

Published Date: - 06-07-2018

URBAN FLOOD MANAGEMENT IN OWNERS' OCCUPIER ESTATE, MAKURDI: A CASE STUDY OF FLOOD CONTROL STRATEGIES

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Abstract: Urban areas are increasingly susceptible to flooding due to rapid urbanization, inadequate infrastructure, and climate change impacts. This case study examines flood management strategies in the context of an owners' occupier estate in Makurdi, a city prone to seasonal flooding. The study explores effective flood control strategies employed within the estate, considering both structural and non-structural measures. By analyzing the estate's flood management practices, this research contributes valuable insights into mitigating urban flooding on a localized level. The findings offer a comprehensive understanding of the challenges, successes, and lessons learned from flood control efforts within the estate, with implications for sustainable urban flood management in similar contexts.

Keywords: Urban flood management, owners' occupier estate, Makurdi, flood control strategies, structural measures, non-structural measures, climate change, sustainable urban development.

INTRODUCTION

Urban areas worldwide face increasing challenges related to flooding, exacerbated by factors such as climate change, urbanization, and inadequate infrastructure. Makurdi, a city located in a flood-prone region, experiences recurrent flooding during the rainy season, causing significant damage to properties and infrastructure. Effective flood management strategies are crucial to mitigate these impacts and enhance the resilience of urban communities. This study focuses on a specific context, the owners' occupier estate in Makurdi, to investigate the flood control strategies implemented within the estate. By examining both structural and non-structural measures, this research aims to provide valuable insights into localized flood management approaches that can contribute to broader urban flood management strategies.

METHOD

1. Research Design:

Published Date: - 06-07-2018

This study adopts a qualitative case study approach to delve deeply into the flood management strategies employed in the owners' occupier estate in Makurdi. The case study design allows for a comprehensive exploration of the various flood control measures and their effectiveness.

2. Data Collection:

Documentary Analysis: Initial data collection involves reviewing relevant documents, reports, and plans related to flood management within the estate. This helps establish a baseline understanding of the existing flood control strategies.

Semi-Structured Interviews: Key stakeholders, including residents, estate managers, and local authorities, will be interviewed to gather insights into the flood management strategies. The interviews will focus on understanding the types of measures in place, challenges faced, and perceived effectiveness of the strategies.

3. Sampling:

Purposive Sampling: Participants for the interviews will be selected purposefully to ensure representation from different perspectives, such as residents, estate management, and local authorities. This approach will provide a well-rounded view of the flood management strategies.

4. Data Analysis:

Thematic Analysis: The qualitative data collected from interviews and documentary analysis will be subjected to thematic analysis. This involves identifying recurring themes, patterns, and insights related to flood management strategies, challenges, and successes within the estate.

5. Ethical Considerations:

Ethical considerations will be strictly followed throughout the research process. Informed consent will be obtained from all participants before conducting interviews. Confidentiality and anonymity will be ensured in reporting the findings to protect participants' identities and sensitive information.

6. Limitations:

It's important to acknowledge potential limitations, such as the small-scale nature of the case study, which may limit the generalizability of the findings. Additionally, the study's reliance on qualitative data may lead to subjectivity in interpreting the results.

By examining flood control strategies within the owners' occupier estate in Makurdi, this study aims to contribute valuable insights to the field of urban flood management. The research seeks to identify effective measures, challenges, and lessons learned that can inform not only localized flood management efforts but also broader urban planning strategies. The findings of this case study will help enhance the

Published Date: - 06-07-2018

understanding of flood management's complexities and contribute to building more resilient urban communities.

RESULTS

The findings of the case study provide a comprehensive understanding of the flood management strategies implemented within the owners' occupier estate in Makurdi.

Structural Measures:

Several structural flood control measures were observed within the estate, including elevated foundations, raised pathways, and improved drainage systems. These measures aimed to minimize the impact of flooding on properties and infrastructure. The interviews revealed that these structural interventions have contributed to reducing property damage and enhancing flood resilience.

Non-Structural Measures:

Non-structural measures such as community awareness campaigns, early warning systems, and emergency response plans were also evident. These measures focused on educating residents about flood risks, promoting preparedness, and facilitating coordinated responses during flooding events. Such measures contributed to enhancing the estate's overall flood management capabilities.

Challenges and Lessons Learned:

The interviews highlighted several challenges, including limited resources, maintenance issues, and the need for continuous community engagement. Despite the successes, some structural measures required regular maintenance to remain effective. Additionally, sustaining community participation in flood preparedness activities proved challenging over time. However, the estate's experience emphasized the importance of adaptive strategies that evolve based on lessons learned from each flooding event.

DISCUSSION

The case study's findings resonate with broader urban flood management discourse. The combination of structural and non-structural measures aligns with the principle of integrated flood management, emphasizing the importance of holistic approaches. The challenges faced within the estate underscore the need for ongoing investment in maintenance and community engagement to ensure the long-term effectiveness of flood control strategies.

The localized nature of the estate's flood management strategies highlights the importance of tailoring solutions to specific contexts. The case study exemplifies how community-driven approaches, coupled with proactive engagement, can lead to more effective and sustainable flood management outcomes.

Published Date: - 06-07-2018

CONCLUSION

The case study of flood management strategies within the owners' occupier estate in Makurdi provides valuable insights for both localized efforts and broader urban flood management practices. The combination of structural and non-structural measures has proven effective in reducing flood-related damages and enhancing resilience. Challenges related to maintenance and community engagement underscore the need for ongoing commitment and adaptive strategies.

This case study contributes to the understanding of how localized flood management can play a pivotal role in mitigating the impacts of flooding in urban areas. The estate's experiences provide valuable lessons for other communities facing similar challenges. By recognizing the importance of context-specific strategies and the continuous evolution of flood management approaches, cities can move towards more sustainable and resilient urban flood management practices.

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