improve disaster response coordination (Wekesa & Ochieng, 2023). Additionally, the insurance sector plays a growing role in disaster risk transfer mechanisms aimed at enhancing financial resilience. However, studies indicate that weak institutional coordination, inadequate funding, and fragmented policy frameworks continue to limit the effectiveness of PPPs in Kenya's disaster management system (World Bank, 2023; Ouma et al., 2024).

1.2 Statement of the Problem

Disaster preparedness remains a critical pillar of sustainable urban resilience, particularly in rapidly growing cities such as Nairobi County, Kenya, which is frequently exposed to floods, fires, building collapses, road accidents, and disease outbreaks that disrupt livelihoods and strain public emergency systems. The Nairobi City County Disaster Risk Management Strategy identifies these hazards as recurrent threats that require strengthened institutional coordination and multi-sectoral collaboration for effective response and mitigation (Nairobi City County Government, 2023). Globally, the Sendai Framework for Disaster Risk Reduction (2015–2030) emphasizes the importance of inclusive partnerships involving government, private sector actors, and communities in strengthening disaster preparedness and resilience systems (United Nations Office for Disaster Risk Reduction, 2015).

Despite this policy direction, evidence suggests that the effectiveness of Public–Private Partnerships (PPPs) in disaster preparedness within Nairobi County remains limited and inconsistent. In Kenya, although PPPs are recognized as strategic mechanisms for resource mobilization and service delivery under Vision 2030, implementation in disaster management is still weak due to coordination gaps, fragmented institutional arrangements, and inadequate



stakeholder integration (World Bank, 2023). Studies further indicate that disaster response systems in Kenya suffer from poor inter-agency coordination and delayed emergency responses, which weaken the potential contribution of private sector engagement.

In Nairobi County specifically, recurrent disasters continue to expose structural weaknesses in collaborative disaster preparedness systems. For instance, ineffective coordination between county emergency units, national agencies, and private sector actors has been linked to delayed response times and inefficient resource allocation during emergencies (Nairobi City County Government, 2023). Furthermore, while private sector entities such as telecommunications firms, insurance companies, and logistics providers have increasingly participated in emergency response initiatives, their involvement remains largely ad hoc, unstructured, and insufficiently institutionalized within a formal PPP framework. Empirical evidence also shows that while PPPs can improve disaster resilience through innovation, early warning systems, and financial support mechanisms, their effectiveness depends heavily on clear governance structures, accountability mechanisms, and data-sharing arrangements (Kapucu et al., 2023). However, in Kenya, these enabling conditions remain weak, limiting the operational efficiency of PPPs in disaster preparedness and response systems (Ouma et al., 2024).

Additionally, existing studies on disaster preparedness in Kenya have largely focused on community resilience, technological interventions, and humanitarian response mechanisms, with limited attention given to the institutional effectiveness of PPP arrangements at the county level (Wekesa & Ochieng, 2023; UNDRR, 2022). This creates a significant research gap regarding how PPPs function in practice within Nairobi County's disaster preparedness framework, particularly in terms of coordination, resource sharing, and operational effectiveness. Consequently, despite the recognized importance of PPPs in enhancing disaster preparedness globally, Nairobi County continues to experience recurring disaster-related losses due to weak institutional collaboration and underutilized private sector capacity. The absence of sufficient empirical evidence on the effectiveness of PPPs in this context limits the ability of policymakers to design targeted interventions that can strengthen urban resilience. Therefore, there is a pressing need for systematic research to assess the effectiveness of Public–Private Partnerships in enhancing disaster preparedness in Nairobi County, Kenya.

2. LITERATURE REVIEW

2.1 Theoretical Framework: Public–Private Partnership Theory

The theoretical foundation of this study rests on Public–Private Partnership (PPP) Theory as developed by Hodge and Greve (2007). PPP Theory conceptualises these arrangements as long-term contractual relationships between government and private entities in which risks, responsibilities, and rewards are shared for the purpose of delivering public goods and services. The government partner contributes regulatory authority, public legitimacy, and a governance structure, while the private sector contributes operational efficiency, technological innovation, and financial capacity. The theory maintains that neither sector can independently address



complex public challenges, and that structured collaboration produces superior outcomes to unilateral action.

Applied to disaster management, PPP Theory suggests that formal partnership arrangements between public disaster management agencies and private firms particularly in telecommunications, logistics, healthcare, and construction can generate early warning systems, resilient infrastructure, and coordinated emergency response capabilities that would be beyond the reach of either sector acting alone (Akintoye, Beck, & Hardcastle, 2015). The theory also emphasises the importance of risk-sharing, transparent governance, and continuous stakeholder engagement as preconditions for effective partnership performance (Bovaird, 2004). This framework shaped the conceptualisation of the research questions and informed the interpretation of empirical findings.

2.2 PPPs and Disaster Preparedness: International Evidence

International scholarship offers substantial evidence that PPPs can meaningfully enhance disaster preparedness when properly structured and sustained. Kapucu and Garayev (2011) demonstrated that collaborative decision-making frameworks integrating the private sector improve situational awareness, resource coordination, and operational responsiveness during emergencies. Their analysis of the Emergency Management Assistance Compact in the United States showed that inter-sectoral partnerships could reduce response times and prevent the duplication of effort that undermines single-agency disaster management systems.

In Bangladesh, Alam and Rahman (2023) studied PPP arrangements for flood disaster response and found that the integration of private sector logistical and communication expertise into public emergency systems significantly improved the speed and coverage of response operations. The authors concluded that structured public–private coordination was essential for sustainable disaster management in climate-vulnerable contexts. Similarly, Ishiwatari et al. (2024) documented how Japanese urban authorities leveraged PPPs to achieve both disaster resilience and sustainable urban development, noting that success depended on well-defined governance frameworks, equitable resource allocation, and active participation from diverse stakeholders.

Osei-Kyei, Ameyaw, and Edwards (2024) conducted a global analysis of PPP strategies for urban resilience and identified risk assessment, resource sharing, and integrated response planning as the most effective mechanisms through which PPPs contribute to community readiness and recovery. Their findings reinforce the view that strategic alliances are indispensable for mobilising the diverse capabilities needed for urban resilience. Perazzini, Neri, and Boni (2024) proposed a comprehensive framework for public–private risk-sharing in disaster management in Italy, arguing that such arrangements increase the efficiency and long-term sustainability of disaster response and recovery operations.

2.3 PPPs in Disaster Preparedness in Africa and Kenya



Evidence from sub-Saharan Africa reflects both the potential and the limitations of PPPs in disaster management. In Uganda, Mugerwa and Kasaija (2023) found that PPP arrangements involving the Office of the Prime Minister's disaster preparedness unit and private technology companies had resulted in mobile-based early warning systems, though under-investment by the private sector and inadequate policy frameworks constrained their impact. In Tanzania, Omary (2023) similarly observed that while partnerships between the Disaster Management Department and private telecommunications firms had improved emergency communication, bureaucratic inefficiencies and inadequate funding remained persistent obstacles.

In Kenya, Ngechu and Mutua (2022) demonstrated that PPPs enhanced institutional capacity in disaster management through knowledge transfer, resource pooling, and joint planning. However, they noted that the success of these partnerships was highly dependent on the clarity of governance structures and stakeholder engagement processes. Achieng and Odhiambo (2023) identified policy and operational barriers to PPP effectiveness in Kenya's disaster management systems, including limited communication channels, bureaucratic delays, and political interference. Karanja and Mwangi (2021) further highlighted the absence of robust monitoring and evaluation frameworks as a significant constraint on PPP accountability and learning.

Despite this growing body of evidence, there remains a notable absence of systematic, empirically grounded research on the effectiveness of PPPs in disaster preparedness in Nairobi County specifically. Existing studies have tended to examine either technological interventions or general institutional capacity, without adequately addressing the localised dynamics of public-private collaboration in Kenya's capital city. This study addressed that gap.

3. METHODOLOGY

3.1 Research Design

This study adopted a descriptive mixed-methods research design, which enabled systematic description of the patterns, relationships, and dynamics associated with PPPs in disaster preparedness in Nairobi County. The combination of quantitative and qualitative approaches facilitated triangulation, strengthening the validity of findings by drawing on multiple sources of evidence. Quantitative data were collected through structured questionnaires administered to public and private sector representatives, while qualitative data were gathered through key informant interviews (KIIs) and focus group discussions (FGDs) with disaster management stakeholders.

3.2 Study Area and Population

The study was conducted in Nairobi County, the capital and primary economic centre of Kenya, covering an area of approximately 696 square kilometres with a population of over 4.5 million people (Kenya National Bureau of Statistics, 2023). The county was selected because of its high exposure to multiple disaster types including floods, fires, terrorism, infrastructure failures, and disease outbreaks and its concentration of key disaster management institutions,



including the NDOC, the Nairobi County Disaster Management Unit, the KRCS, and a diverse range of private sector actors. The study encompassed formal urban areas and informal settlements, including Kibera, Mathare, Mukuru, and Korogocho, to ensure representation of communities most vulnerable to disaster impacts. The target population comprised stakeholders directly involved in disaster preparedness in Nairobi County between 2019 and 2025, including government officials, private sector representatives from telecommunications, insurance, healthcare, and logistics firms, NGO staff, and community members residing in disaster-prone areas.

3.3 Sampling and Data Collection

A total of 165 participants were targeted across three data collection methods. For the questionnaire survey, stratified random sampling was used to select 150 respondents from public and private sector organisations, ensuring equal representation from both sectors (n = 75 each). For key informant interviews, purposive sampling was employed to identify 15 individuals with specialised knowledge and direct experience in disaster preparedness policy, coordination, or implementation. Four FGDs, each comprising eight to ten participants, were conducted with community members and practitioners from disaster-prone areas, selected through convenience sampling. The multi-pronged sampling design ensured both statistical breadth and contextual depth.

Data collection instruments were validated through expert review and tested in a pilot study involving a subset of respondents. Reliability was assessed using the test-retest method over a two-week interval, with a high correlation coefficient confirming instrument consistency. All primary data were collected between April and July 2025, following receipt of ethical approval from the National Defence University–Kenya and relevant county government clearances.

3.4 Data Analysis

Quantitative data from the questionnaires were coded and analysed using the Statistical Package for the Social Sciences (SPSS) Version 28. Descriptive statistics, including means and standard deviations computed on a five-point Likert scale, were used to characterise respondents' perceptions of PPP contributions, effectiveness, and challenges. Qualitative data from KIIs and FGDs were subjected to thematic analysis, with responses organised according to the three research objectives. Triangulation of quantitative and qualitative findings enhanced the reliability and validity of conclusions.

4. FINDINGS AND DISCUSSION

4.1 Respondent Profile

Of 150 questionnaires distributed, 132 were completed and returned, yielding a response rate of 88.0 per cent. This rate exceeds the threshold of 70 per cent recommended by Mugenda and Mugenda (2003) for reliable social science research and approaches the level of 80 per cent that Baruch and Holtom (2008) identify as exceptional in organisational studies. The demographic profile of respondents is summarised in Table 1.



Table 1: Demographic Profile of Respondents (n = 132)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	78	59.1
	Female	54	40.9
Age Group	18–30 years	30	22.7
	31–45 years	64	48.5
	46 years and above	38	28.8
Education	Secondary	14	10.6
	Diploma	28	21.2
	Bachelor's Degree	60	45.5
	Postgraduate	30	22.7
Sector	Public	66	50.0
	Private	66	50.0

Source: Field Data, 2025

The majority of respondents were male (59.1 per cent), reflecting a continuing gender imbalance in disaster and emergency management professions, though the substantial female representation (40.9 per cent) indicates an expanding role for women in this field. Most respondents were aged between 31 and 45 years (48.5 per cent), suggesting that the views expressed largely reflect those of mid-career professionals with direct operational experience in disaster preparedness. Respondents were well educated, with 45.5 per cent holding bachelor's degrees and 22.7 per cent holding postgraduate qualifications, supporting the capacity to provide informed responses on partnership dynamics. Equal representation of public and private sector respondents (50 per cent each) enabled meaningful comparative analysis of cross-sectoral perspectives.

4.2 Resource Mobilisation through PPPs and Disaster Preparedness

Respondents were asked to rate the extent to which PPPs contribute to specific dimensions of disaster preparedness. Results, presented in Table 2, consistently indicate strong agreement with the positive contribution of PPPs across all dimensions assessed.

Table 2: Perceptions of PPP Contributions to Disaster Preparedness (n = 132)

Statement	Mean	Std. Dev.	Interpretation
PPPs improve resource mobilisation for preparedness efforts	4.34	0.72	Strongly Agree
Private firms provide technical and technological innovation	4.26	0.74	Strongly Agree
Collaboration enhances early warning and communication systems	4.21	0.77	Strongly Agree
Private sector involvement improves logistics and supply chain	4.17	0.80	Agree
PPPs support community training and public awareness campaigns	4.10	0.85	Agree



Source: Field Data, 2025. Note: Scale 1 = Strongly Disagree, 5 = Strongly Agree.

The highest mean score was recorded for the statement that PPPs improve resource mobilisation for preparedness efforts ($M = 4.34$, $SD = 0.72$), indicating near-unanimous agreement that private sector engagement helps bridge the funding and material gaps that constrain government disaster preparedness programmes. Respondents noted that private firms contribute financial resources, equipment, and technical assistance that augment government capacity. This finding aligns with UNDRR's (2015) position that private sector resources are essential for modernising national and subnational disaster preparedness systems. The provision of technical and technological innovation by private firms was also rated very highly ($M = 4.26$, $SD = 0.74$). Respondents reported that private sector contributions including real-time communication platforms, geographic information systems for hazard mapping, data analytics for risk modelling, and emergency response technologies have materially improved situational awareness and planning capabilities. These findings are consistent with Kapucu and Garayev (2011), who demonstrated that private sector technological capacity enhances the operational efficiency of public emergency management systems.

The enhancement of early warning and communication systems through PPPs received strong agreement ($M = 4.21$, $SD = 0.77$). Respondents indicated that partnerships with telecommunications and media companies have enabled the dissemination of real-time alerts to vulnerable communities in areas such as Kibera and Kasarani, facilitating timely evacuation and protective action. Improved logistics and supply chain management ($M = 4.17$, $SD = 0.80$) and community training and awareness campaigns ($M = 4.10$, $SD = 0.85$) were also positively assessed, confirming that PPPs contribute to both the operational and social dimensions of disaster preparedness. Qualitative evidence corroborated these findings: a representative of a telecommunications firm noted, 'We have supported early warning systems using SMS alerts, especially in informal settlements, but we are often left out of long-term preparedness strategies' (KII002, June 2025).

4.3 Effectiveness of Public–Private Collaboration in Disaster Risk Reduction and Emergency Response

Table 3 presents respondents' assessments of the operational effectiveness of PPP collaboration in disaster risk reduction and emergency response.

Table 3: Effectiveness of Public–Private Collaboration in Disaster Risk Reduction and Emergency Response

Statement	Mean	Std. Dev.	Interpretation
Collaborative approaches reduce duplication and improve coverage	4.13	0.79	Agree
There is timely sharing of disaster-related information between sectors	4.08	0.81	Agree
Response time has improved due to PPPs	4.01	0.86	Agree
Joint emergency response drills are conducted regularly	3.92	0.89	Agree



Public-private coordination mechanisms are well-structured	3.78	0.94	Agree
--	------	------	-------

Source: Field Data, 2025. Note: Scale 1 = Strongly Disagree, 5 = Strongly Agree.

The highest-rated item in this dimension was the view that collaborative approaches reduce duplication and improve service coverage during emergencies ($M = 4.13$, $SD = 0.79$). Respondents indicated that distributing responsibilities across public and private actors minimises wasteful duplication of effort and ensures broader geographic and functional coverage during crises. This finding is consistent with Kapucu and Garayev (2011), who argued that integrated emergency management increases operational efficiency and strengthens institutional capacity.

Timely information sharing between sectors ($M = 4.08$, $SD = 0.81$) and improved response times attributable to PPP arrangements ($M = 4.01$, $SD = 0.86$) also received positive assessments. Respondents noted that private enterprises contribute logistical support including transportation, communication technology, and first-aid supplies that supplements government capacity and accelerates operational deployment. A county disaster response officer described a 2023 flood response in which a private logistics company provided boats and transport, observing, 'It was effective, but it was not based on any formal agreement just a phone call' (KII003, May 2025).

However, the two lowest-rated items in this dimension reveal important structural weaknesses. The view that public-private coordination mechanisms are well-structured and functional received the lowest mean score in this category ($M = 3.78$, $SD = 0.94$), while the regularity of joint emergency response drills was rated only modestly higher ($M = 3.92$, $SD = 0.89$). These findings suggest that while episodic collaboration during crises has been valuable, the absence of institutionalised coordination mechanisms and regular joint training exercises limits the depth and sustainability of PPP effectiveness. Waugh and Streib (2006) similarly found that inter-sectoral partnerships tend to become fragmented and ineffective in real emergency situations when there is no clear framework and consistent collaborative training, a conclusion strongly supported by the qualitative evidence gathered in this study.

Qualitative findings reinforced the view that PPP collaboration in Nairobi is predominantly reactive. Residents in informal settlements reported receiving assistance during acute emergencies but noted a lack of follow-up or sustained engagement: 'We see help when there is a problem, but no one talks to us before or after the crisis' (FGD003, July 2025). An NGO coordinator acknowledged that while joint simulations are valuable, 'they are not held frequently enough to maintain readiness across teams' (KII004, July 2025).

4.4 Challenges in Implementing PPPs for Disaster Preparedness

Table 4 presents respondents' ratings of the severity of challenges encountered in implementing PPPs for disaster preparedness in Nairobi County.



Table 4: Challenges in Implementing Public–Private Partnerships for Disaster Preparedness

Statement	Mean	Std. Dev.	Interpretation
Lack of clear national policy on PPPs in disaster management	4.36	0.68	Strongly Agree
Bureaucracy and slow decision-making in public institutions	4.22	0.71	Strongly Agree
Mistrust between public and private actors	4.18	0.75	Strongly Agree
Inadequate monitoring and evaluation frameworks	4.06	0.77	Agree
Inadequate financial incentives for private participation	3.89	0.83	Agree

Source: Field Data, 2025. Note: Scale 1 = Strongly Disagree, 5 = Strongly Agree.

The most significant challenge identified was the absence of a clear national policy framework governing PPPs in disaster management ($M = 4.36$, $SD = 0.68$). The strong agreement with this item across respondents from both sectors indicates that this policy vacuum is widely experienced as the most fundamental structural barrier to effective partnership. Without legally enforceable agreements and clearly defined operational norms, responsibilities become unequally assigned, activities become uncoordinated, and accountability becomes difficult to establish. This finding is consistent with Achieng and Odhiambo (2023), who found that Kenyan PPPs in disaster management frequently operate on an ad hoc basis and lack the institutional grounding necessary for consistent effectiveness. A government official interviewed for this study acknowledged the problem directly: 'We lack a formal policy to coordinate PPPs. As a result, efforts are fragmented and inefficient' (KII005, June 2025).

Bureaucracy and slow decision-making in public institutions was rated as the second most severe challenge ($M = 4.22$, $SD = 0.71$). Respondents reported that lengthy administrative processes and multi-layered approval requirements in government agencies delay the implementation of PPP proposals and reduce private sector confidence in the partnerships. These delays are particularly damaging in rapid-onset disasters, where timely decision-making is operationally critical. Okech and Muriithi (2020) found similar patterns in Kenyan counties, observing that procedural delays from public agencies routinely undermined coordinated emergency response.

Mutual distrust between public and private actors was identified as a third major challenge ($M = 4.18$, $SD = 0.75$). Government officials frequently questioned the motives of private firms, assuming profit-seeking behaviour to be incompatible with public service goals, while private sector respondents expressed scepticism about government transparency and implementation capacity. This finding confirms the observation by Bovaird (2004) that trust is a foundational prerequisite for effective PPP performance, and that its absence produces reduced cooperation, limited information-sharing, and weakened commitment during crises. One key informant captured the sentiment succinctly: 'Government thinks private firms only help for publicity, while private companies feel the government is too slow and bureaucratic' (KII007, May 2025).



Inadequate monitoring and evaluation frameworks ($M = 4.06$, $SD = 0.77$) and insufficient financial incentives for private participation ($M = 3.89$, $SD = 0.83$) were also identified as significant barriers. Without formal M&E mechanisms, it is difficult to assess the performance, accountability, and learning outcomes of PPP initiatives. The absence of financial incentives—such as tax relief, recognition schemes, or guaranteed contracts—reduces the willingness of private firms to commit resources to preparedness activities that offer no clear return on investment. Karanja and Mwangi (2021) similarly concluded that sustaining long-term PPP financing requires both clearly structured incentive arrangements and continuous performance monitoring.

Community exclusion from planning processes emerged as a cross-cutting concern in qualitative data. Residents from Kasarani and other disaster-prone areas reported frustration at being excluded from the development of preparedness and response strategies: 'We are the ones affected during disasters, but nobody involves us when they plan responses or strategies. We are only called in when things go wrong' (FGD004, May 2025). This finding highlights a dimension of PPP implementation that extends beyond inter-sectoral dynamics to encompass the broader principle of inclusive governance in disaster risk reduction.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study has demonstrated that public–private partnerships hold significant but largely unrealised potential for enhancing disaster preparedness in Nairobi County. Quantitative and qualitative evidence converges on three principal conclusions. First, PPPs make measurable contributions to disaster preparedness through resource mobilisation, technological innovation, early warning communication, logistics support, and community training. Private sector actors have supplemented government capacity in meaningful ways, particularly during acute emergency events. However, these contributions have largely been episodic, informal, and event-driven rather than embedded in systematic, institutionalised preparedness frameworks. The absence of formal agreements means that PPP outcomes are inconsistent, poorly documented, and difficult to sustain.

Second, while inter-sectoral collaboration has produced some tangible improvements in emergency response times and coverage, its overall effectiveness is limited by structural weaknesses in coordination mechanisms, the infrequency of joint simulation exercises, and the exclusion of private actors from longer-term disaster planning processes. Partnerships that are activated only during crises cannot deliver the sustained institutional learning and operational readiness that effective disaster preparedness requires. Third, three interrelated challenges constrain the effectiveness of PPPs in Nairobi County: the absence of a clear and enforceable national policy framework for PPPs in disaster management; bureaucratic inertia and slow decision-making within public institutions; and persistent mutual distrust between public officials and private sector actors. These challenges are compounded by inadequate financial incentives for private engagement and the absence of robust monitoring and evaluation



mechanisms. Unless these structural and relational barriers are systematically addressed, PPPs in Nairobi County will remain underperforming mechanisms that fall well short of their potential to build urban disaster resilience.

5.2 Recommendations

Based on the findings, this study proposes the following recommendations for policymakers, disaster management practitioners, and private sector actors. First, the Nairobi County Government and national disaster management authorities should develop and adopt a comprehensive county-level PPP policy framework for disaster preparedness. This framework should establish legally binding memoranda of understanding that clearly define the roles, responsibilities, and resource commitments of all partner organisations across the full disaster management cycle prevention, preparedness, response, and recovery. The framework should also identify critical private sector sectors for prioritised engagement and establish sectoral engagement strategies.

Second, a permanent inter-sectoral disaster preparedness coordination unit should be established within the Nairobi County Government. This unit should facilitate regular communication, joint planning, and quarterly disaster simulation exercises between public agencies and private partners. It should also maintain a shared digital platform for real-time information exchange and coordinated decision-making during emergencies. Such a unit would institutionalise PPP collaboration, reducing reliance on informal personal relationships and ad hoc arrangements.

Third, financial and non-financial incentive packages should be developed to encourage sustained private sector engagement. These could include tax relief for investments in disaster-resilient infrastructure, public recognition schemes for exemplary PPP contributions, and fast-tracked procurement approvals for firms with formal partnership agreements. Alongside incentives, transparent and participatory monitoring and evaluation frameworks should be established to track PPP performance, ensure accountability, and generate evidence for continuous improvement. Fourth, trust-building measures should be systematically incorporated into PPP governance. Regular joint forums, public–private roundtables, and collaborative performance review processes can help reduce the mutual scepticism that currently inhibits information-sharing and commitment. Inclusive engagement of community members, particularly in informal settlements most vulnerable to disaster impacts, is also essential to ensure that preparedness strategies reflect actual community needs and capabilities.

5.3 Directions for Future Research

Future research should examine the long-term sustainability and recovery impact of PPP investments in disaster preparedness through longitudinal study designs. Comparative studies across Kenyan counties or with other East African urban centres could identify transferable best practices and context-specific adaptation requirements. Research exploring the role of emerging technologies including artificial intelligence, geographic information systems, and



blockchain-based coordination tools in enhancing PPP effectiveness would also contribute to the modernisation of urban disaster management frameworks.

6. REFERENCES

- Adelekan, I. O., & Adebayo, M. (2022). Urban flood risk management and public–private engagement in Nigeria. *International Journal of Disaster Risk Reduction*, 73, 102877. <https://doi.org/10.1016/j.ijdr.2022.102877>
- Akintoye, A., Beck, M., & Hardcastle, C. (2015). *Public–private partnerships: Managing risks and opportunities*. Blackwell Science. <https://doi.org/10.1002/9780470690703>
- Alam, M., & Rahman, M. (2023). Public–private partnerships in flood disaster response capacity in Bangladesh. *International Journal of Disaster Risk Reduction*, 87, 103592. <https://doi.org/10.1016/j.ijdr.2023.103592>
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139–1160. <https://doi.org/10.1177/0018726708094863>
- Bovaird, T. (2004). Public–private partnerships: From contested concepts to prevalent practice. *International Review of Administrative Sciences*, 70(2), 199–215. <https://doi.org/10.1177/0020852304044250>
- Chisika, S. N., & Yeom, C. (2021). Enhancing sustainable management of public natural forests through public private partnerships in Kenya. *SAGE Open*, 11(4). <https://doi.org/10.1177/21582440211054490>
- Government of Kenya. (2023). *National disaster risk management policy*. <https://www.preventionweb.net/publication/kenya-national-disaster-risk-management-policy>
- Hodge, G. A., & Greve, C. (2007). Public–private partnerships: An international performance review. *Public Administration Review*, 67(3), 545–558. <https://doi.org/10.1111/j.1540-6210.2007.00736.x>
- Ishiwatari, M., Kawakami, H., Sasaki, D., Sakamoto, A., & Nakayama, M. (2024). Enhancing Disaster Resilience for Sustainable Urban Development: Public–Private Partnerships in Japan. *Sustainability*, 16(9), 3586. <https://doi.org/10.3390/su16093586>
- Kapucu, N., & Garayev, V. (2011). Collaborative decision-making in emergency and disaster management. *International Journal of Public Administration*, 34(6), 366–375. <https://doi.org/10.1080/01900692.2011.561477>
- Kapucu, N., Hu, Q., & Khosa, S. (2023). Network governance in emergency management: Collaboration challenges. *Public Administration Review*, 83(2), 312–326. <https://doi.org/10.1111/puar.13567>



- Kapucu, N., Hu, Q., & Khosa, S. (2023). Network governance in emergency management: Collaboration challenges. *Public Administration Review*, 83(2), 312–326.
<https://doi.org/10.1111/puar.13567>
- Nairobi City County Government. (2023). *Nairobi City County disaster risk management strategy*. <https://nairobi.go.ke/>
- Ngechu, D., & Mutua, F. (2022). Institutional capacity building through public–private partnerships in Kenya's disaster management sector. *African Development Review*, 34(3), 290–305. <https://doi.org/10.1111/1467-8268.12671>
- Nohrstedt, D., Parker, C. F., & Baird, J. (2022). Collaborative governance in crisis management. *Policy Studies Journal*, 50(3), 612–634.
<https://doi.org/10.1111/psj.12440>
- Springer, S. (2021). Governance and Public Administration During the COVID-19 Pandemic: Issues and Experiences in Kenya's Health System. *Politikon*, 1–20.
<https://doi.org/10.1080/02589346.2021.2008091>
- Osei-Kyei, R., Ameyaw, E. E., & Edwards, D. J. (2024). A global perspective on public–private partnership strategies for urban resilience improvement. *Cities*, 144, 104669.
<https://doi.org/10.1016/j.cities.2023.104669>
- Ouma, S., Mwangi, P., & Njoroge, C. (2024). Urban disaster governance and resilience challenges in Kenya. *Natural Hazards Research*, 4(1), 55–70.
<https://doi.org/10.1016/j.nhres.2024.01.003>
- United Nations Office for Disaster Risk Reduction. (2015). *Sendai framework for disaster risk reduction 2015–2030*. <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>
- United Nations Office for Disaster Risk Reduction. (2020). *Words into action: Engaging the private sector in disaster risk reduction*. UNDRR.
<https://www.undrr.org/publication/words-action-engaging-private-sector-disaster-risk-reduction>
- United Nations Office for Disaster Risk Reduction. (2022). *Global assessment report on disaster risk reduction*. <https://www.undrr.org/gar2022>
- Waugh, W. L., & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review*, 66(Suppl. 1), 131–140.
<https://doi.org/10.1111/j.1540-6210.2006.00673.x>
- World Bank. (2023). *Disaster risk management and resilience: Private sector engagement*. <https://www.worldbank.org/en/topic/disasterriskmanagem>
- World Bank. (2023). *Disaster risk management and resilience: Private sector engagement*. <https://www.worldbank.org/en/topic/disasterriskmanagement>



World Bank. (2023). *Disaster risk management and resilience: Private sector engagement*.
World Bank Group. <https://www.worldbank.org/en/topic/disasterriskmanagement>