



## NELGA GOOD PRACTICES:

Flood lands development in Kumasi and its implication for sustainable development

The Network of Excellence on Land Governance in Africa (NELGA) is a partnership of leading African universities and research institutions with proven leadership in education, training and research on land governance. Currently NELGA has more than **70 partner institutions** in over 40 countries and is organized in 6 regional and 1 technical nodes supported by a Secretariat.



## Introduction and background

**Flooding is indeed a growing phenomenon** in most cities in developing countries in Africa. The West African coastline, which is low-lying, is no exception. Notably in urban areas of **Ghana, Nigeria, The Gambia, Liberia and Sierra Leone**, flooding is a life-threatening problem. The increasing frequency and severity of floods in West Africa pose significant challenges to communities, infrastructure, and the environment.

During the rainy season in **The Gambia in 2010**, floods affected **35 000 people** and in **Liberia in 2017**, floods left part of Monrovia, the capital city, under water.

In **Sierra Leone**, also in **2017**, floods killed hundreds as mudslides buried houses.

In **Ghana**, rapid urbanisation, inadequate drainage systems, and climate change impacts exacerbate flood risks.

Furthermore, **vulnerable populations face heightened exposure to flood-related hazards**, calling for comprehensive research to develop effective mitigation and adaptation strategies tailored to the Ghanaian context.

The research focused on urban areas that are prone to flooding.

The target groups for the research encompass local **people affected by floods; professionals involved in designing and implementing drainage systems** and other infrastructure to mitigate flood risks; and **individuals and institutions involved in flood-related adaptation and mitigation activities** and those responsible for **formulating and implementing policies** related to flood management and urban planning.

The objectives of the research were (i) to determine the **category of people** who acquire land in flood-prone areas in urban areas, (ii) to establish the **reasons** for people acquiring and living on flood-risk lands, (iii) to ascertain the **awareness** of people of the risk associated with living on flood-risk lands and (iii) to know the **preparedness** of people to combat the risks associated with flood-risk lands.



Fig 1. Level of flood water marked on the walls of houses

## Implementation

The project in Ghana was implemented by a team of researchers from the **NELGA office and the Centre for Settlement Studies (CSS)** at the **Kwame Nkrumah University of Science and Technology (KNUST)**.

Leading this effort was **Professor Rudith King**, a distinguished professor renowned for her expertise in gender, flooding, and land studies.

Gratitude is extended to **Prof John Tiah Bugri**, the NELGA coordinator for the Anglophone West African countries, along with **Dr Patrick Opoku**, the NELGA adviser at KNUST. Their unwavering support for the research was invaluable.

The project team also acknowledges the head for CSS, **Prof Divine Ahadzie**, for his comments and suggestions on the project. Additionally, special recognition goes **Dr Eric Simeh, Dr Henry Mensah**, and the enumerators of the study. Their multifaceted contributions were instrumental in bringing this project to fruition.

A particular mention is extended to **Mrs Sarah Boateng, Mr John Abu, Ms Iman Abubakar, and Ms Sandra Boateng** for their exceptional commitment to the research project. Their willingness to go above and beyond their duties whenever called upon is greatly appreciated.



Fig 2. Prof Rudith King sharing findings of the research at the Climate Change conference in Nairobi

## Activities

**A survey of households was conducted in seven flood-prone communities** across seven district assemblies in **Kumasi, Southern Ghana**.

The survey encompassed **513 households**, consisting of both **landlords (35%)** and **tenants (65%)**. Data from management of land sector agencies and district assemblies was collected through key informant interviews.

**The key stakeholders and state actors** who were interviewed include the following: the municipal coordinating directors, development and physical planning officers, staff of the environment and health unit of metropolitan, municipal and district assemblies (MMDAs), MMDA engineers, private estate developers, staff of the Land Registry Division, staff of the Lands Commission in Kumasi (i.e., the staff of the survey and mapping division, staff of the legal division, etc).





Fig 3. District workshop to validate the study findings

On completion of the data collection and the initial data analysis, there was a **validation workshop on 28 June 2022** that brought together a section of stakeholders that provided data for the study. This included also community members from the seven selected communities, their assembly members and unit committee members, municipal and district chief executives, local government engineers, planning officers and representatives from the land sector agencies, as well as other the key stakeholders mentioned above.

The findings were shared with the stakeholders for their inputs and to allow them to provide further explanation for areas that were not clear. This went well and the outcome provided additional input for the study.

## Obstacles and limitations of the study

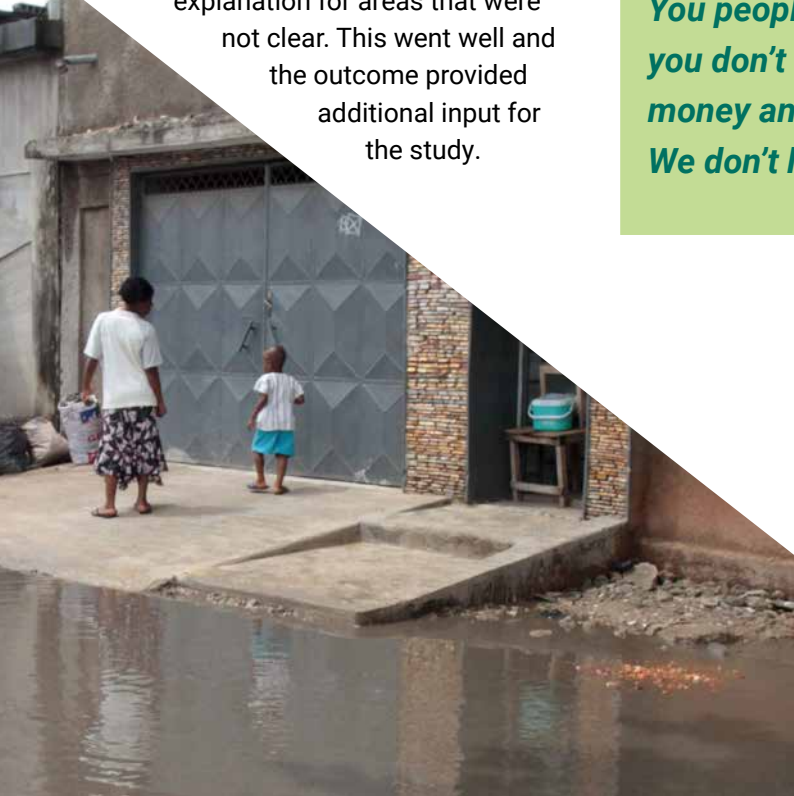
In certain flood-prone areas, residents experienced **research fatigue** due to frequent visits by data collectors. This resulted in some respondents being uncooperative during interviews. A resident in Kwadaso, Kumasi expressed frustration, stating,



*You people are always asking these questions, but you don't do anything about it, you just take the money and chop but don't do anything for us. We don't have any time to answer you guys.*



Furthermore, in some communities, **the condition of roads and bridges posed challenges** for enumerators. Areas with steep and uneven terrain were particularly difficult to reach, causing delays in the data collection process.



## Results and lessons learnt

The flood research conducted in Ghana yielded valuable results and important lessons.

The findings indicate that the category of people who move to flood-prone areas are **mainly youth (72.1%)** between the ages of 18 and 45 as compared to those in the age bracket of **46 to 60 years (19.3%)** and those **above 60 years (7.9%)**.

This finding is consistent with the **Ghana Living Standards Survey of 2017**, which underscores the movement of young people to urban areas in search of job opportunities, better educational and health services, marriage, as well as good social amenities.

In addition, **drainage systems** in the study area that were developed over a decade ago have outlived their usefulness and **can no longer carry the volume of water runoff that passes through them**. The result is the overflowing of drains during the rainy season, which has also affected many communities, particularly those that have rivers and streams passing through them, and wetlands.



## Property on flood-prone land labelled for sale

**Actions taking by flood victims to cope with floods vary among affected people.** While some move out from their accommodation during raining seasons, others endure the floods and repair damaged structures after the floods.

Although both landlords and tenants suffer from the effects of flooding in Ghana, the **tenants have less responsibility** for ensuring that flood management is sustained to protect their rented houses or accommodation.



Fig 4. House for sale due to flood-related problems

Some of the tenants shared the following comments:

“

*At first, a lot of people used to stay in this house as tenants. However, the frequent occurrence of flood has driving them away. Now, we are not even asked to pay rent again and hardly do we see our landlord here.*  
(An interviewee, 2022)

”



“

*Even our landlord has left to rent a place elsewhere. We live here alone and take all major and minor decisions concerning the house ourselves. I can now say with confidence that we are responsible for the house.*

*(An interviewee, 2022)*

”

One of the landlords in the flood-prone communities also said:

“

*I now live with tenants as family members. I do not charge any rent. It is very difficult charging rents from people you share the same pains with.*

*(An interviewee, 2022)*

”

The study noted that many **low-income earners prefer to acquire land in such places** because it is less expensive.

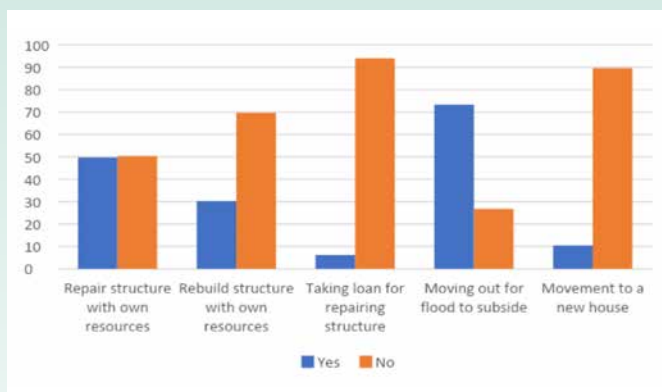


Fig 5. Actions taken by flood victims immediately after a flood

Source: Field survey, 2022

Other factors mentioned include **proximity to the central business district and services, security, and social factors** such as social networks. Some landlords deliberately choose to acquire flood-prone lands because they are of the conviction that apart from the land being less expensive, they could manage with the flood situation. Others also have access to flood lands as a **compensation from chiefs and traditional authorities**.

One of the victims in the flood-prone communities said:

“

*It is not that I deliberately chose to live at this place, I was denied of the land I purchased from the traditional authorities and this land is what they gave me in compensation. (An interviewee, 2022)*

”

This problem has led to many **uncompleted and abandoned houses** creating nuisance in the city.



Fig 6. Uncompleted abandoned house at Deduako in stagnant flood water, near KNUST

## Outputs and key policy message

The findings of the research have been shared widely among stakeholders. This has resulted in the **improvement of planning and decision-making**.

The research has revealed **specific geographic locations or communities that are particularly vulnerable to flooding** based on topography, land use, and hydrological conditions.

The study findings have highlighted the **root causes of flooding**, such as easy access to flood-prone lands, heavy rainfall, river overflow, storm surges, or urbanisation, providing a better understanding of the factors contributing to flood events.

The key policy message emanating from this research is the **urgent need**

**for an integrated and proactive approach to flood management.**

Improvement of **early warning systems**, enhancing the **timely dissemination of information to at-risk populations**, and **controlling access** to flood-prone lands is crucial.

Policymakers are urged to **prioritise investments in resilient infrastructure, sustainable land-use planning, and community capacity-building.**

Embracing **adaptive strategies and leveraging technological advancements**, such as data-driven decision-making tools, will be pivotal in effectively addressing current and future flood challenges.

Moreover, a strong emphasis is placed on the **role of community engagement** in fostering a collective response to mitigate the impacts of flooding, ultimately contributing to the **overall resilience and sustainable development** of the region.





## Conclusion

In conclusion, the research on flooding in Ghana has provided **valuable insights into the multifaceted challenges and impacts** associated with this natural phenomenon.

The study has illuminated the **complex interaction of various factors, including climatic conditions, land use access, and urbanisation**, contributing to increased flood risks in different parts of Ghana. Moreover, the research has highlighted the **vulnerabilities faced by communities**, particularly those in low-lying areas and informal settlements, emphasising the need for **targeted interventions and resilient infrastructure development**.

Additionally, the findings underscore the importance of implementing **effective flood management strategies** that encompass early warning systems, sustainable land-use planning, and community engagement. **Collaborative efforts** between government agencies, local communities, and international organisations are essential to address the root causes of flooding and build adaptive capacities at both the community and national levels.

As the research suggests, a **holistic approach to flood management** should incorporate not only short-term response measures but also long-term strategies aimed at mitigating the impact of climate change and fostering sustainable development. By integrating these insights into **policy formulation and urban planning**, Ghana can enhance its resilience to floods and create a safer and more sustainable future for its citizens.

**Further research and ongoing monitoring** will be crucial to refining strategies, adapting to changing conditions, and ensuring the effective implementation of flood management initiatives in Ghana.







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