



**NIGERIA HYDROLOGICAL  
SERVICES AGENCY (NIHSA)**



# 2025 ANNUAL FLOOD OUTLOOK (AFO)

## FLOOD RISK COMMUNICATION





# FLOOD RISK COMMUNICATION

# TABLE OF CONTENT

FOREWORD .....	2
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ACKNOWLEDGEMENT.....	3
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## **Chapter 1: Introduction to Flood Risk Communication.....5**

- Overview of Nigeria's flood risk and challenges.....7
- Role of NIHSA in flood risk communication.....8
- Link between flood risk communication, forecasting and mitigation.....9
- Flood Risk Communication: Minimizing impact on lives, infrastructure, agriculture and health.....10

## **Chapter 2: Community Engagement and Awareness .....12**

- Role of community and stakeholders in flood risk communication.....13
- Engaging local governments, traditional leaders and community-based organization in flood risk communication.....14

## **Chapter 3: Risk Emergency Planning .....16**

- Risk Identification and Mapping.....19
- Establishment of safe corridors.....20
- Pre-positioning emergency resources: medical kits, food, sandbags and clean water.....20

## **Chapter 4: Role and responsibilities of stakeholders.....22**

- Federal Government: Funding, policy formulation and coordination.....23
- State Government: Localized implementation of emergency plans.....25
- NGOs: Training programs and resource mobilization.....26
- Private sector: sponsorship of preparedness initiative and logistics support.....28
- Community: First responder and data contributors.....28
- Strengthening preparedness through collaborations.....30



# FOREWORD



**T**he threat of seasonal floods continues to loom large across the globe. Countries all over the world are grappling with coping with flood disasters. Riverine communities and low-lying areas are increasingly frustrated at recurrent incidences of flood that have dislocated them from their homes and livelihoods, with many unable to recover from flood shocks.

The unpredictability of climate patterns, combined with rapid urbanization and alteration of natural ecosystems has heightened the urgency for robust flood resilience strategies.

The 2025 Annual Flood Outlook (AFO) by the Nigeria Hydrological Services Agency (NIHSA) is more than just a projection of potential flood forecasts but a call to action for individuals, communities, stakeholders and governments alike to strengthen preparedness and build adaptive strategies that not only respond to floods but mitigate their impacts. This AFO which enumerated on Flood Resilience: Focusing on Communities Preparedness and Adaptive Strategies underscores the importance of empowering communities to become proactive in the face of flood risks through effective flood risk communication, mitigation and adaptation strategies.


This publication provides a comprehensive overview of the flood risks beyond the Local Government Areas (LGAs) to actual communities, the potential flood-prone areas, expected flood levels, and recommended

mitigation measures to minimize flood impact. It highlights how communities can adopt innovative approach to reduce vulnerability to flood disasters. From the development of sustainable flood management systems to community led preparedness initiatives focusing on local solutions and collaboration, we can ensure that even in the most flood-prone areas, resilience is not just a possibility but a reality.

Flood preparedness goes beyond having an emergency response plan to fostering a culture of resilience where local knowledge, early information and early warning, mitigation and adaption infrastructure, and a collective sense of responsibility are combined to reduce effects of flood.

The path to flood resilience remains challenging. This could, however, be lessened through proper awareness, collaboration, partnership, and continuing commitment to proven mitigation and adaptation approaches.

I therefore enjoin appropriate authorities and stakeholders to work closely with the Agency to implement sustainable mitigation and adaptation measures that will ensure that our communities are better prepared to respond to flooding.

  
**Engr. Prof. Joseph Terlumun Utsev**, FNSE, FNICE, FNIWE  
Honourable Minister of Water Resources and Sanitation  
April, 2025.



# ACKNOWLEDGMENT



I appreciate the Honourable Minister of Water Resources and Sanitation, Engr. Prof. Joseph Terlumun Utsey, FNSE, FNICE, FNIWE, FICEN, FIA, the Permanent Secretary, Mr. Richard Pheelangwah, FCNA, for their support to the activities of Nigeria Hydrological Services Agency (NIHSA) and more importantly for the production of this Annual Flood Outlook (AFO).

Special acknowledgement to the contributions of our team of consultants, technical experts, stakeholders and staff of NIHSA who worked tirelessly towards the production of this booklet.

I would like to extend my gratitude to sister Agencies who have continually been part of this work by providing data and valuable insights in the preparation of this Outlook. Notable among these are the Nigeria Meteorological Agency (NiMet), National Emergency Management Agency (NEMA), Office of the Surveyor General of the Federation (OSGOF), National Space Research and Development Agency (NASRDA), and River Basins Development Authorities (RBDA), among others.

I am most grateful for the enormous support received from stakeholders and partners, namely: Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL) Project, Remote Sensing and Land Resources Consultancy (RESLARC), GRID<sup>3</sup> and Action Against Hunger (AAH) which has aided flood forecasting capabilities of the Agency and improved the capacity of staff.

I would like to extend my gratitude to all the dedicated professionals, government agencies, and partners who contribute tirelessly to flood monitoring and management efforts. Their commitment to safeguarding the public is a testament to the power of collaboration and shared responsibility

The Agency's flood forecasts continue to focus on providing reliable hydrological data and flood early warning information to all actors and stakeholders in the disaster risk reduction sector for actionable and response measures to protect lives and livelihoods at the most vulnerable parts of the country.

This year's forecasts reflect our ongoing commitment to harnessing cutting-edge hydrological models, advanced technology, and inter-agency collaboration to deliver timely and reliable forecasts to guide immediate responses and shape long-term strategies for flood risk mitigation and building resilience of communities to flood shocks.

In this regard, I look forward to sustaining collaboration to making our communities resilience to climate shocks and safe from flood disasters.

**Umar Ibrahim Mohammed**  
Director General/CEO

Nigeria Hydrological Services Agency



# CHAPTER ONE

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## INTRODUCTION TO FLOOD RISK COMMUNICATION

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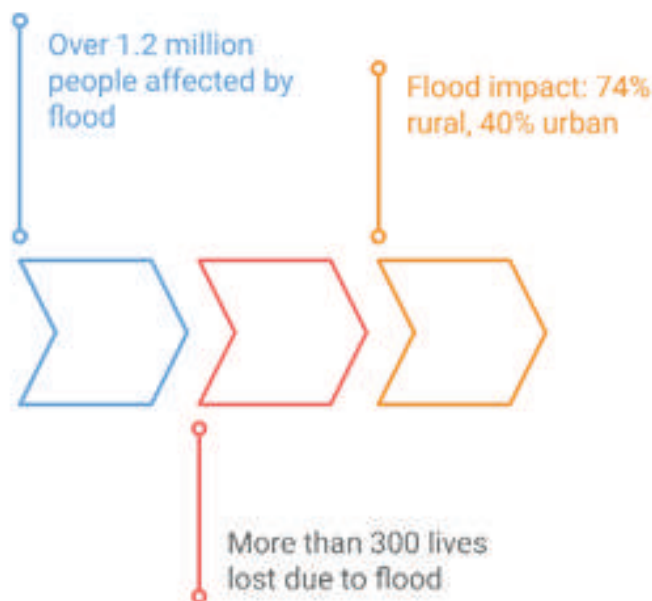


## INTRODUCTION TO FLOOD RISK COMMUNICATION

Nigeria has experienced flooding for many years, and the likelihood of such events is escalating as a result of climate change and urban development. Flooding can result in extensive destruction of residences, infrastructure, and farmland, potentially resulting in loss of lives and property, and

contributing to economic difficulties. In 2024, over 1.2 million people were affected by floods across 34 states, and more than 300 people lost their lives due to the floods, the impact was significantly higher in rural areas (74%) compared to urban areas (40%) (UNOCHA, 2024).

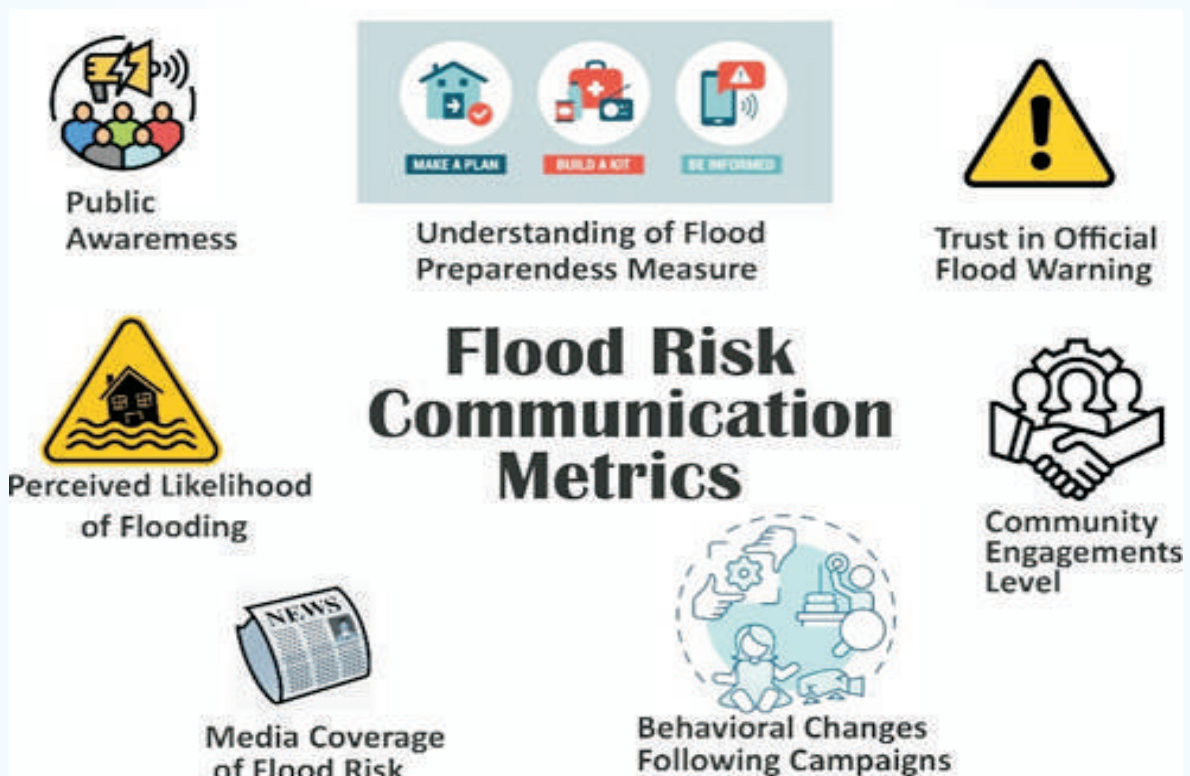
### Overview 2024 Flood Incidence in Nigeria



Source: UNOCHA, 2024

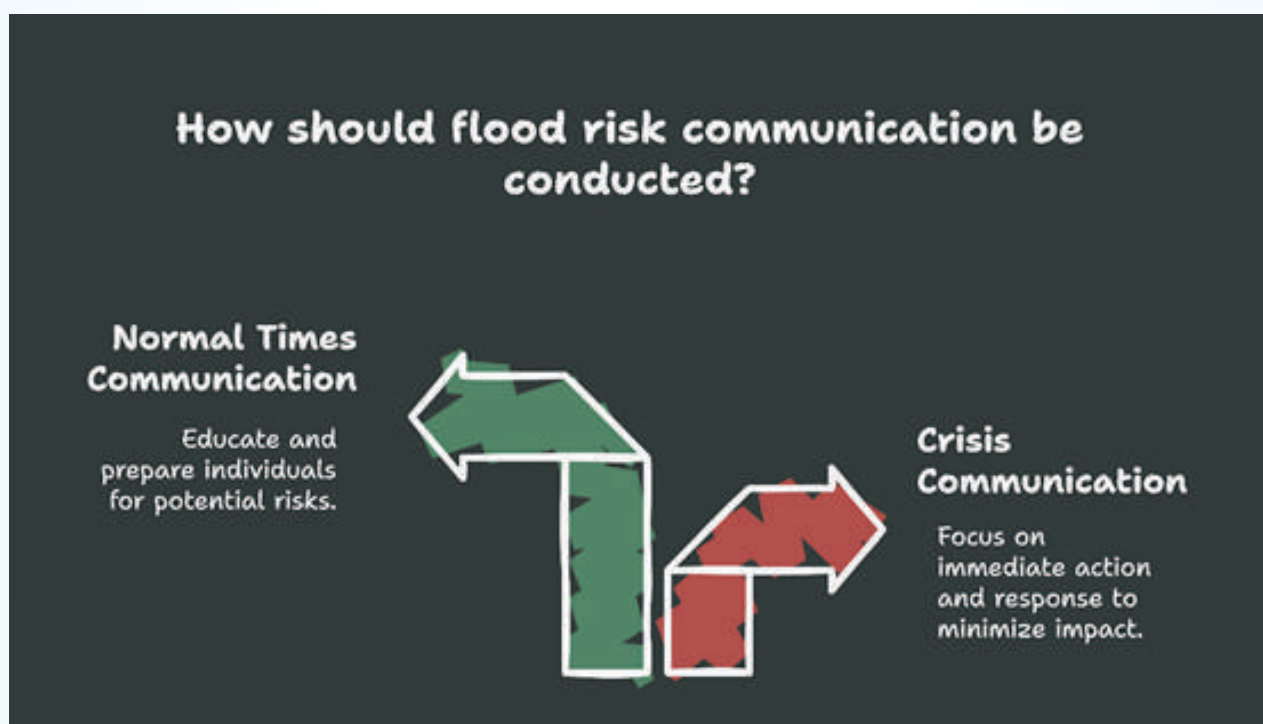
Flood risk communication thus, involves dissemination of information regarding the potential risks of flooding to the public, policymakers, and stakeholders. It aims to raise awareness, prepare communities, and

facilitate informed decision-making to reduce the impact of floods as depicted in the infographics below.



Flood risk communication, which takes place in the face of incoming danger, needs a practical and operative approach to cope with potentially destructive, large-scale

natural disasters. Since flood is one of the most predictable geo-risks, communication is an efficient means to reduce risk, especially by reducing people's exposure.

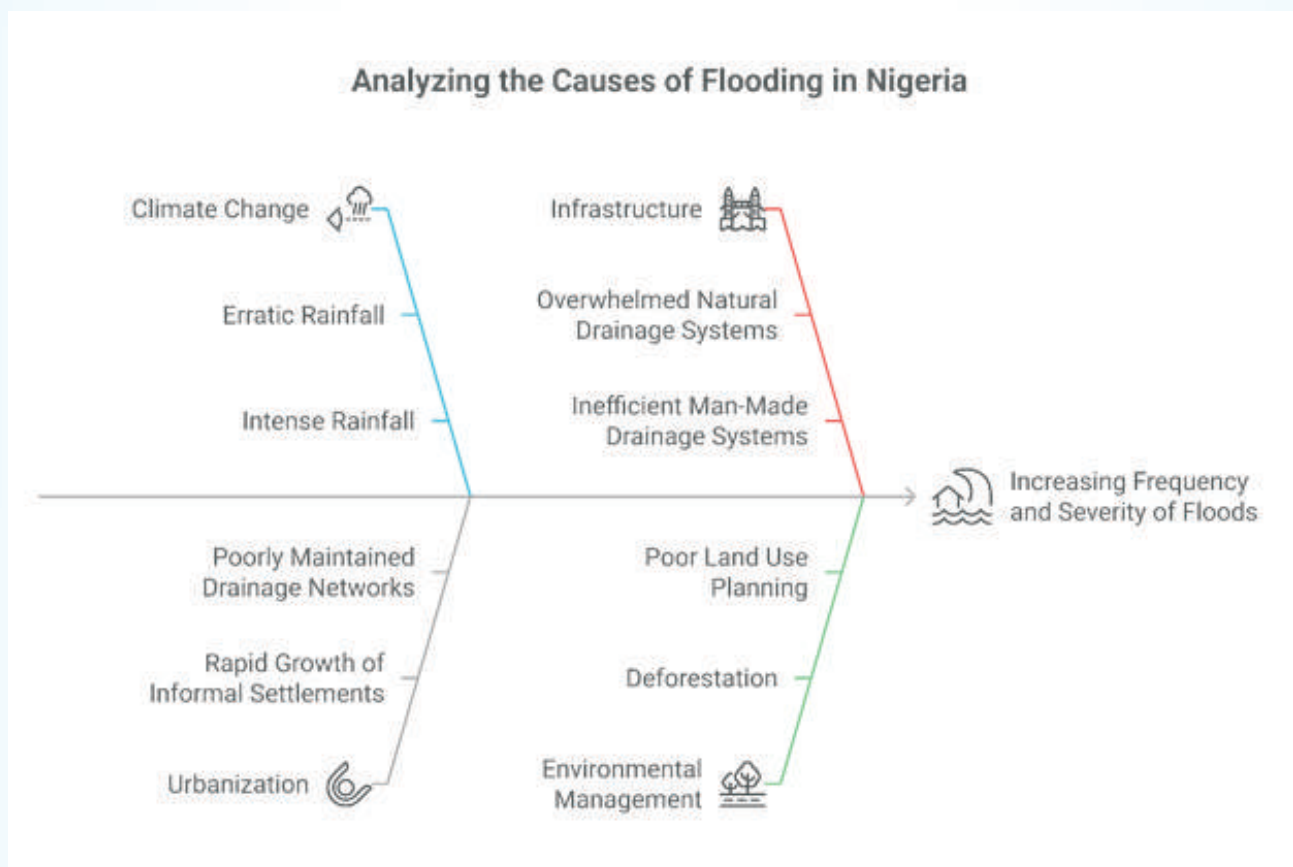




## 1.1 Overview of Nigeria's Flood Risk and Challenges

In Nigeria, the phenomenon of flooding is attributed to several factors; including climate change, high duration of rainfall, construction on waterways, blocking of

drainages, variations in soil moisture, dam failure, unregulated population growth, insufficient preparedness, and lack of political commitment.



Despite the existence of early warning systems and Annual Flood Outlooks by the Nigeria Hydrological Services Agency (NIHSA), there remains a gap between forecasting potential floods and effectively

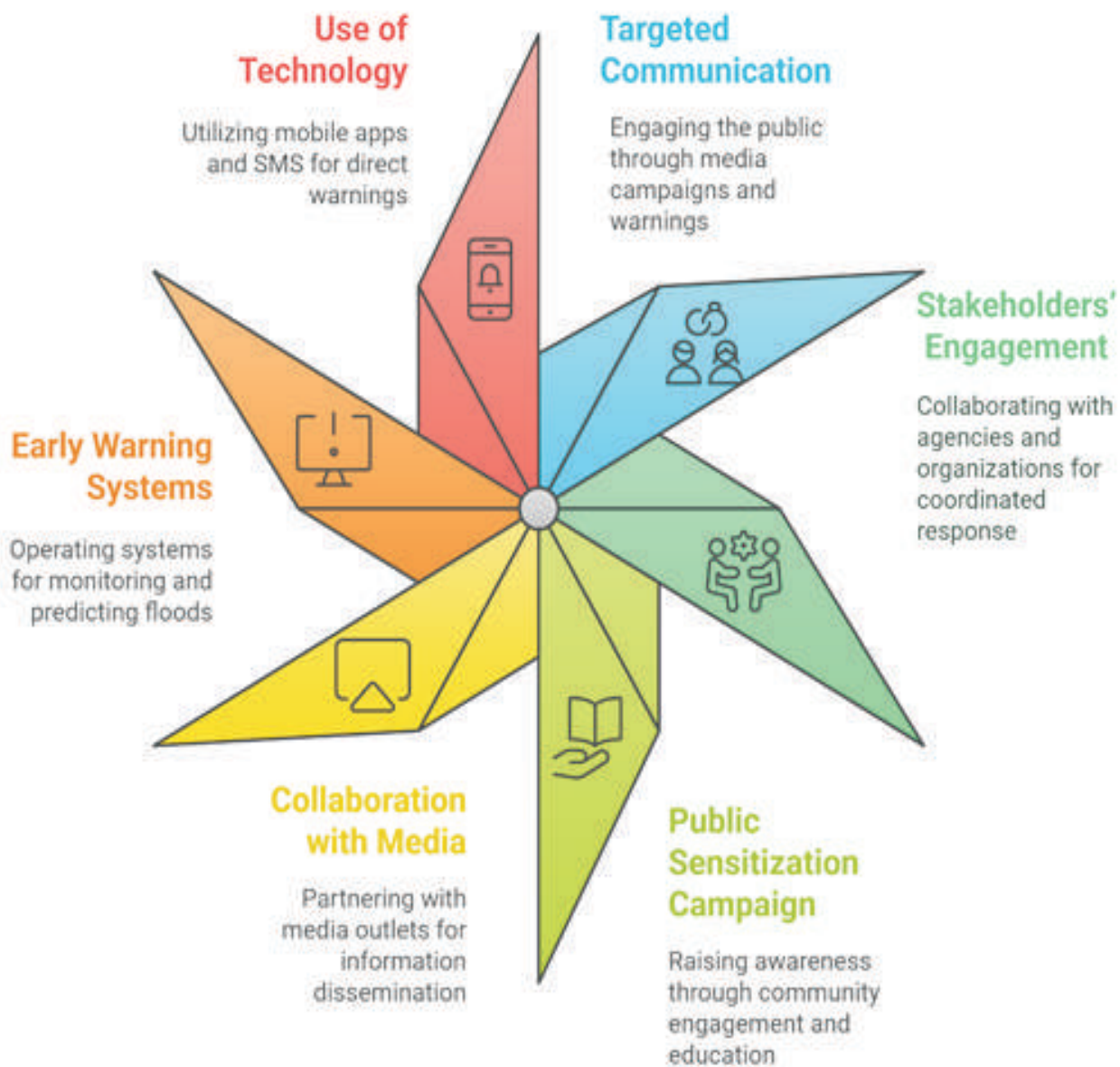
mitigating their impact. In many cases, inadequate infrastructure such as levees, flood barriers, and embankments combined with limited public awareness and slow response times, results in significant loss of life and property.

## 1.1 Role of NIHSA in Flood Risk Communication

NIHSA Flood Risk Communication aims to inform communities about potential flood threats, enabling them to take proactive

measures. NIHSA performs its flood risk communication functions through the following:

### NIHSA Flood Risk Communication Strategy





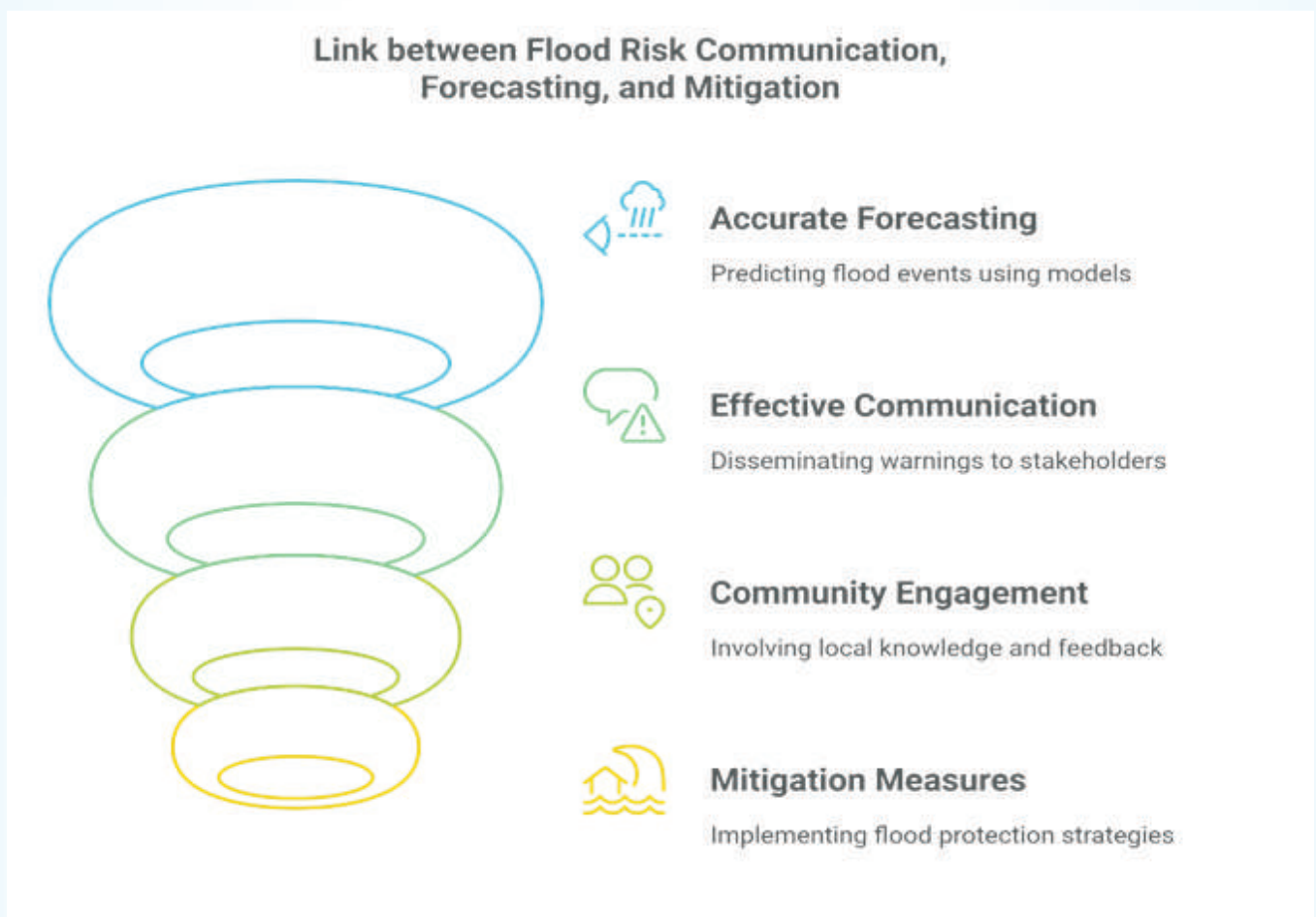
### 1.3 Link between Flood Risk Communication, Forecasting, and Mitigation

Amid reports of low levels of flood risk awareness and preparedness among Nigerians, risk communication emerges as an important tool for encouraging public participation in Flood Risk Management (FRM) and increasing collective flood resilience. In its most basic form, risk communication informs people of their risk and provides solutions to reduce it.

Disaster studies scholars, however, assert that an individual's decision to take protective action from hazards is mediated by an array of social, economic and cognitive

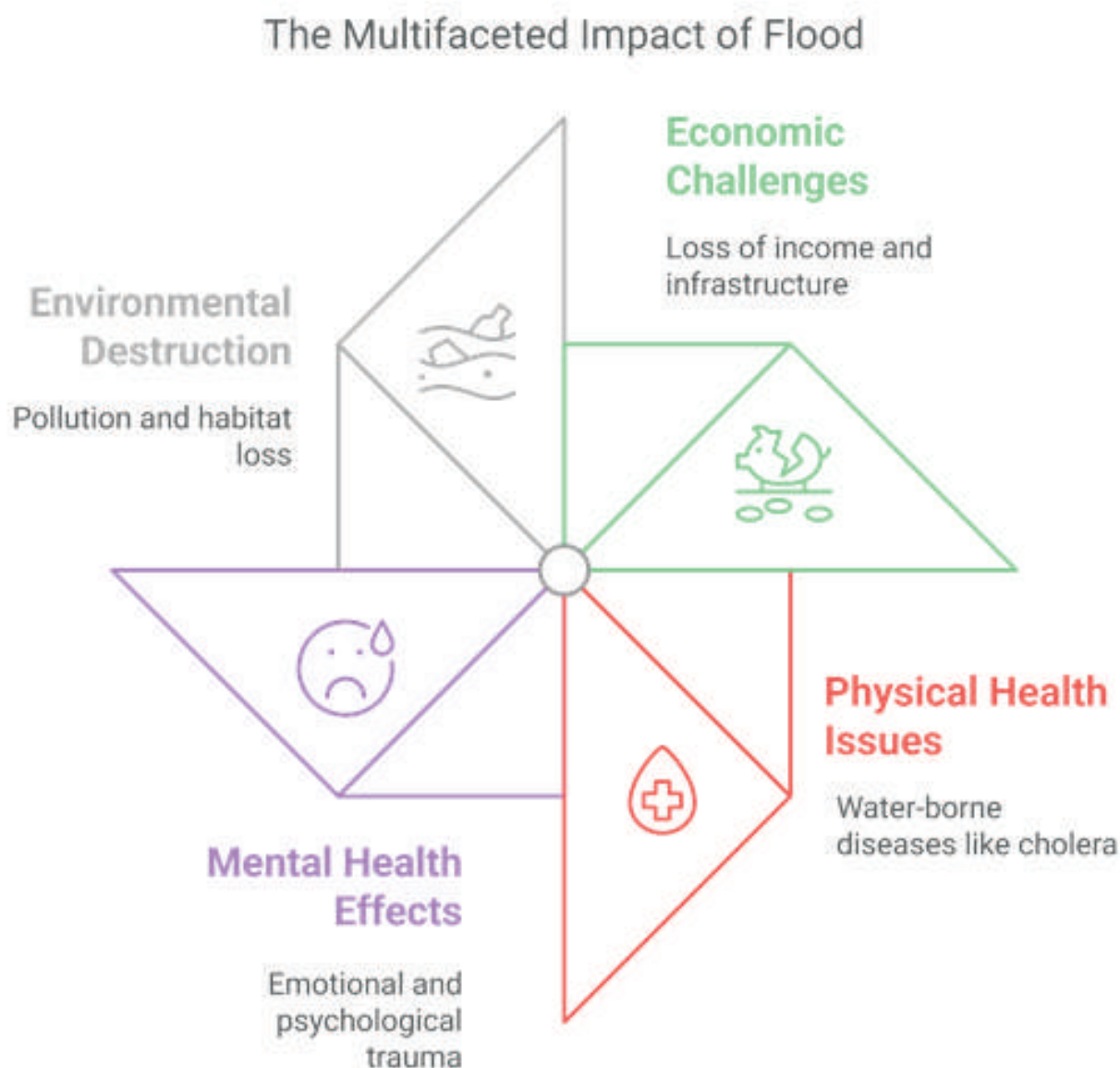
factors. To this end, there are growing calls to incorporate audiences' social and physical environment as well as insights from behavioural science into risk communication methods to increase their efficacy.

Flood risk management is a multifaceted discipline that hinges on the seamless integration of forecasting, communication, and mitigation strategies. Each of these components plays a vital role in reducing the impacts of flooding and enhancing community resilience.



## 1.4 Flood Risk Communication: Minimizing Impact on Lives, Infrastructure, Agriculture, and Health

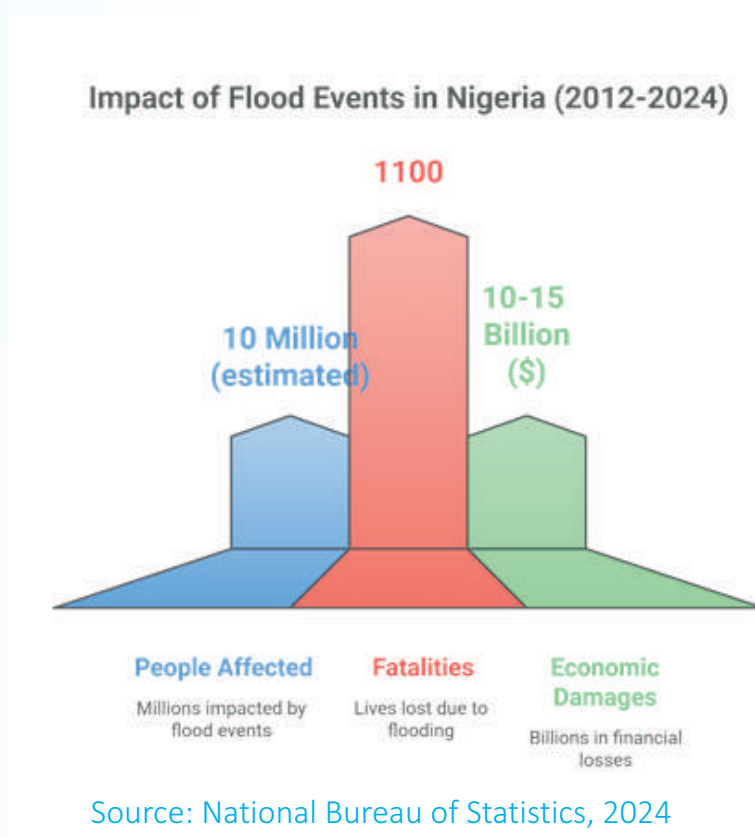
Floods induced by meteorological, hydrological and anthropogenic factors are among the worst destructive hydrological disasters suffered across the globe.





Flood result in economic, physical and mental health, as well as developmental challenges, particularly in poor and medium income nations. Water-borne diseases such as cholera, loss of productive time, emotional and psychological trauma, environmental pollution and destruction of wildlife habitat, farmlands and crops are some of the effects of floods.

Flooding and flood-related disasters have remained a perennial problem in Nigerian communities. Between 2012 and 2024, Nigeria's flood events have cumulatively affected an estimated 10 million people, resulting in roughly 1,100 fatalities, and caused economic damages estimated between US\$10 billion and US\$15 billion.



These figures underscore the critical need for enhanced flood risk management, improved early warning systems, and adaptive measures to safeguard communities and reduce future losses.

Effective communication minimizes the

impact of floods on lives, infrastructure, agriculture, and health by ensuring timely, accurate, and actionable information reaches those at risk. The information empowers individuals and communities to take proactive measures and build resilience.



## CHAPTER **TWO**

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### **COMMUNITY ENGAGEMENT AND AWARENESS**

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## 2.1 Role of Community and Stakeholders in Flood Risk Communication

**F**lood risk communication is a critical element in disaster management, designed not only to alert people about imminent threats but also to empower communities to prepare, respond, and recover effectively.

At the heart of this communication process is a dynamic relationship between the

community and a broad spectrum of stakeholders including government agencies, non-governmental organizations (NGOs), scientists, media, and local leaders. Their collaborative efforts are essential for reducing flood risks and mitigating the impacts of flood disasters.



Figure 2.1: using Sandbags as flood barriers

Communities that are on the frontline of flood disasters, are the ones directly affected by floods, and their response can determine the extent of damage and loss of life.

Effective flood risk communication starts with engaging community members in a dialogue about the hazards they face. This engagement serves several purposes:



## Enhancing Community Flood Resilience



### 2.2 Engaging Local Governments, Traditional Leaders, and Community-Based Organizations in Flood Risk Communication

Effective disaster risk communication depends on having a clear knowledge of the specific needs of different population sub-groups (age, socioeconomic status, sex and location, etc.) facing a threat. Specific framing of risk is significant for effective risk communication and perception by each category. However, limited time and resources as well as lack of training constitute the biggest obstacles to flood risk communication initiatives. These barriers reduce interventionists' capacity to handle issues arising from their flood risk communication tactics.

Furthermore, risk perception is an essential element of flood risk management. It is “the process of collecting, selecting, and interpreting signals about uncertain impacts of events, activities, or technologies”. Effective mitigation strategies begin with the recognition of how individuals perceive environmental hazards and the associated risk. Understanding flood risk communication requires the coordinated efforts of multiple stakeholders. Each group plays a distinct but interconnected role in the process:

## Flood Risk Communication Ecosystem



### Government Agencies

Monitors flood risks, forecasts events, and issues official warnings, collaborating with other government agencies.



### Local Leaders

Endorsement of flood risk messages lend which credibility and encourage collective action



### NGOs and Civil Society

Tailoring messages for communities



### Media Outlets

Disseminating information to the public



### Scientific Community

Providing technical foundation for forecasts



## CHAPTER THREE

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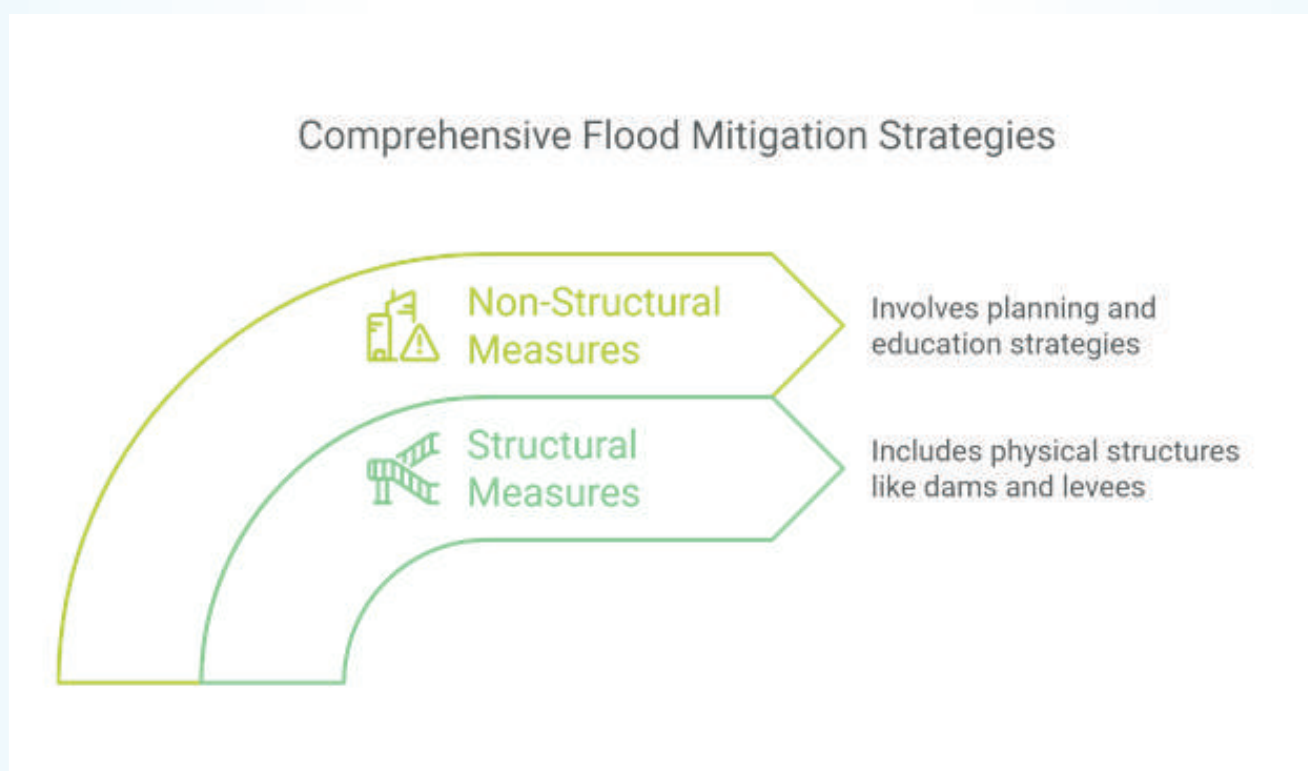
# RISK EMERGENCY PLANNING

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**R**isk reduction and adaptive behaviours are crucial to flood risk management strategies due to peoples' reluctance to move away from potential hazards into more secure locations. Short-term adaptive measures are often undertaken owing to economic restrictions,

knowledge gaps, limited government support and long-term adaptation measures which could be associated with risk perception and vulnerability of women and children. Flood risk mitigation demands commitment from both private and public actors.

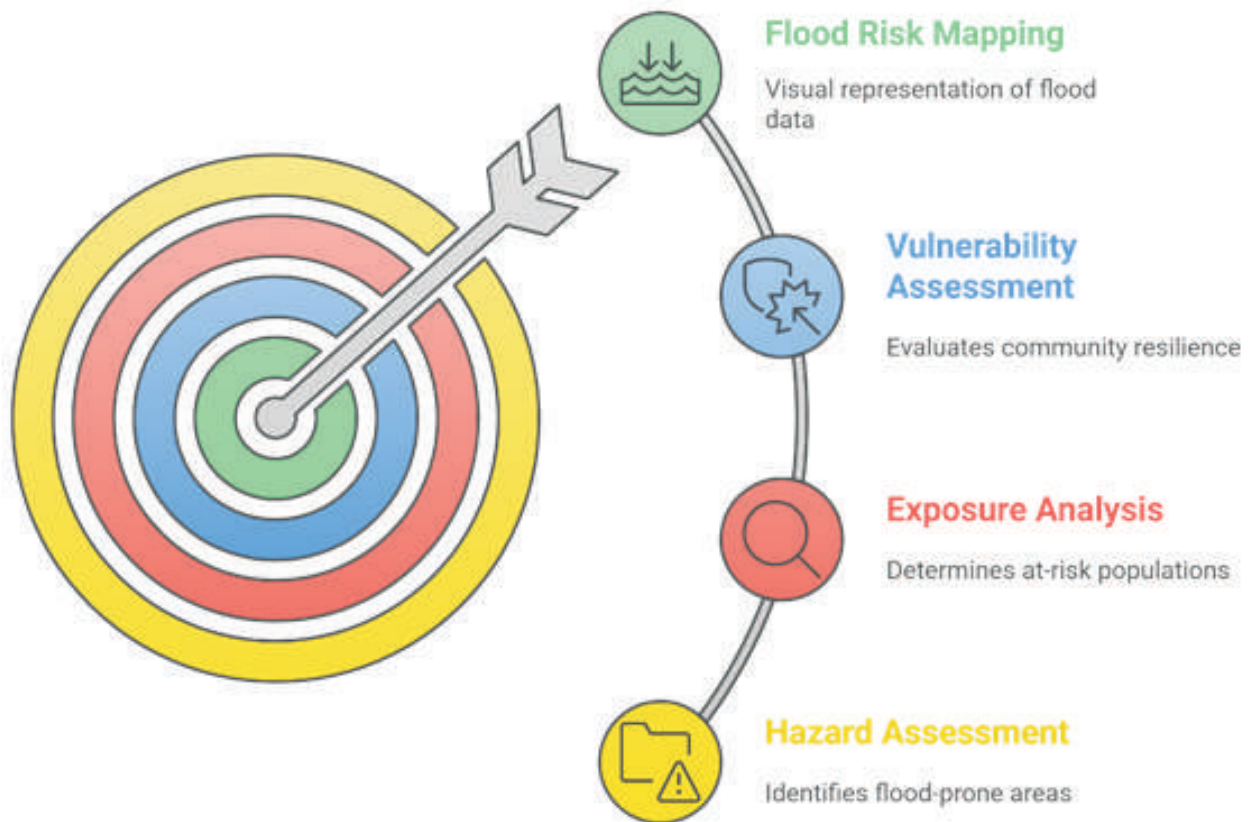


Therefore, effective response to floods requires the bottom-up approach, including the participation of households in flood-prone areas, as well as the community and the government. Engaging citizens when considering choices relating to safety measures results in better mitigation and adaptation practices.

Flood risk identification and mapping involve systematically collecting, analyzing, and visualizing data on flood hazards, exposure, and vulnerability. This information is used to

pinpoint areas at risk, forecast potential flood events, and support decision-making for urban planning, infrastructure development, and emergency response.

## Flood Risk Mapping Process



### 3.1 Risk Identification and Mapping

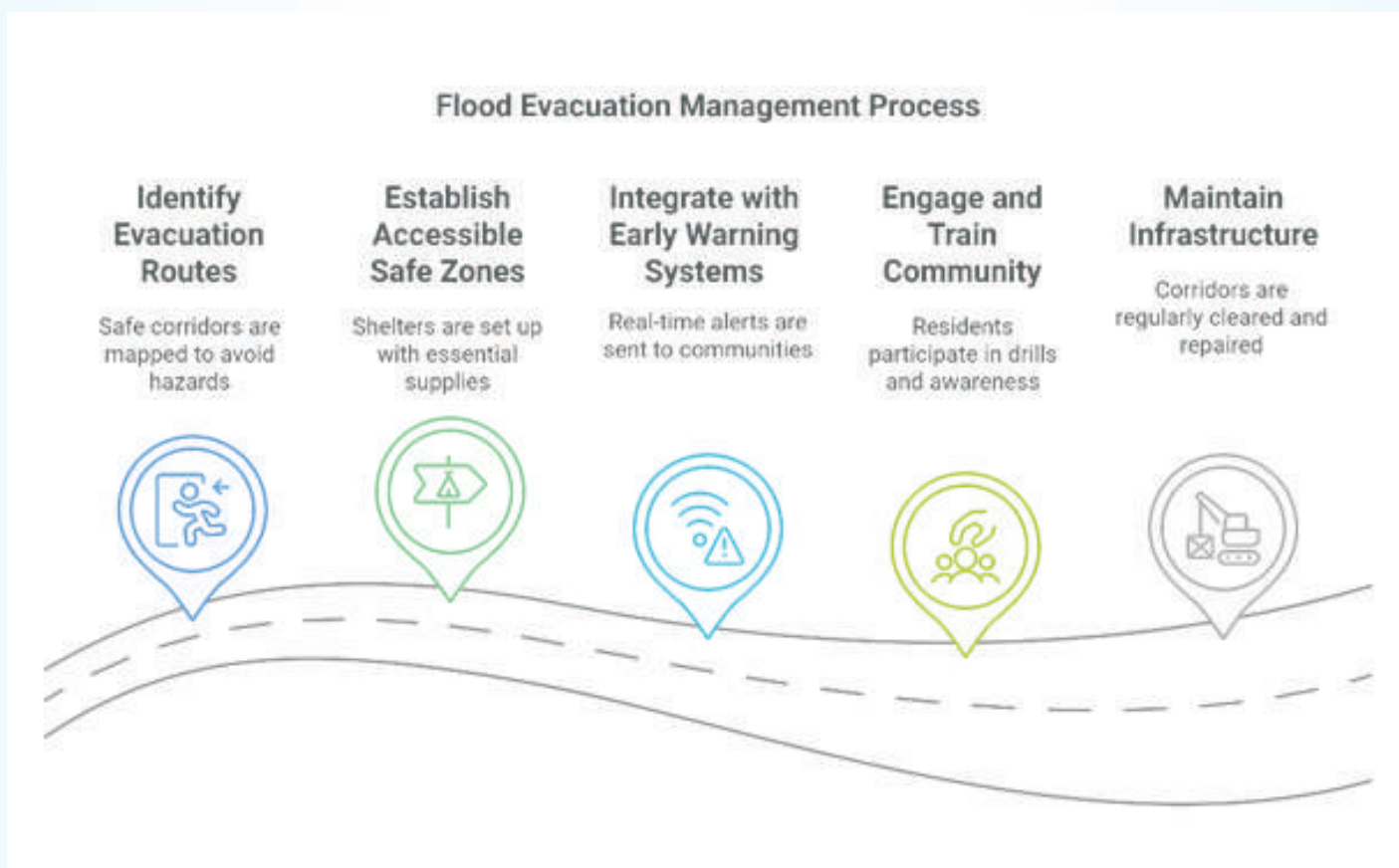
Flood risk identification and mapping are indispensable for effective flood management and mitigation. As climate change intensifies and urban landscapes evolve, continuous improvement in flood risk mapping remains critical to protecting lives, safeguarding infrastructure, and ensuring sustainable development.

Ultimately, these efforts not only inform immediate flood responses but also support long-term resilience and climate adaptation strategies.

#### 3.1 ESTABLISHMENT OF SAFE CORRIDORS

The establishment of safe corridors is a vital strategy within flood risk management and disaster preparedness. Safe corridors are designated routes and zones that ensure swift, efficient, and secure evacuation of people from high-risk flood areas to safer locations.

They serve as lifelines during emergencies, significantly reducing the risk of casualties and facilitating a coordinated response among emergency services, local authorities, and communities. The key components of safe corridor include the following:





The establishment of safe corridors represents a proactive, life-saving strategy within flood risk management. By providing clearly defined evacuation routes and secure refuge zones, safe corridors help minimize the devastating impact of floods on lives, infrastructure, agriculture, and public health. When combined with advanced forecasting, robust early warning systems, and active community engagement, safe corridors become an essential component of an integrated approach to disaster resilience.

### 3.3: Pre-positioning emergency resources: medical kits, food, sandbags and clean water.

Pre-positioning emergency resources such as medical kits, non-perishable food items,

sandbags, and clean water is a proactive strategy that enhances the speed and efficiency of disaster relief efforts. By storing essential supplies in or near high-risk areas before emergencies strike, communities and response teams can rapidly deploy aid where it is most needed, reducing potential losses and saving lives. This approach not only provides immediate relief in the aftermath of a disaster but also instills confidence in local populations, who can take comfort in knowing that critical resources are readily available.



Individuals can significantly reduce the risks posed by flooding, protect their families, and help build a safer, more resilient community by following these Before–During–After guidelines

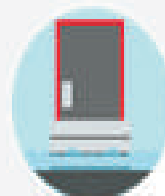
## Before



Sign up for flood warnings if possible



Locate and restock your flood kit



Apply PFR measures e.g. flood barriers and pumps



Create a flood plan



Turn off utilities at main sources



Know where to evacuate to and have alternative routes

## During



Do not enter floodwater due to the risk of drowning



Do not drive through floodwater



Make sure drinking water is from a safe source



Don't touch electrical devices if you are wet or standing in water



Avoiding standing close to fast-flowing rivers or the sea during storm surges



Floodwater may be contaminated and hide trip hazards

## After



Check for structural damage on your property



Always wash your hands after being in contact with floodwater



Clear stagnant water to prevent breeding sites for diseases



Never use petrol or diesel powered generators indoors when drying



Throw out any food that has come into contact with floodwater



Support from families, friends and neighbours is key to avoiding negative impacts on mental health



## CHAPTER FOUR

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### **ROLES AND RESPONSIBILITIES OF STAKEHOLDERS**

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**E**mergency preparedness is a collective responsibility that requires the collaboration of various stakeholders at all levels of society.

The effective management of emergencies and disasters hinges on the proactive engagement and cooperation of the federal government, state governments, non-governmental organizations (NGOs), the private sector, and the community. This document outlines the specific roles and responsibilities of each stakeholder in strengthening national preparedness and building resilient communities.

#### 4.1. Federal Government: Funding, Policy Formulation, and Coordination

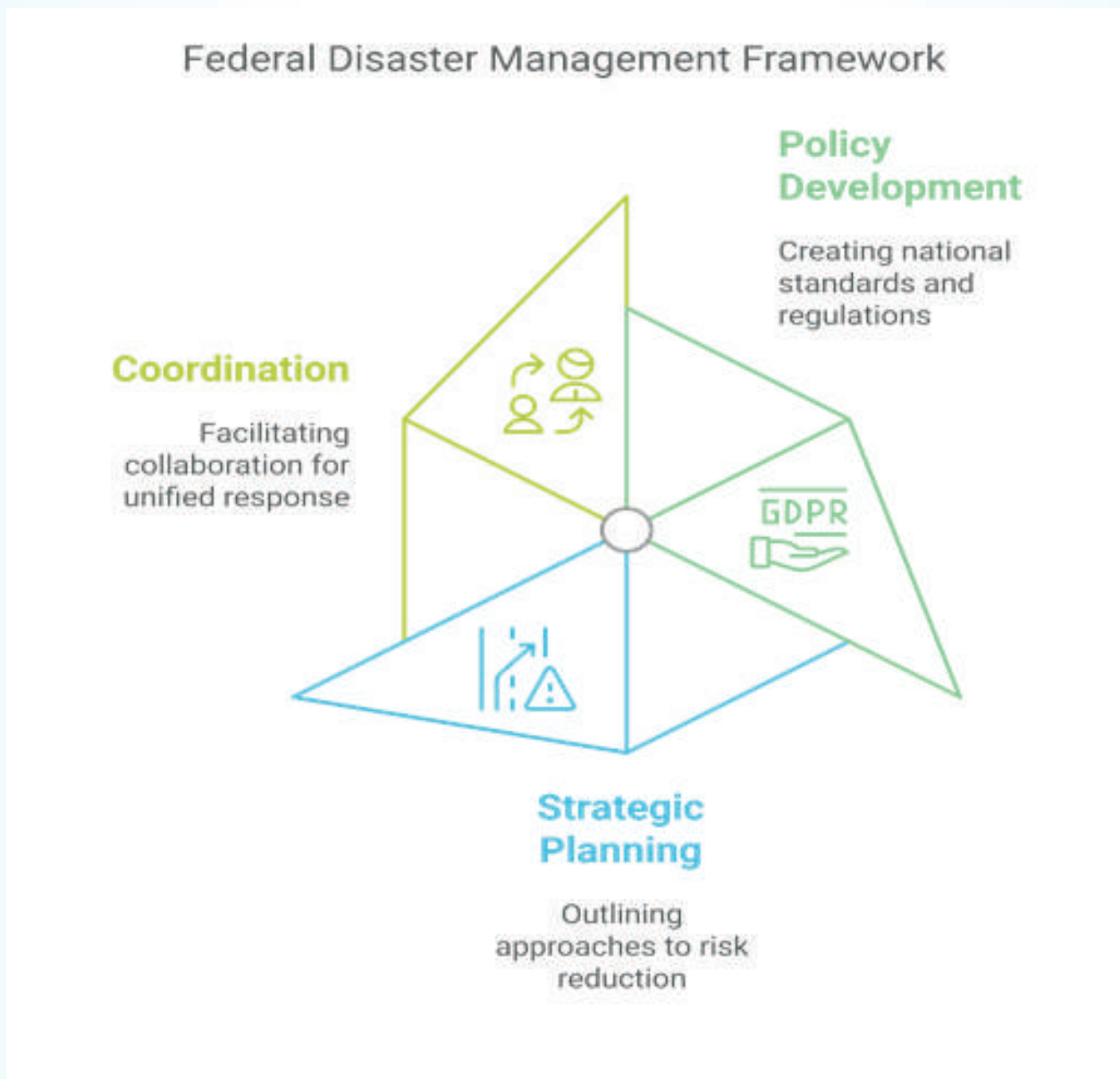
The federal government plays a critical role in allocating financial resources to support emergency preparedness programs. It ensures that sufficient funds are available for disaster response and recovery efforts. This includes funding for infrastructure development, technology acquisition, and training programs aimed at enhancing national disaster preparedness.

##### Enhancing National Disaster Preparedness



The federal government is responsible for developing comprehensive policies and guidelines for disaster management. These policies set national standards and regulations that guide the actions of all

stakeholders involved in emergency preparedness. The federal government also formulates strategic plans that outline the nation's approach to disaster risk reduction and management.



Coordination is a key responsibility of the federal government. It facilitates collaboration between various agencies, both domestic and international, to streamline disaster management activities. The federal government ensures a unified response during emergencies by coordinating the efforts of federal agencies, state governments, NGOs, the private sector, and other relevant entities.

#### 4.2. State Government: Localized Implementation of Emergency Plans

State governments manage state-level resources and coordinate with local governments to ensure efficient resource distribution during emergencies. This includes the allocation of personnel, equipment, and supplies necessary for disaster response and recovery. State governments also oversee the maintenance and utilization of emergency infrastructure within their jurisdictions.

### Localized Implementation of Emergency Plans

#### **Drills and Simulations**

Testing emergency response systems

#### **Monitoring and Evaluation**

Assessing plan effectiveness

#### **Enhanced Preparedness**

Improved readiness for disasters

#### 4.3. Non-Governmental Organisations (NGOs): Training Programs and Resource Mobilization

Non-Governmental Organisations (NGOs) conduct training and capacity-building programs for communities, volunteers, and local authorities. These programs aim to

enhance disaster preparedness and response skills, empowering individuals and groups to act effectively during emergencies. NGOs also provide specialized training in areas such as first aid, search and rescue, and crisis management.



Figure 4.1: Stakeholders Workshop on Understanding & Utilizing Climate & Flooding Forecasts organized by HEDA in collaboration with NIHSA in Abuja



## NGOs' Multifaceted Role in Disaster Management

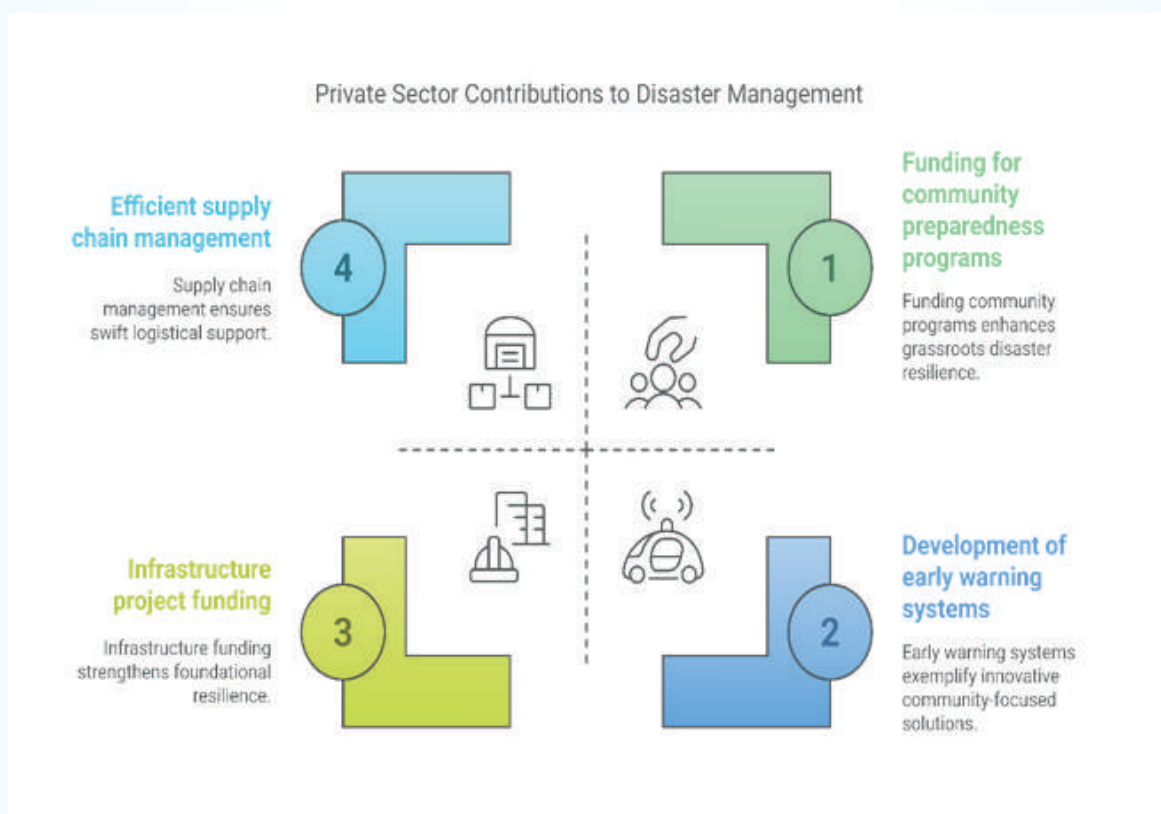


#### 4.4. Private Sector: Sponsorship of Preparedness Initiatives and Logistics Support

The private sectors are expected to provide financial support for disaster preparedness initiatives. This includes funding for infrastructure projects, technology research, and community-based preparedness

programs. Private companies sponsor initiatives that enhance the resilience of critical infrastructure and support the development of innovative disaster management solutions.

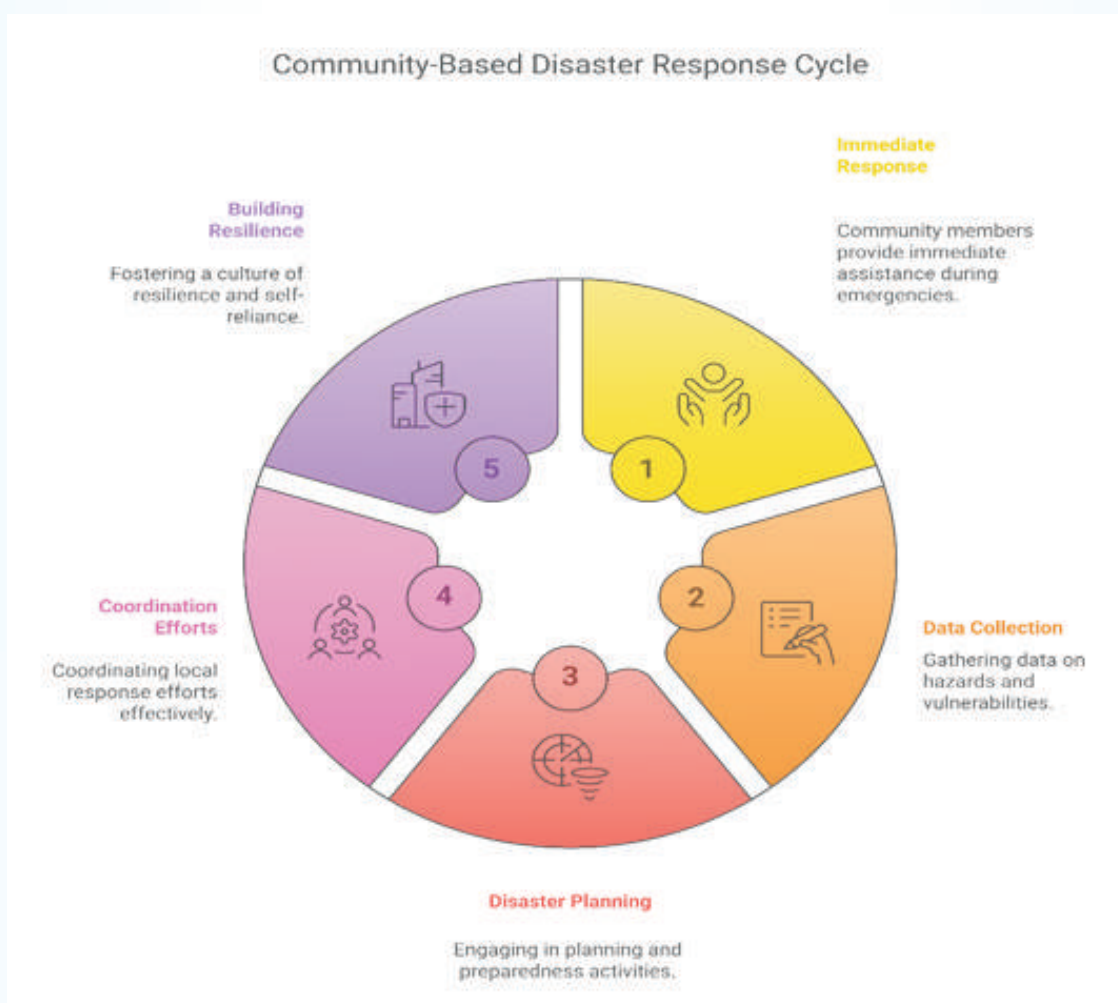
Below is an illustration of the sponsorship of preparedness initiatives and logistics support.



#### 4.5. Community: First Responder and Data Contributors

Community members are often the first to respond to emergencies, providing immediate assistance and support to those affected. They play a vital role in conducting

initial assessments, administering first aid, and coordinating local response efforts. Community-based response helps mitigate the impact of disasters and ensures timely interventions.



#### 4.6. Strengthening Preparedness through Collaborations

Collaboration among Federal, States, and Local Governments, NGOs, the private sector, and communities is essential for effective disaster preparedness and

response. Multi-stakeholder partnerships leverage the strengths and resources of each stakeholder, creating a comprehensive and coordinated approach to disaster management.





## Notes



# NIHSA ACTIVITIES

**Plot 222, Shettima Ali Monguno Crescent, Utako, Abuja Nigeria**  
**[www.nihsa.gov.ng](http://www.nihsa.gov.ng)**