2022

THE GAMBIA FLOODS

RAPID NEEDS ASSESSMENT REPORT AND RESPONSE RECOMMENDATIONS

THE GAMBIA FLOODS

RAPID NEEDS ASSESSMENT REPORT AND RESPONSE RECOMMENDATIONS

2022

Summary

UNDAC

United Nations
Disaster Assessment
and Coordination

Executive summary

The Gambia is highly prone to disasters, particularly floods. Climate change driven global warming is increasing sea and river levels. Desertification and drought in The Gambia's peripheral regions are driving displacement towards the low-lying urban areas of Greater Banjul. Unregulated settlement is taking place in flood prone areas and encroaching on canals and drainage systems. Thus, increasing the size of populations in vulnerable areas.

Insufficient infrastructure and drainage render both urban and rural populations vulnerable. Insufficient waste management is causing blockages to drainage and waterways. Insufficient maintenance means that sediment, vegetation growth, and waste are reducing the capacity of the system to allow flood waters to abate. Insufficient sewage systems entail contamination of water.

The floods that hit The Gambia on the 30th and 31st of July and again on the 4th and 5th of August caused lethal harm and widespread damage to homes and property, particularly in Greater Banjul but also in North Bank, Central River Region and Upper River Region. Official figures show that 50,378 people were affected and 7,404 were displaced.

The floods breached water and sewage systems causing widespread contamination of water bodies. Unmanaged toxic hazards also entered the water system.

The humanitarian assessment identified Food, WASH, Shelter, Health and Protection as key priorities. It also ascertained that while most populations affected reside in the Great Banjul Area vulnerability is higher in rural areas and this should be factored into humanitarian planning.

The environmental assessment identified key risks. Namely contamination of water by sewage and household/commercial waste but also in certain locations by hazardous chemicals.

The findings underscored the need for an upscaling of an emergency response for affected populations and a prioritized approach to addressing environmental risks.

The National Disaster Management Agency (NDMA) and the United Nations have worked closely in providing coordination support to the response. This report is the outcome of four weeks of coordination support provided by the Office for the Coordination of Humanitarian Affairs (OCHA), specifically its United Nations Disaster Assessment Team (UNDAC) to the NDMA, and to the office of the Resident Coordinator and the United Nations Country Team – namely WFP, UNICEF, WHO, IOM, UNFPA, FAO and UNDP. It describes the collective efforts of the NDMA, United Nations and Partners in assessing the situation, it outlines joint response planning and makes the following **overall recommendations.**

- Reinforce the emergency humanitarian response by providing additional support to affected populations and by identifying solutions for those facing key risks such as displacement, contaminated water and protection threats.
- Improve response preparedness through planning, prepositioning, and coordination mechanism strengthening; including preparation to leverage capabilities at regional and international level should capacities in-country prove insufficient for future crises.

Review of key infrastructure including considerations of development, project repair, completion, and maintenance.

Introduction

This section sets out the background and context for the report, the prevailing context in The Gambia, the evolution of the crisis and roles of key government agencies. The report overall is divided into five sections.

Section 1 provides the executive summary.

Section 2 introduces the report and provides background context.

Section 3 focuses on Human Impact, covering the sectors of WASH, Food Security, Health, Shelter, and Protection. It further considers key enablers for humanitarian action such as physical access and provides a best understanding of the response activities required. Sectoral recommendations are provided for the priorities identified.

Section 4 details the environmental impact of the crisis. It looks at naturally occurring and man-made factors with reference to the overall context of the global climate emergency.

Section 5 offers conclusions providing an understanding of the impact of the crisis, critical vulnerabilities, and key issues. It sets this against the wider understanding that climate change is increasing and will require focused efforts in the years to come.

Section 6 offers recommendations. Beginning with overall recommendations on system strengthening, it then offers specific recommendations to key actors, namely the NDMA, United Nations, and Partners.

Background and Outline

In response to the July floods in The Gambia, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) deployed additional capacity to the Office of the Resident and Humanitarian Coordinator to The Gambia.

To assess impact, two staff members were deployed from the Regional Office for West and Central Africa. This was complemented by a United Nations Disaster Assessment Coordination (UNDAC) team of Environmental and Humanitarian experts were deployed from the global level. To facilitate coordination, the UNDAC team collocated with NDMA and worked together throughout.

An assessment was carried out that combined NDMA data collection, a humanitarian perception survey and secondary data review. This report represents the culmination of the assessment process and is combined with response planning and recommendations produced through implementation of focused coordination activities with relevant stakeholders. Consultations with Government, United Nations Country Team members and I/NGOs have been a critical part of the finalization process.

Overview

The Gambia lies within the tropical sub-humid eco-climatic zone characterized by a long dry season from October to early June and a short rainy season from mid-June to early October. Average annual rainfall ranges from 850 mm to 1,200 mm. During the dry season, the climate is dominated by dry and dust-laden winds blowing from the Sahara Desert to the northeast.

During the rainy season, south westerly monsoon winds, combined with heat on the continent, give rise to the formation of thunderstorms, usually accompanied by strong winds, heavy rain, and severe lightning. Usually, 98% of the rainfall occurs between June and October. August is the rainiest month with as much as 37% of the annual rainfall. Higher rainfall is in the southwest of the country. The lowest annual rainfall is in the northeast of the country.

Annual rainfall in The Gambia, like the rest of the Sahel region[1], has considerable spatial and temporal variation. In the last few decades, the country has registered a 30% decrease in annual rainfall. It has been subjected to a greater climatic fluctuation alternating periods of severe droughts (2011, 2014) and heavier storms more spatial-temporally concentrated, resulting in serious flooding events (1948,

1 The **Sahel** is the ecoclimatic and biogeographic realm of transition in Africa between the Sahara to the north and the Sudanian savanna to the south.

1988, 1998, 1999, 2002, 2010, 2020, 2021).

Due to these geo-physical conditions, accelerating climate change, and high degrees of vulnerability, The Gambia is at high risk for disasters. A range of hazards including floods and windstorms, fire outbreaks, and epidemics pose risks to the Gambian society and have impacted on the lives and livelihoods of people across the country. Infrastructure is insufficient to cope with these stresses and requires investment, strengthening, and maintenance.

At the beginning of the 2022 rainy season, the Department of Water Resources shared the rainy season July-August September (JAS) report, indicating that The Gambia would receive above average rainfall. As has been predicted by the forecast parts of the country and particularly the Western part, were hit by excessive rainfall. This resulted in flash flooding across major towns and villages

Location

The Gambia is a country in West Africa. almost completely enclosed by Senegal. Stretching 450 km along the Gambia River, the country (11,300 km^2), is one of the smallest countries in Africa by area and ranked 166th worldwide. With an average elevation of 34m above sea level, The Gambia is one of the lowest-lying countries in the world. The highest elevation (Red Rock) reaches 53 m above sea level.

The Gambia lies between 13.79° and 16.82° west longitude and entirely within 13° north latitude. It occupies an area of about 11,300 square kilometers. About 10% of this area is covered by the Gambia River and 20% by swampy areas and floodplains. It is bordered by Senegal to the east and north, except for the west coast which borders the Atlantic Ocean. The river stretches about 480 km inland. (National Contingency Plan, 2022-2025) Coastal and riverine areas are vulnerable to rising water levels while periphery is vulnerable to drought which drives displacement towards low lining areas which are vulnerable to flooding.

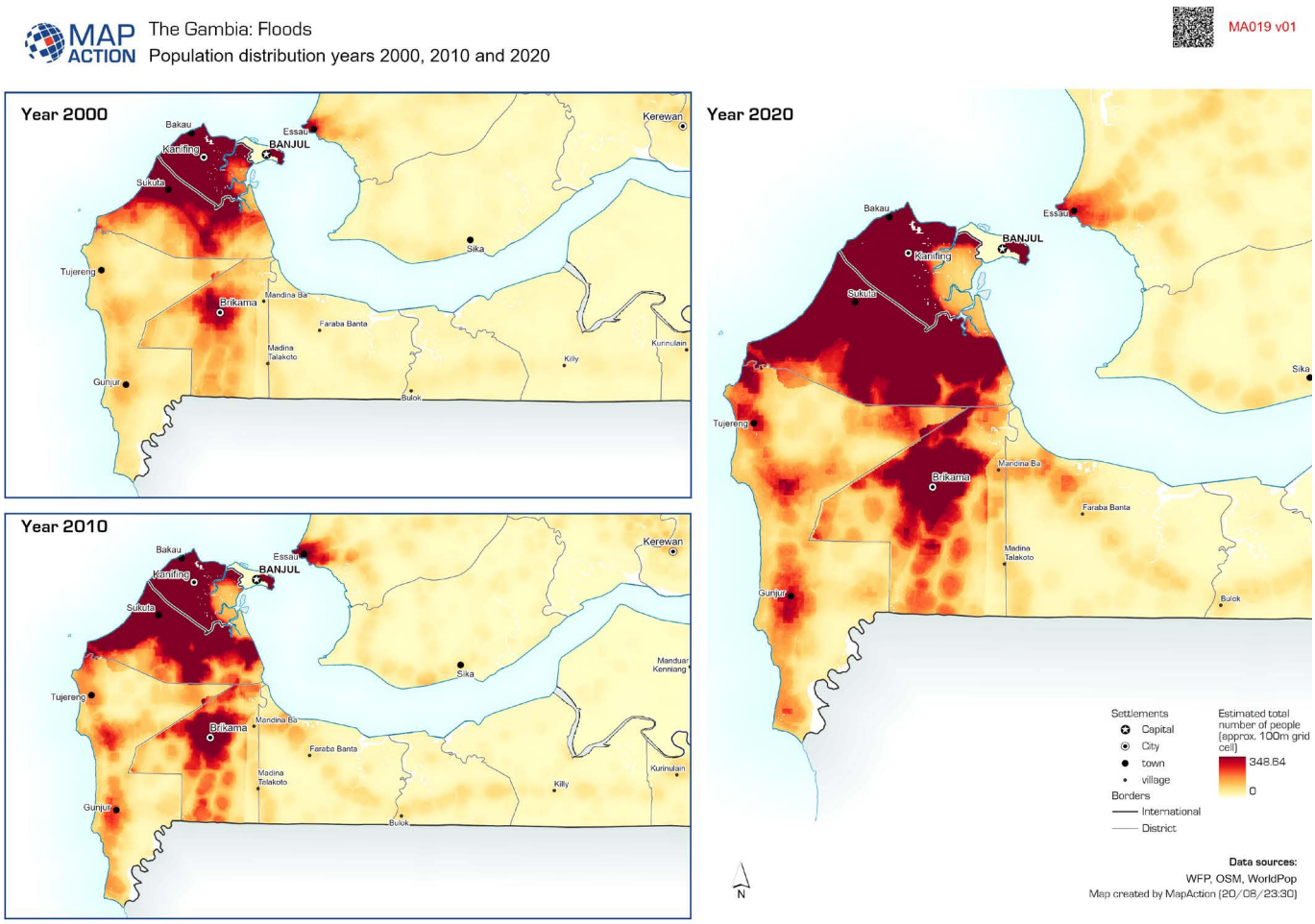
The topography of The Gambia, a major determinant of ecosystems, land cover and land use, reveals several distinct levels or zones: the river with its associated tributaries and river-border mangrove forests; the river's wetlands and floodplain; the extensive lowlands and colluvial slopes; the upland lower and upper plateaus that extend into Senegal.

Despite its small size, The Gambia is therefore endowed with rich and varied ecological systems including closed and open woodlands, trees and shrub savannah, wetland ecosystems, grassland savannah, offshore islands, marine and coastal ecosystems, and agricultural ecosystems.

Demography

The population of The Gambia is estimated to be currently about 2.6 million with the last census in 2013 indicating a population of 1.8 million. There are similar number of females and males, with slightly more females. The population is young with a median age of 21.8 years and growing with a total fertility rate of 3.79 children born per couple. Around 35% of the population is below the age of 14, with 36% aged between 26-54 and around 9% over the age of 55. It is estimated

that 63.9% of the population live in urban areas. The population of the Greater Banjul area has expanded rapidly in recent years in part due to climate driven displacement from drought affected areas.



The Gambia's human development index (HDI) value for 2019 is 0.496 positioning it at 172 out of 189 countries and territories (UNDP, 2020). The Gambia Ranked 116th of 167 in the overall Prosperity Index rankings. The Gambia performs most strongly in Social Capital and Governance but is weakest in Economic Quality. The biggest improvement compared to a decade ago came in Safety & Security (Prosperity, 2021).

The economy of The Gambia is heavily reliant on agriculture. The Gambia has no significant mineral or other natural resources and has a limited agricultural base. About 75% of the population depends on crops and livestock for its livelihood. Small-scale manufacturing activity includes the processing of peanuts, fish, and animal hides.

National Disaster Response Structures

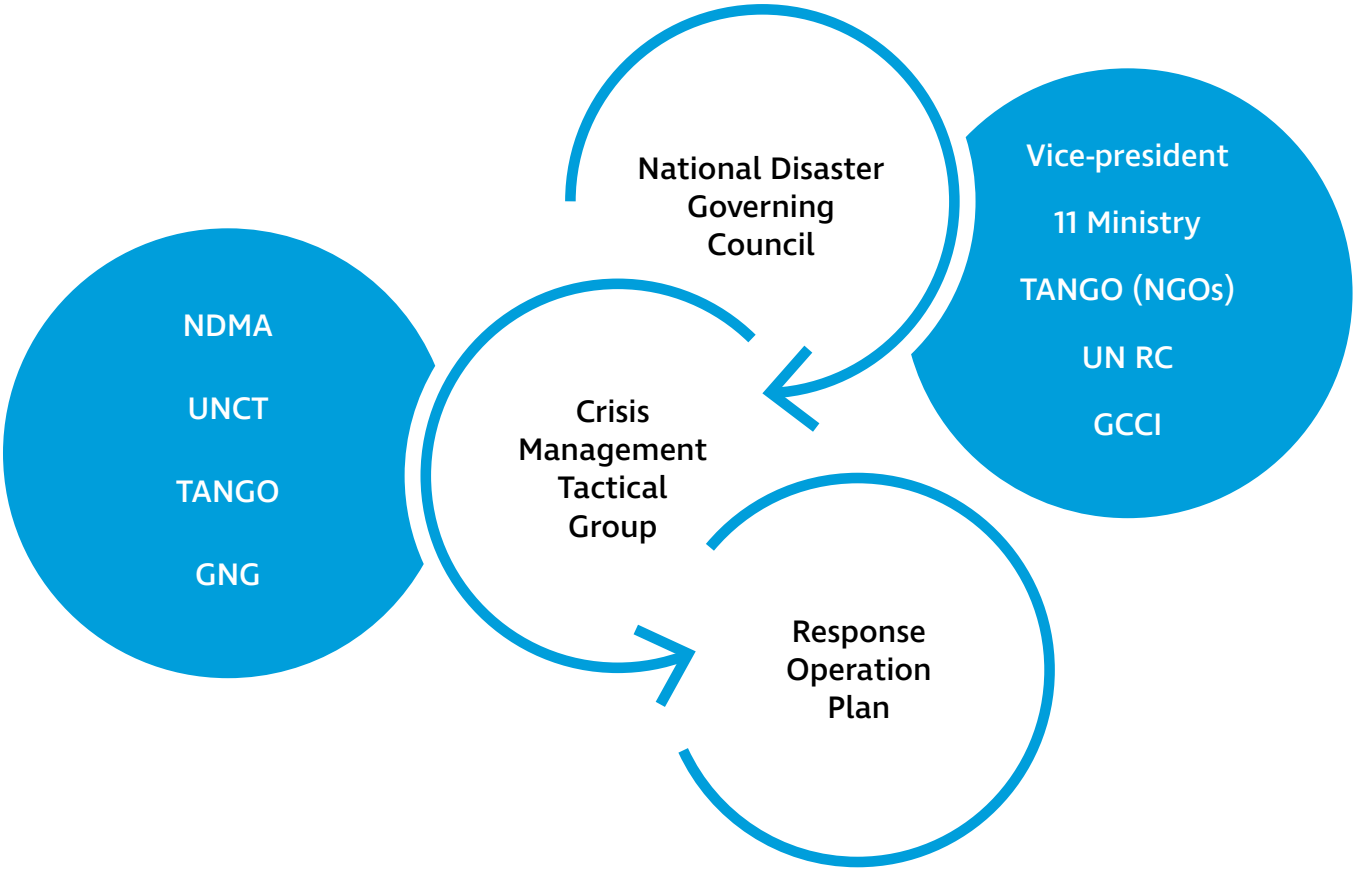
The National Disaster Management Governing Council is the highest body responsible for advising the government on the coordination of emergency response and preparedness activities. It is chaired by the Vice President with 11 cabinet Ministers as members, NGOs represented by Tango and the Business

community represented by The Gambia Chamber of Commerce (GCCI). Policy decisions are taken from this level, including the Government's commitments.

The Secretariat of the council is the National Disaster Management Agency (NDMA), that also serves as the Secretariat of the National Disaster Platform. The Agency carries out the day-to-day administrative matters to ensure the full implementation of disaster management policies and strategies. In the case of a disaster, NDMA advises the Council of all the circumstances and on the advisability of recommending to the President the declaration of a State of Emergency.

Main coordination structure

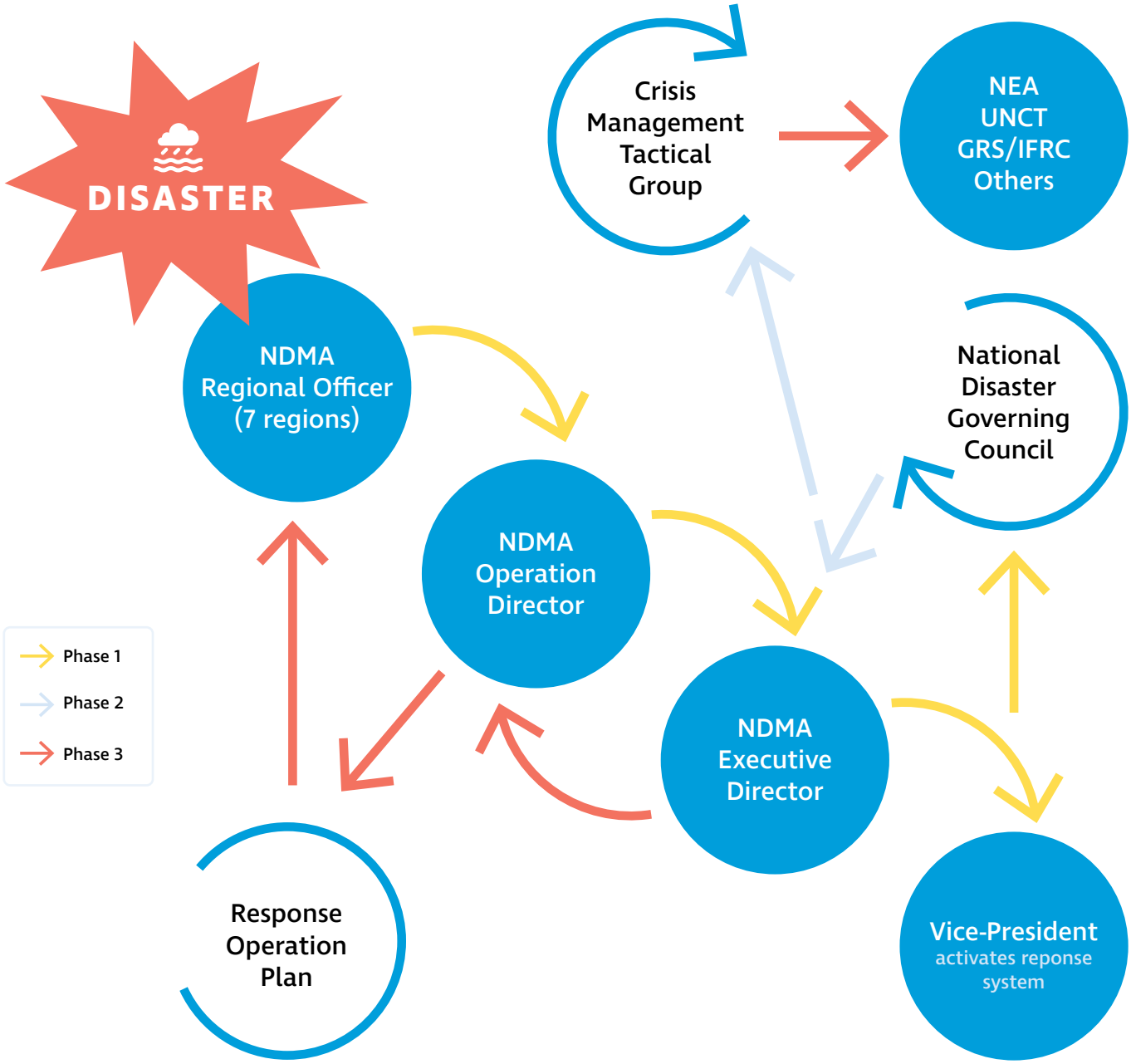
The Gambia National Contingency Plan, 2022



The Crisis Management Tactical Group is a technical advisory group composed of professionals from various Departments. The group is responsible for technical support and advice on the disaster response. They liaise with the Governing council to give feedback as well as receive policy decisions.

Disaster Response Information Flow

The Gambia National Contingency Plan, 2022



The National Disaster response structure is replicated at Regional, Municipal/ City Council and District levels. The response structure comprises the Regional/ Municipal/City Council, District and Village Disaster Management Committees. In each respective level, Governor, Mayor, District Chief and Alkalo ensure that the departments and the agencies comply with the directives. The Regional/ Municipal/City Council/District /Village Coordinators of the National Disaster Management Organization are the administrative heads of the organization and serve as Secretaries to the Disaster Management Committees.

Background to the crisis

In early June 2022, the Department of Water Resources released the July-August-September report related to this year's rainy season, predicting heavy rains and high probability of flash floods with significant impacts.

On the 30th and 31st July 2022, unprecedented torrential rainfall caused widespread flooding. The Gambia received a great volume of rain (276 mm at Banjul International Airport, Yundum). This torrential rain associated with thunderstorms resulted in flash flooding which affected huge swathes of the country, described as the worst flooding to have hit The Gambia in nearly half a century.

Since the flash floods on July 31st, there have been almost daily heavy downpours in many parts of the country thereby exacerbating the floods in many communities. The main affected areas were Greater Banjul (Tobacco Road), Ebo Town, Kotu-Manjai, and Nemakunku.

This flood has been the most severe disaster the country has recorded in decades and caused damage to critical infrastructure such as health facilities and schools as well as the obstruction of transport networks. Supported by the UN, The NDMA initiated coordination to combat this disaster and provide relief to vulnerable populations.

The NDMA had taken the following certain steps in preparation of the ensuing event:

- NDMA summoned a meeting to formerly discussed with partner institutions the JAS revelation in mid-June 2022.
- Conducted series of sensitization activities in various media and in various languages.
- Reviewed and updated the assessment tool, used to collect data.
- Prepared Contingency Plans in 18 Districts.

Timeline of events

As had been predicted by the forecast, parts of the country particularly the Western part was hit by excessive rainfall, which caused flash flooding across major towns and villages. The persistent rains in the following days in association with precarious conditions of waste management, sewage as well as the blockage of the drainage system contributed to worsening the impact of the floods.

July 30th and 31st

July 31st

NDMA released Situation Report 001 which included a preliminary needs assessment performed by the NDMA representatives at sub-National respective levels.

August 2nd

The President of the Republic of The Gambia and the Vice President led coordination efforts in response to the flashfloods. The President and Vice President of the Republic visited communities and engaged with affected populations. The Vice President convened an emergency meeting of stakeholders including the Government, UN and the Private sector.

The NDMA convened an emergency technical meeting comprising of Government, UN, and NGOs to discuss the immediate needs and priorities and develop an action plan, including a comprehensive assessment and analysis, a joint response mapping, public information campaign and resource mobilization strategy.

GRCS and the NDMA with the office of the Governors opened the Forward Base Coordination Cell in Lower River Region (LRR). A rapid needs assessment was performed in the main affected areas. A Plan of Action was established and the NDMA actively monitored the situation and activities in the operational areas and consolidated assessment reports and implementation strategies in the field to avoid duplication.

August 8th

OCHA Regional Office for West and Central Africa (ROWCA) deployed two staff (Coordination Specialist and an Information Management Officer) to the Resident Coordinator's office for 3 weeks to support a Multi-sectoral Assessment. They collocated with the NDMA.

August 9th

August 12th

The Gambia Government in consultation with the UN Resident Coordinator's office requested support for an UNDAC deployment. An UNDAC Mission was deployed composed of Coordination, WASH, Public Health, Information Management and Mapping specialists.

The UNDAC Team arrived in The Gambia to support the Government of The Gambia and key stakeholders with terms of Reference as follows:

To provide team leadership to an inter-agency team while supporting disaster and emergency assessment, analysis, and coordination processes.

- To support strengthening information management system to enable actors to communicate, collaborate and share information.
- To support humanitarian resource mobilization through OCHA funding tools and other options through key humanitarian donors.
- To support assessment, reporting and coordinating response to environmental impacts arising from the flood impacts.
- To support public health assessment and coordination of response to public health impacts arising from the floods.
- To provide technical support in assessment & analysis, mapping and geographical information systems for the response teams.

The NDMA are the Government's coordinating Agency for all disasters and related issues in The Gambia, including disaster management and contingency planning. The WFP leads the UN Working Group on Disaster Risk Management (DRM) and as such led collaboration the NDMA to coordinate the response.

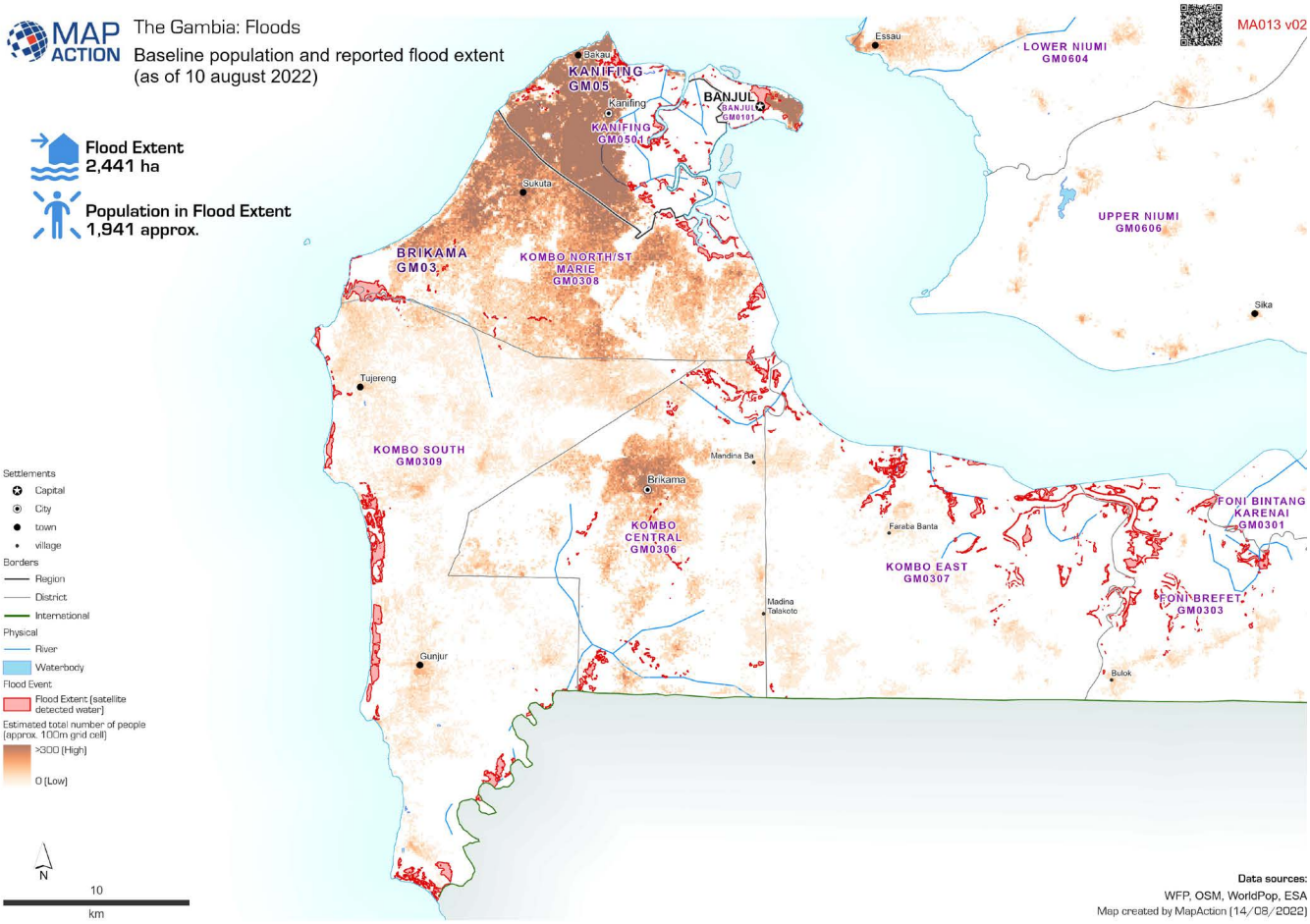
August 15th

Humanitarian Needs Overview and key response recomandations

This section provides an overall understanding of the humanitarian impact following by sector specific analysis and response planning. The information is a synthesis of NDMA data collected by regional offices and a Multi-Sectoral Initial Rapid Assessment (MIRA). It was supported by secondary source study and field visits.

The assessment was conducted between the 18th and the 21st of August and consisted of interviews with key informants. It involved 48 enumerators visiting 61 locations across the country. See Annex for list of enumerator typologies and for more information regarding the methodology.

Based on the satellite analysis of the affected areas, it was estimated that the flash floods impacted on the lives of hundreds of thousands of people in The Gambia. This initial assessment was reinforced by GIS specialists who mapped the affected areas and assessed the impact on the population. NDMA data collection identified at least 50,738 people directly affected, with suburbs of urban settlements hardest hit by the floods.



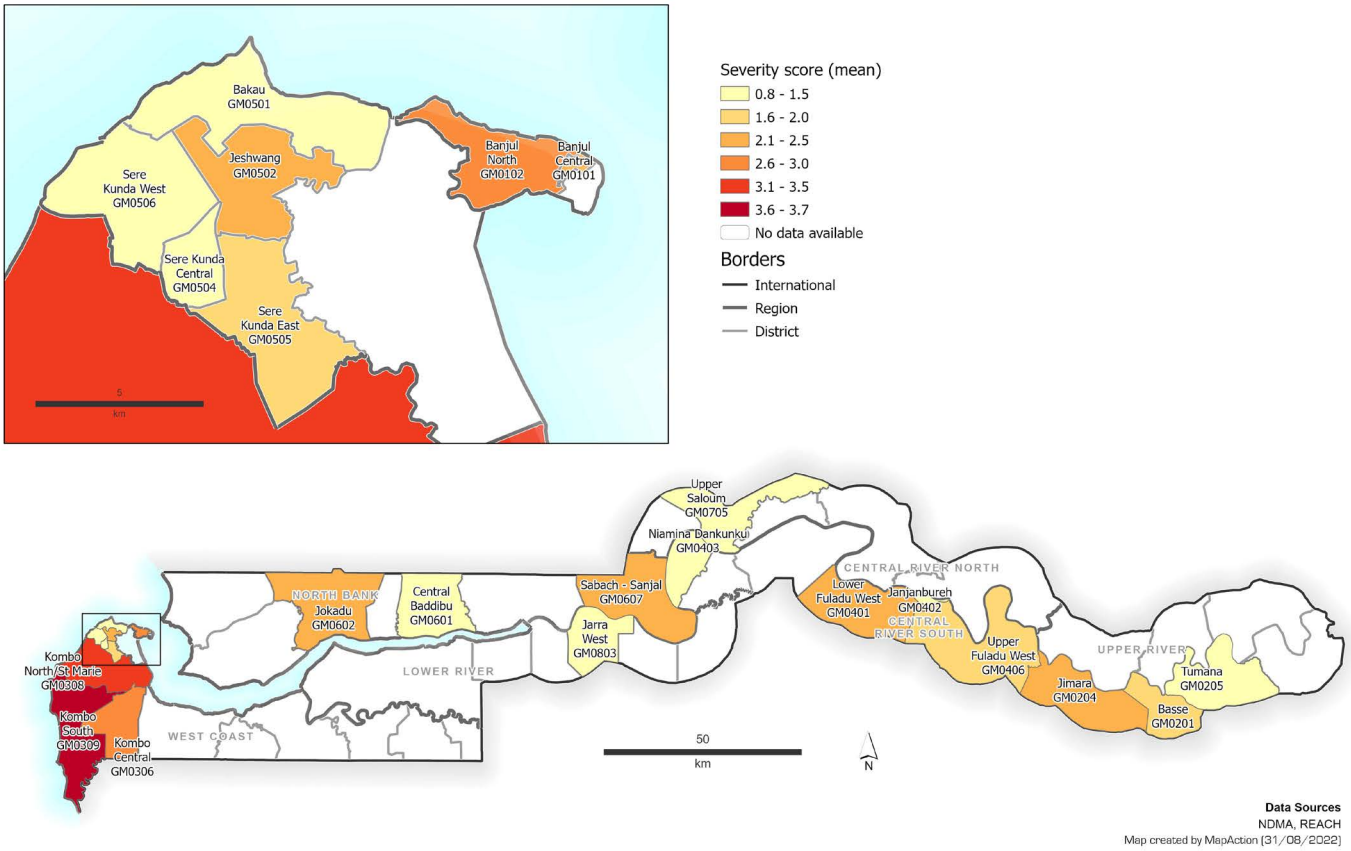
There were 13 fatalities reported as a direct consequent of the flash floods with many more lives at risk. Key informant (KI) interviews provided a figure of 11% with serious injuries and 87% with minor injuries. Amongst KIs interviewed, 31% reported serious injuries, and 34% reported slight injuries to community members. The following figures were documented by the NDMA:

- 10,789 Children aged 0-59 months affected.
- 1,143 Pregnant women affected.
- 2,618 Breastfeeding women affected.
- 458 Affected water points.

Severity of Needs

The level of severity varies according to the different areas affected by the floods. We have identified five levels of severity to illustrate the level of each region. The severity index was composed of several indicators: proportion of clean water points damaged, proportion of households having access to enough food, number of Acute watery diarrhea cases reported in health facilities, proportion of building damage, proportion of latrines damaged or destroyed, proportion of report of increase in protection problems, reported by KIs in their communities. The maximum severity score in a community was 4.1, while the minimum was 0.3.

In the first level, i.e., a score of less than 1, no region has an overall average corresponding to this bracket. However, it should be noted that despite this score which seems low, the zone contains high-scoring districts such as Jarra West and East where the score exceeds the zone average and point lies between 1.2 and 1.7.



It is in the second level that we begin to understand regional disparities. In the severity levels between 1.1 and 1.5 we find the central River North region. In this region, Upper Saloum is more affected by the crisis and its score far exceeds the zone's score of 1.3.

In the third tier, the Central River South and Kanifing Municipal Council areas are in the range of 1.6 to 2.0. The two zones taken together had an average level of 1.7 severity score. In this district group, we find Jeshwang and Sere Kunda East in the Kanifing Municipal Council; Lower Fuladu West and Lower Fuladu West in the Central River South. These districts have scores between 2.2 and 2.8.

The fourth and fifth levels are more concerning with scores of 2.1-2.5 and 2.6-2.8 respectively. For the fourth, the North Bank region is heavily affected while West Coast and Banjul City Council compete as areas most affected by the events according to their severity score of 2.6 and 2.8 respectively. Apart from the districts of Banjul North, Banjul Central and Kombo North/St Marie, all the others have very concerning scores of up to 4.1 in Kombo South.

Given this disparity within the different affected regions, the response to needs will have to take these aspects into account and target affected populations according to the level of severity and the specific needs of each affected district.

Methodology – NDMA Data

Regional offices of the NDMA were asked to collect information based on a series of prioritized datasets. These were collated at national level and have served as the basis for the Situation Reports produced.

Methodology – Perception Survey

Preparation of data collection - The sampling list was based on a selection of the communities most affected by the flood. The UNDAC team, in partnership with NDMA, organized a participatory mapping exercise, to understand which areas were most affected by the flash floods. Once the participatory mapping was finalized by the regional coordination, each ward counselor indicated the most affected communities in the area. The questionnaire was built in consultation with different partners and actors present in the country. The questionnaire was based on previous experiences, while making sure to contextualize as much as possible. Once the most affected communities were identified and the questionnaire consultations finalized, experienced enumerators were selected to conduct the KI interviews. All the enumerators had previous knowledge of mobile data collection, using kobo, and were trained on the questionnaire.

Data collection and data cleaning - The enumerators were separated into several teams across three areas in the country. They went to the most vulnerable communities and did interviews with KIs, selected with the help of the counselor of each ward. KIs were people that were knowledgeable enough on the needs of their own community. They included community leaders, health workers, teachers, NGO workers, or representative of associations. Face-to-face data collection was conducted, with the use of paper form. In each community, between 3 to 5 interviews were conducted by the enumerators team. Once all the interviews were finalized, the enumerators would meet and consolidate all the data collected in one paper form, that would later be submitted using Kobo via tablets. For data analysis, the average was calculated at district and region level, as well as for all the key informants interviewed.

Limitations of findings - It is important to consider the fact that findings, while aggregated at a higher administrative level, reflect the situation reported by the key informants in their own communities. Therefore, given the methodology that was used, findings can be considered as indicative. More detailed and time-intensive household surveys or sectoral specific assessments would certainly deepen understanding of the crisis. It is noted that the perception survey cannot provide concrete recommendations on longer-term and large-scale actions addressing the root causes of the floods.

It is also important to note that several factors can influence the findings, such as the pre-selection of most affected communities, the prevalence of interviews made in urban areas, as well as the prevalence of male key informant interviews. The last point has relevance regarding Gender and GBV indicators.

Food Security and Livelihoods

The high level of moderate and severe food insecurity among the affected population can be explained by multiple factors, including low food availability, highly constrained production capacity, endemic poverty and low asset ownership and the limited impact of food and livelihood interventions. External shocks that have been experienced recently, such as a flash flooding and the late start of the agriculture season combined with high food prices have played a pivotal role in

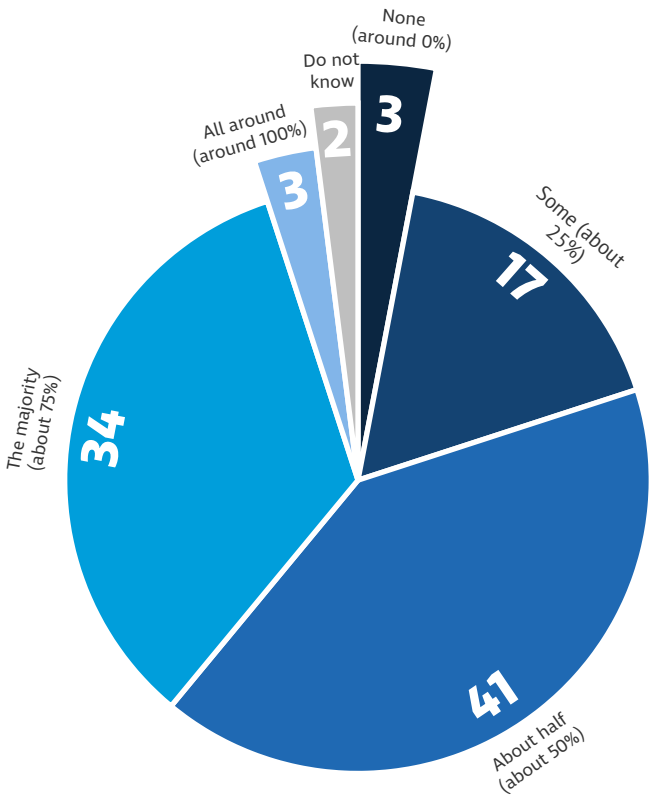
exacerbating households' level of vulnerability and undermining their food access and coping capacity.

Prior to the flooding, the country was experiencing its worst food insecurity in a decade. The number of people in "crisis" (IPC3) and "emergency" (IPC4) phases had doubled compared to previous years and was expected to reach 207,000 people during this lean season according to the Cadre Harmonisé of 2021. This represents an increase of 81.77% over last year and 101.1% over the last five years.

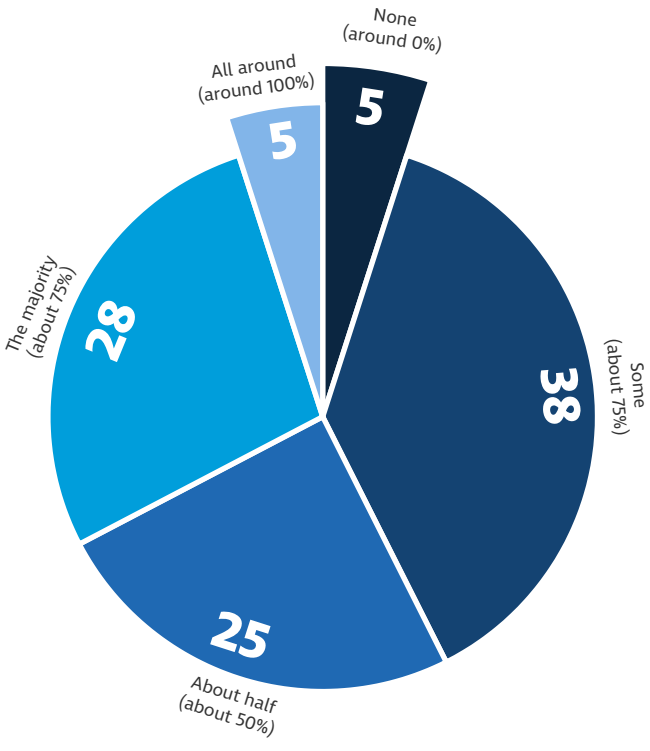
Adequate food, which is a key factor in meeting the basic needs of the population, is still a challenge. According to the analysis only 3% of households of the respondents reported sufficiency of food to meet basic needs in their community for the week following the flood compared to 80% of the population who faced challenges in terms of food availability. This is a warning that acute malnutrition in children, and pregnant and breastfeeding women will increase in the coming months. This was observed throughout the regions visited. Only the Lower River, Central River North and Central River South reported that food was less of a priority. Alongside these results, 25% of KIs reported that around half of their community did not have enough food to meet the basic needs of the population in their community for the week following the event.

Proportion of KI reporting on sufficiency of food to meet basic needs of the population in their community

*For the next week **before the event***



*For the next week **after the event***

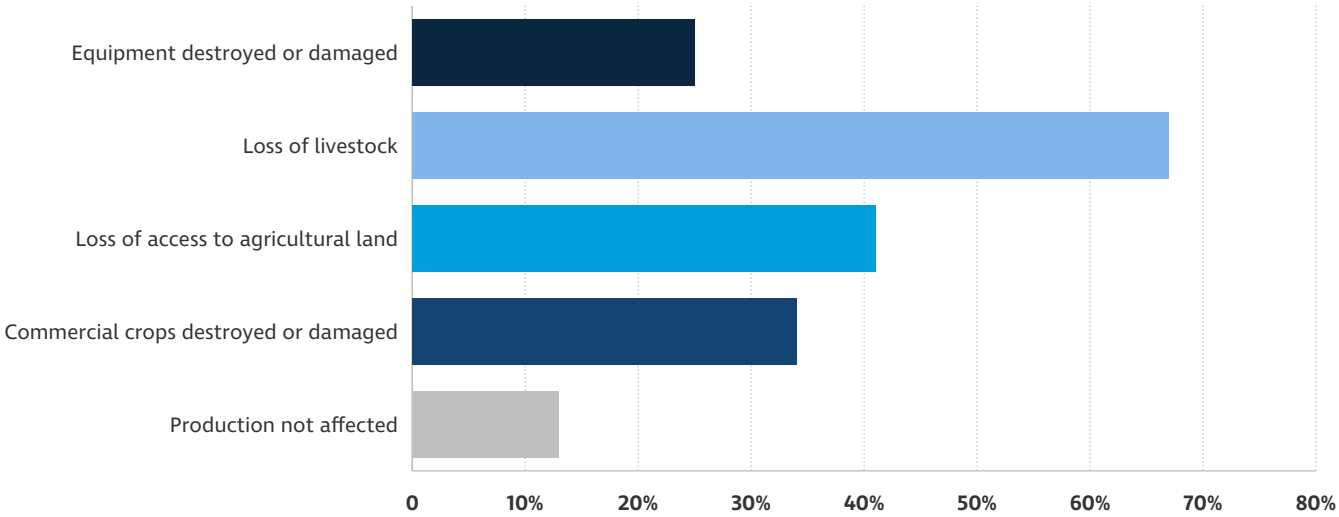


This situation before and after the floods is manifested by a gap of thirty-three points following the event which shows the basic food needs of the communities visited. The destruction of food reserves, seeds, small materials, etc. has negatively impacted the living conditions of the affected populations.

Accessibility to the local markets for the communities is important, with 97.4 percent of the Gambian households purchase cereals (rice, maize, millet etc.) from the markets, mostly with cash. Looking at the bad situation of the access of roads to the markets, shocks such as floods would systematically affect households' accessibility to the basic commodities while subsequently impacting their food consumption. These results on food insecurity are reinforced by the preliminary findings from the mVAM 2022 conducted three weeks following the flood by WFP. These preliminary results show a degrading food consumption of households. Besides, flood appears as the main shocks faced by 25.7 percent of the analyzed population.

Damage to agricultural land and fisheries - It should be noted at the outset that during the floods, seasonal production had not yet started. Major impacts have since been documented in the agriculture, fisheries, and livestock sectors. Regarding damage to agriculture, livestock, or fishing, 25% of the equipment was reported as destroyed or damaged by the floods. In addition to this factor, cultivatable land was affected with 41% of KIs reporting negative impacts. KIs reported that the most frequent ways that productions were affected in their communities was the loss of livestock (67%), followed by the loss of access to agricultural land (41%) and commercial crops being destroyed or damaged (34%).

Most reported ways that agricultural, livestock or fisherie production were affected by the event in the communities KIs reported on



Livestock farming was also badly affected with 67% of communities reporting negative impacts. Livestock, especially goats, were particularly affected by this crisis. The assessment process made it possible to meet herders who had been impacted by the floods, such as the farmers of the village of Sare Soof who lost more than twenty-five goats in one day of flooding.

Given this situation, the food and nutrition security situation could worsen as predicted by the analysis of the Consumer Price Index changes. Thus, if no action is taken during the lean season (July-August-September), the number of people in "crisis" and "emergency" could well double and worsen the level of food and nutrition insecurity in affected communities. Intensive planning and preparation are required to preempt impact of malnutrition in most vulnerable population as this is linked with water contamination and of diarrheal disease in young children.

Emergency Response

Emergency cash-based food safety net assistance to the flood-affected people for 3 months to meet their basic food needs and recover from the shock (to start by early September). Coordination among the food assistance sector to harmonize and coordinate the interventions (August-September).

Pre-harvest assessment to measure the impacts on and the upcoming harvest and mid-longer term food insecurity (September – October).

Recommendations (short, mid, and long-term)

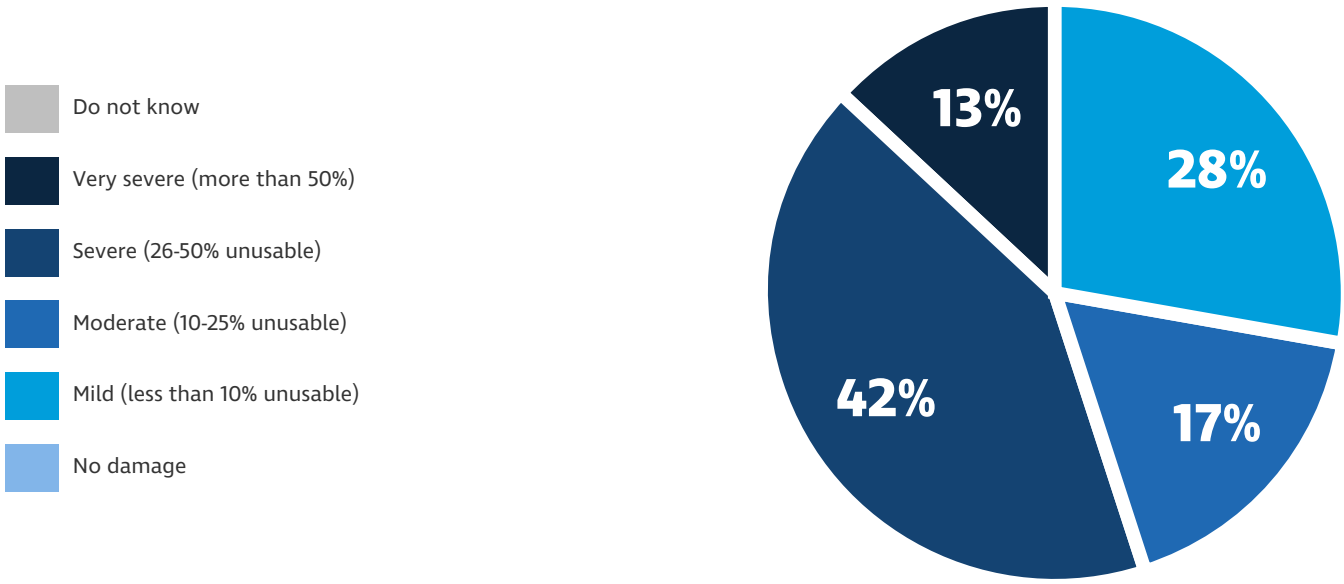
- Expand food support coverage to the affected population across the country.
- Conduct a preharvest assessment to have a better understanding of the flash flood impact on agricultural production.
- Support in rehabilitating access roads to the farmland due to the flash flood and erosion.
- Government and development partners to support medium and longer term needs of the affected population.
- Provide lifesaving support to the affected population while linking medium and long-term needs to the ongoing development programmes.
- Conduct a community-based targeting to identify communities that will need to be supported on small interventions of building bridges and road access through cash for work initiative at community level.
- Soil restoration to counter erosion and the enhancement of good agricultural and livestock practices.
- Urgent action for the distribution of livelihood support and the rehabilitation of material capital.
- Quality seed support and rehabilitation of market gardens.
- Training on food conservation and storage techniques.
- The crisis has resulted in a low level of development of income-generating activities to support adaptation and risk mitigation plans. Thus, the development of a study on the livelihoods and economic conditions of urban and rural populations is needed to better support households.

Shelter and Non-Food Items

Levels of damage to homes was significant. NDMA figures indicate at least 4,949 partially damaged homes, 4,486 destroyed homes and 1,510 with collapsed roofs.

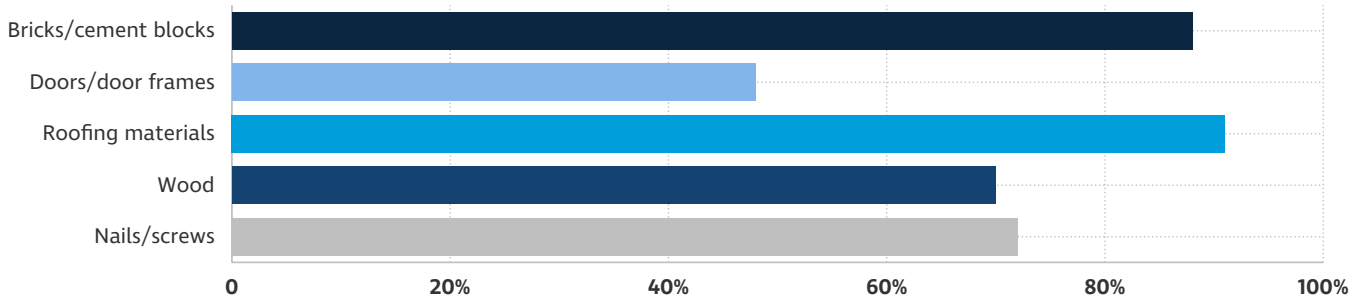
Shelter: Note that with regards to the most frequently reported type of shelter, 71% of the KIs reported that homes were cement building in their communities, while 27% of KIs reported huts and 14% makeshift shelters. While the fact that a vast majority of KIs reported that homes were made of cement, which could have mitigated the impact of the floods in certain areas, it should be noted that 55% of the KIs reported that some buildings were severely to very severely damaged or destroyed in their community because of the event.

Level of building damage reported by all KIs



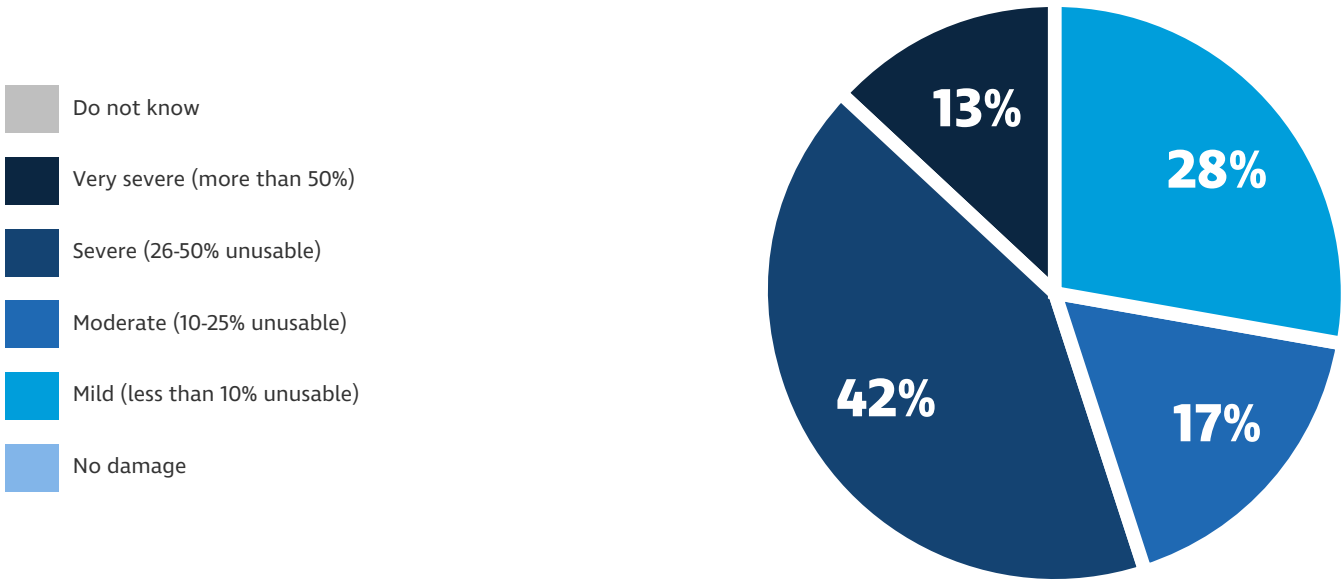
This situation is most noticeable in Upper River, West Coast, Central, Kanifing Municipal Council, North Bank, and Central River North with ratios exceeding 50%. This is consistent with Shelter being a high priority need, as reported by the communities surveyed.

Type of shelter needs most frequently reported by KIs as priority needs in their community



In line with the damages highlighted by the KIs, the most frequently reported shelter needs were roofing materials (91%), as well as bricks, and cement for construction (88%) and nails and screws (72%). Wood was also frequently reported by KIs as a priority shelter need (70%). Indeed, direct observation has allowed us to realize that most of the constructions are made of these materials in rural areas.

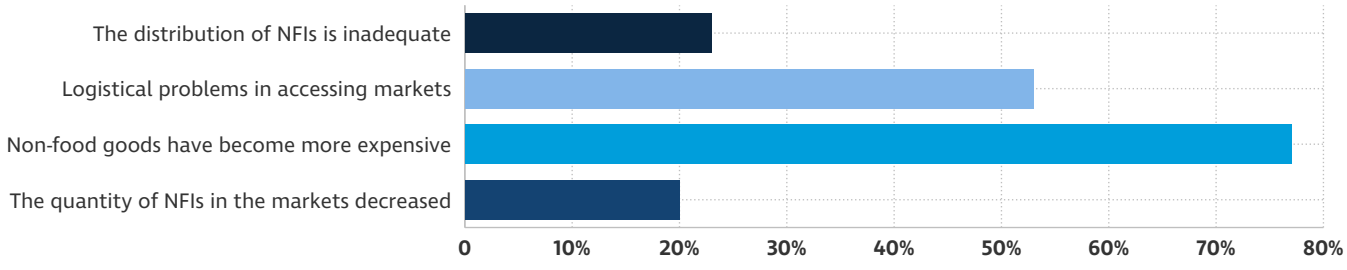
Level of building damage reported by all KIs



This lack of materials has created a high demand among the targeted communities. More than half of the KIs (55%) reported that at least most of the material or all the material needed was available in their community. Nevertheless, it is important to highlight that 22% of KIs reported that none of the material needed was available in their community. These shortcomings should be considered in a response for reconstruction.

Non-Food Items (NFIs): Affected populations need NFIs due to loss or damage to previously owned household items. For Non-Food items, the most frequently reported barrier by KIs to accessing non-food items were prices increasing and items becoming more expensive (77%), followed by logistical problems in accessing the markets, including damage to roads (53%).

Most frequently reported barriers to accessing non-food items



Among non-food items needs, the 5 most frequently reported by KIs in their communities were mattresses (92%), followed by clothing (73%), soap (55%), rental money (48%) and kitchen utensils (41%).

Barriers to accessing non-food items are real in impacted regions with a greater emphasis in rural areas. The most frequently reported barriers by KI in their communities are high prices of non-food items and physical access to markets. These two constraints alone pose a major problem in access to non-food products.

Response Plan

- Cash supports for rental fees and home repair.
- Provide support to displaced people living informal shelters – schools, mosques, churches.
- Provide support to finding interim solutions with host families.
- Provide support related to durable solutions to displacement.

Recommendations

- Develop framework and roadmap for resettlement programs of communities in high-risk areas incl. prioritization, compensation indicators and facilitation.
- Address critical information gaps, especially as displaced people are potentially more vulnerable to future flooding.
- While in urban areas there is mainly concrete housing, safety concerns were raised for more vulnerable households in rural areas, and that the difference of vulnerability needs to be considered in the response.
- Cases of households living in temporary shelters can potentially last longer in rural areas than in urban areas.
- Establish a designated coordination structure with identified focal points in Government and United Nations/Partners.

Water Sanitation and Hygiene (WASH)

WASH is one of the most affected sectors by the floods, with different impacts for rural and urban areas. The rural areas are vulnerable because most homes are built of mud bricks. They often depend on unprotected hand dug wells for water and walk long distances (21% of rural population walk 1-3 hours and 10% walks more than 3 hours, MICS 2018) to access clean water. Toilets are often pit latrines without lining.

Despite having both drainage and waste-water system in the central parts of Banjul, the area was badly affected. Lack of maintenance of infrastructure, low-lying land and that the city is partly built on the flood bank are factors that contributed to the negative impacts of the floods.

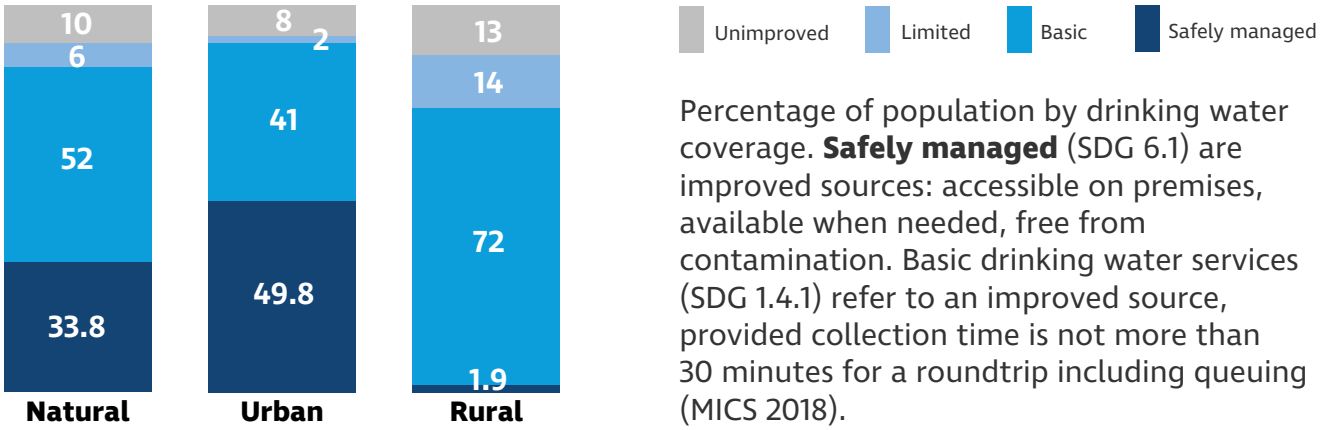
In general key observation from the assessments and most significant and far-reaching damages were found to be in the areas of sanitation facilities.

Many structures located in lowland areas or water ways collapsed, mainly due to weak infrastructural planning and usage of poor construction materials. Additionally, poor drainage systems, coupled with limited access worsened the situation. The overland flow of storm run-off caused by an increase in impervious surfaces in urban areas; high water table, and insufficient public waste disposal, exacerbated the flooding and corresponding contamination of water bodies.

Coordination: There is an existing technical working group dedicated to WASH, responsible for the national WASH coordination. The technical working group is chaired by the Ministry of Health and co-chaired by UNICEF. This coordination also includes DWR, Ministry of Environment, GRCS, other UN agencies, Area councils, municipalities and number of NGO partners.

However, there is a need to further strengthen coordination and understanding the transition between development and emergency response in terms of accountabilities, roles and responsibilities is important. There is also a need to ensure that coordination is inclusive, and all partners are equally engaged in planning, implementation and monitoring of results. For this regular WASH sector meetings are being organized and it is recommended that this coordination continues throughout the emergency response cycle.

Drinking water coverage: National, urban, and rural

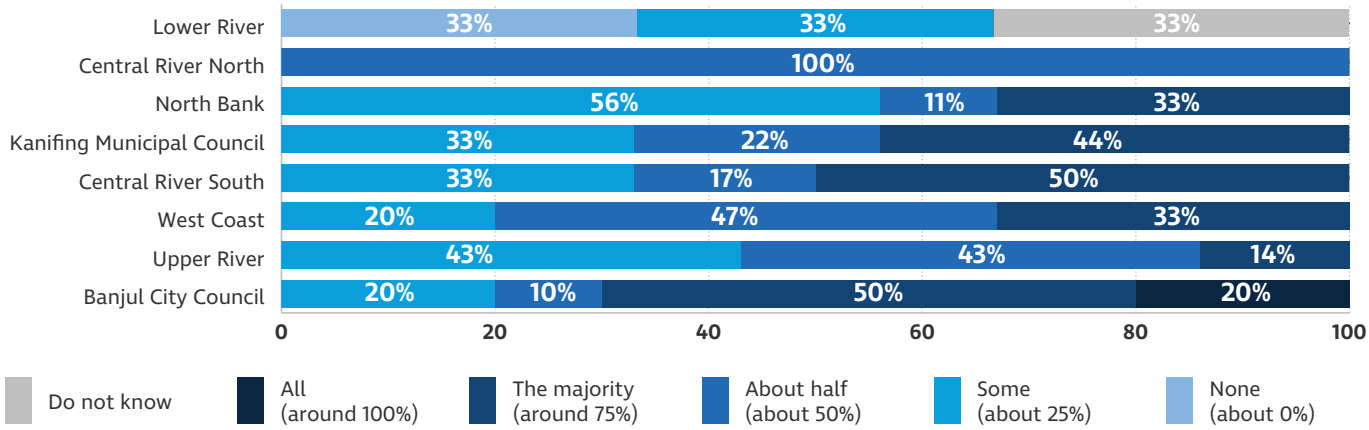


Percentage of population by drinking water coverage. **Safely managed** (SDG 6.1) are improved sources: accessible on premises, available when needed, free from contamination. Basic drinking water services (SDG 1.4.1) refer to an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing (MICS 2018).

Water: In the Gambia there are two main ways of accessing water. One is through boreholes connected to a solar powered pump, elevated reservoir and taps. The other way of accessing water is through hand dug wells with or without a hand pump. Boreholes are more protected from pollution than the dug wells. According to the Multi Indicator Cluster Surveys (MICS 2018) for The Gambia (see inset) 49.8% of the urban population has access to a safely managed water point while that number is only 1.9% for the rural population.

Although the urban areas in general have a sturdier water supply system than the rural areas, the diagram following indicates that Banjul could have a significant part of their water supply system damaged due to the floods. Other regions affected are (in decreasing order) West Coast, Central River South, Kanifing and North bank.

Proportion of KIs reporting clean water points were damaged or destroyed their communities, per region

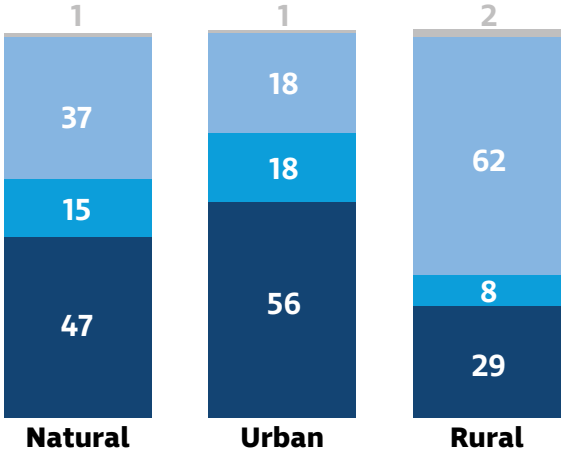


Sanitation: The urban area of Banjul is connected to a waste-water system. Other urban areas outside of Banjul have mostly septic tanks. In the rural areas households have various types of pit latrines. The simplest version is a pit without any type of lining to stabilize the structure. This type gets flooded and destroyed with each flood. Latrines that are more likely to withstand a flood have a pit that is lined.

According to the diagram 56% of the urban population have access to at least basic sanitation services while that number is only 29% for rural population. A large problem in many areas around the West Coast and central Banjul is that the ground water table is very high, often less than a meter below the ground level. This is a major constraint when constructing latrines.

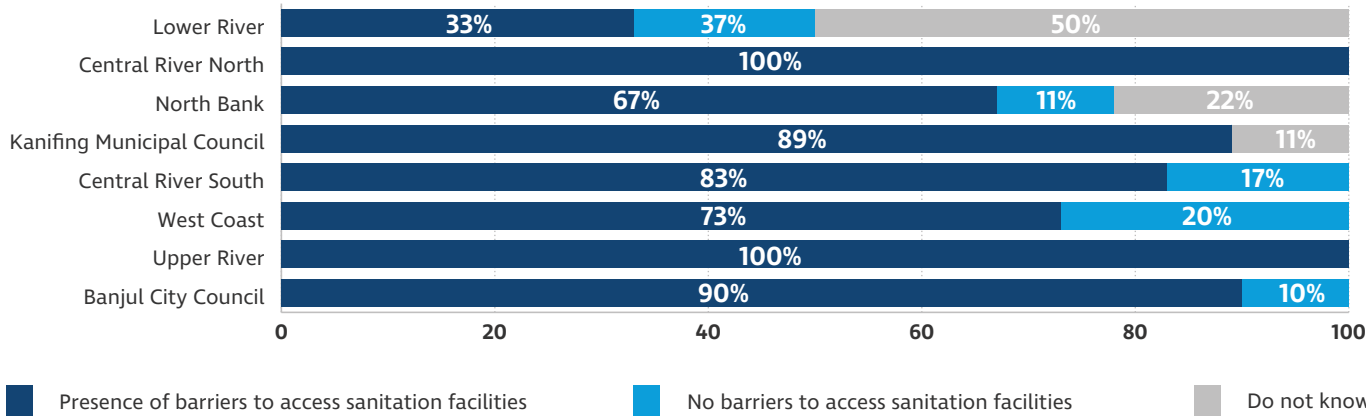
After the floods it seems like most regions have barriers that negatively affects the access to safe sanitation. The barriers most frequently reported were unhygienic toilets that were not functioning or a lack of toilets. The worst affected regions when it comes to compromised access to safe sanitation are Central River North, Upper River, Banjul city, Kanifing, and Central River South.

Basic sanitation

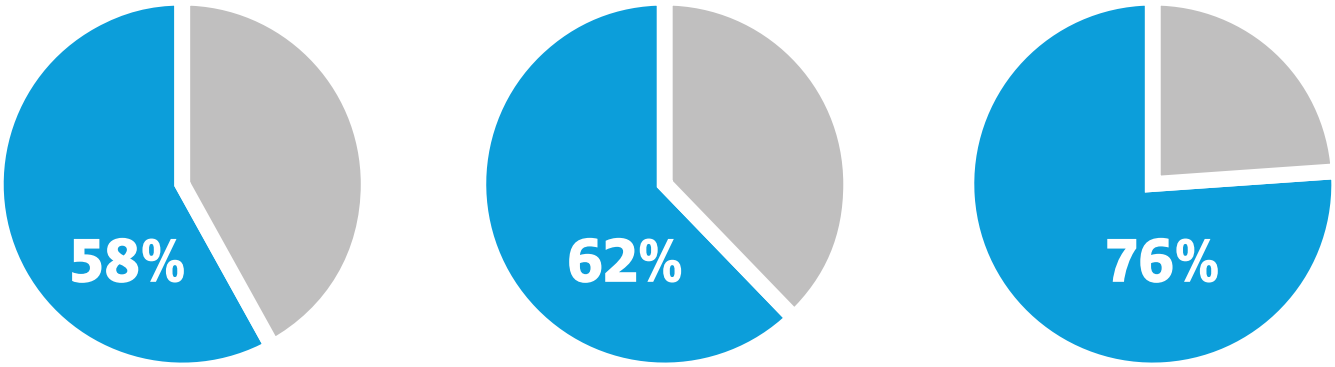


Improved sanitation facilities are those designed to hygienically separate excreta from human contact, and include flush/pour, flush to piped sewer system, septic tanks, or pit latrines; ventilated improved pit latrines, composting toilets, or pit latrines with slabs.

Proportion of KIs reporting problems to access to sanitation facilities in their communities, per region



Most reported barriers to access toilets reported by KO reporting the presence of at least one barrier in their community



Hygiene: The immediate effect from flooding is pollution of the whole household and community environment including water points, which results in an increased risk of outbreak of water borne diseases such as diarrhea and cholera. The longer the water is standing in the compounds and community the more likely are the risks of disease outbreaks. A lot of standing water is also a breeding ground for insects and flies, which will increase the risk of malaria outbreaks.

Flooded or collapsed septic tanks and latrines reduce the access to safe sanitation, and people start to defecate in the open. This will add to an already poor hygiene situation.

Response Planning

- Distribution of NFIs e.g., aqua-tabs, water containers, hygiene kits, dignity kits, buckets, gum boots etc.
- Hygiene promotion – safe hygiene practices.
- Coordination.
- Improving access to safe drinking water.
  - On household level.
  - Places with acute lack of water e.g., IDP sites.
- In order to help people move back to their houses, assist with cleaning of houses and fumigation.
- Training of frontline health workers on life saving management of Acute Watery Diarrhea (AWD) in collaboration with WHO, Red Cross and MoH.
- Country wide hygiene promotion campaign on several community radio stations, commercial radio and television.
- Countrywide efforts concerning 500 water points with a focus on schools, health facilities and affected communities. The first part consists of taking of water samples and then chlorinate the water point. The water is then analyzed for E-coli, microbiology and chemicals. If the results indicate contaminated water in certain areas, then in the second part of the project these areas will be targeted for hygiene promotion.
- Collaborate with Local Bodies /area councils for safe disposal of hazardous waste and pumping of stagnant water within the health facilities and other critical public areas.
- Joint mission to assess the rural areas to have a better understanding of the situation there.

Recommendations: Short-medium-term

- After flooding, assume that all water points have been contaminated. To avoid spreading of water borne diseases therefore all water should be treated before consumption.
- Request additional WASH expertise from e.g. UN Standby partners.
  - Improve emergency response mind-set.
  - Equip WASH partners with necessary tools to respond to floods.
    - Mobile latrines: to minimize the risk of outbreak of mainly water borne diseases it is vital to avoid open defecation.
    - Bladder tanks of different volume incl. tap stands: to quickly provide water in locations where there is no access to clean water.
    - Pumps, tap stands, chlorine, pool testers etc.
  - Enhance WASH coordination.
  - Rebuild destroyed/damaged WASH infrastructure (toilets and water points).

Long-term Recommendations

Water

- Build water supply infrastructure to ensure most people have access to clean water preferably through protected boreholes equipped with taps. This includes regular maintenance, analysis of water samples and chlorination.
- Offer trainings or workshops in how to best create boreholes to ensure a high-quality result.

Sanitation

- Carry out major rehabilitation of existing sewage system including pumps and pipes in Banjul and wastewater treatment lagoon in Kotu. Currently sewage water treatment is insufficient.

Coordination

- Coordination to be strengthened through regular engagements led by WASH sectoral leads: Ministry of Health & UNICEF.
- Ensure cross-sectoral exchange of information and specifically link with Health and Environment.
- Support and monitor infrastructure projects to improve access to safe water and sanitation.

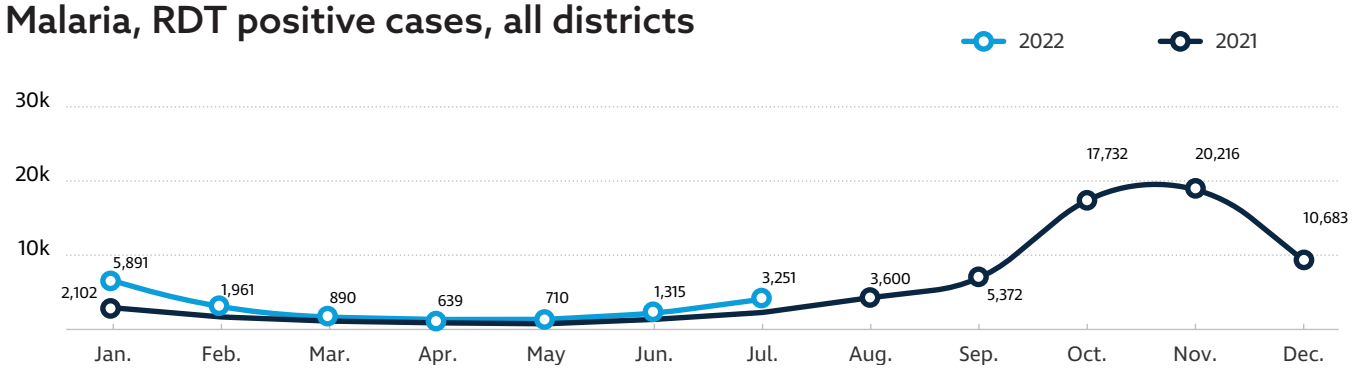
Health

The immediate impacts of the floods include loss of human life and deterioration of health conditions owing to waterborne diseases. In addition, there has been damage to property, destruction of crops, and loss of livestock contamination of water resources the exacerbated transmission of waterborne diseases. Hazardous chemicals have contaminated the drinking water. In at least one area, water-logged roads limits community members' access to essential health services, such as treatment of chronic non-communicable diseases (diabetes, hypertension, bronchial asthma, cancer), preventive services (malaria, family planning immunization, antenatal service), nutritional, immunization and other health services. Severe acute malnutrition and is expected to worsen due to impact of food insecurity and diarrhea and other infectious diseases lowering the immunity of children and thus making them more vulnerable.

The increased numbers in the incidence of diarrhea with blood (DWB) cases in the integrated disease surveillance and response (IDSR) weekly reports increased from 36 cases in epidemiological week 20 to 70, 120 and 97 cases in epidemiological weeks 30, 32 and 33 respectively, clear evidence of the health impacts of the floods. The floods occurred during epidemiological week 30.

After about one month after the floods, an increase in cases of some pathologies was observed in Malaria, acute diarrheas, skin rashes, chronic diseases, and psychiatric affections.

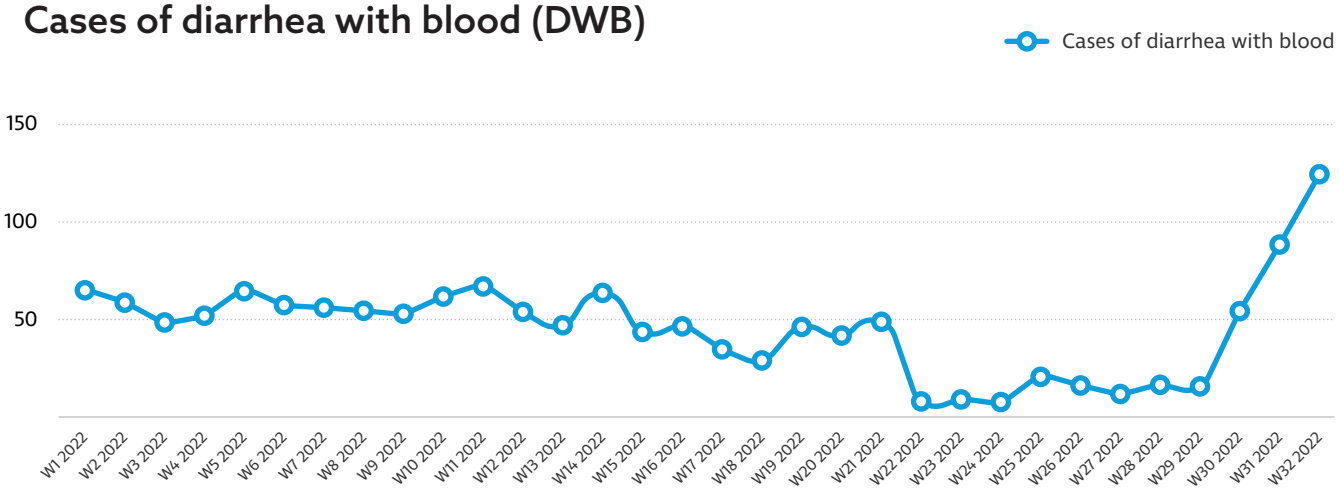
Malaria, RDT positive cases, all districts



On the 26th of July 2022, the Epidemiology and Disease Control (EDC) unit received a report through the Director of Health Services from a nephrologist of a sudden rise in cases of Acute kidney injury (AKI) among children aged 5 months - 7yrs. AKI can range from minor loss of kidney function to complete kidney failure and have a mixed range of symptoms where the presence of sepsis, ischemia and nephrotoxicity often co-exist and complicate recognition and treatment.

As of 24th August 2022, about 50 cases of suspected AKI were reported with 40 mortalities (CFR=83%). The cases were reported from Western 1 Region, Western 2 Region, Lower River Region, Central River Region, Upper River, and North Bank west Region.

Cases of diarrhea with blood (DWB)

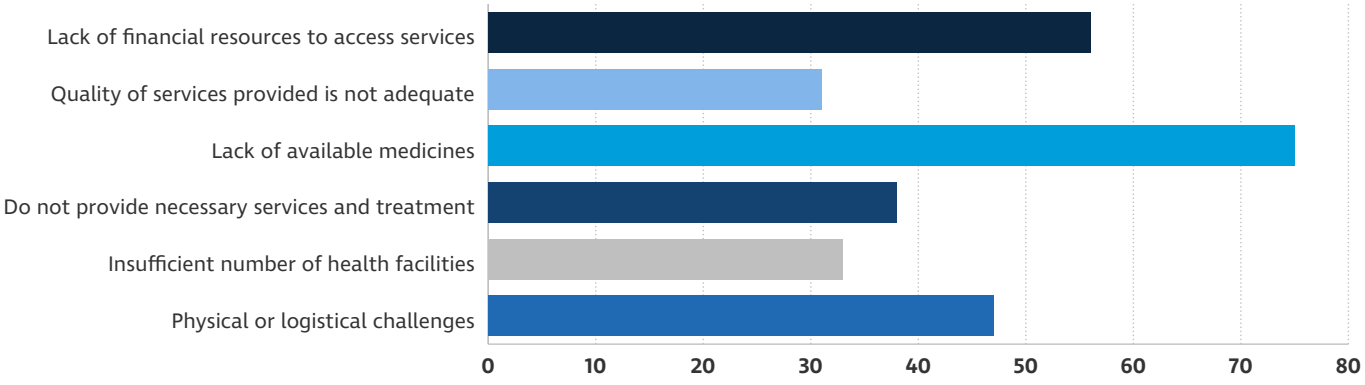


Additionally, the surge in the number of suspected AKI cases in children under 5 years of age reported immediately after the flooding and within the same epidemiological weeks as the diarrhea with blood cases could be associated with the flooding. As of 24th August 2022, about 47 cases of suspected AKI cases were reported with 39 mortalities (CFR=83%). The confirmation of E Coli in the stool samples of children with acute watery diarrhea strongly suggests consumption of contaminated water or food following the floods. At the time of the outbreak, the National Public Health Laboratory were unable to perform the necessary tests, hence specimens were sent to the Pasteur Institute in Dakar.

Table 1: Summary of AKI cases, The Gambia, 24th June - 24th August 2022

Number of cases reported	49
Number of samples collected	10
Number of samples sent to lab	10
Sample analyzed	10
Sample pending	0
Total death	39
Overall cases fatality rate	**82%**

Most reported health barriers to access health facilities reported by KIs for their community



This bar chart represents the most reported health barriers as presented by key informants during the MIRA assessment. Most of the community members (75%) presented lack of medicines as the most recurring barrier while lack of financial resources to access services and physical and logistical challenges represented 56% and 47% and respectively. These findings align with the immediate need for the health sector in this report to procure needed medicines for the affected community members.

Sexual Reproductive Health – Maternal Health - All population groups are affected and have a right to receive health care. But the vulnerability and service needs differ. During floods, amongst the most vulnerable groups are all children under 5 years of age, adolescent girls, and women of reproductive health age (15 to 49 years). These vulnerable groups need special attention and care as part of reproduction and child health needs

Mental Health and Psychosocial Support (MHPSS) - In every situation, there are emergency-induced kinds of vulnerabilities that should be assessed, especially looking at the number of deaths which stands at 13, and the number of displaced populations (7,404). It is noted that there are negative coping strategies being used, yet the triggers are not known. MHPSS needs to be implemented to address protection needs and reduce vulnerabilities among different groups, as people are affected differently.

The impact of the floods on individuals, households and communities is a great source of stress, fear, worries, and anxieties among the different affected groups. These emergency-induced psychosocial needs exacerbate psychological distress and tear down resilience and coping resources.

Recommendations - Short-term:

Procure the following:

- Insecticide treated nets, and artemisinin combination therapy (ACT) medicines for malaria.
- Oral Rehydration Salts (ORS) for diarrheal diseases including diarrhea with blood.
- Oral cholera vaccines and third generation cephalosporins medicines for cholera.
- Antibacterial and antifungal ointments for skin rashes and infections.
- Laboratory reagents for blood, stool, urine and water samples' analyses and testing.
- Laboratory equipment such as clinical biochemistry analyzers, microbiology analyzers, PCR machine and reagents and genomic sequencing reagents, and electron microscopes.
- Conduct enhanced active surveillance to detect, report and investigate new cases and deaths.
- Provide adequate logistics support for surveillance activities.
- Sensitize community members.
- Train health care workers and volunteers on flood response and surveillance.
- Ensuring continuity of health and Nutritional services namely Ready to Use Therapeutic Food (RUTF) products to manage severe acute malnutrition.
- MHPSS should be made available to affected populations on a prioritized basis considering vulnerability and other relevant factors.
- Setting up Mobile Clinic to provide SRH/ANC services for pregnant and lactating women.
- Support Referral services for complicated SRH/ANC cases.

Mid-term:

- Ministry of health should support facilitation to ensure all actors can interact, communicate, and collaborate to improve response.
- NDMA should support coordination between government and partners.
- Control of other diseases and identify risk areas.
- In the field, research to identify populations at risk according to main pathology (respiratory, water, parasitic, etc.) should be done.
- Psychosocial support.
- Mass testing, combined with keys message and awareness campaigns on the different diseases should be enhanced during and after floods.
- Sharing activities and reports on going between all actors which are involved in the health sector.

Long-term:

- Sustained distribution of equipment, consumables, and drugs in the various health structures.
- Review and update hospital waste management plans (waste, liquid, biodegradable and non-biodegradable) with a focus on polluted water from hospitals.
- Increased reception capacity for mass testing and vaccination.
- Create a structure like COUSP (Center for Operations in Emergency on Public Health).

Protection

Protection remains a major concern for many community members, according to assessment findings.

Gender Based Violence is a particular concern especially for girls and women living in displaced settings, including in similar camps. Some of them take refuge among kinship families and communities, many of whom are at greater risk of gender-based violence. Overcrowding and congestion in many host families of IDPs with poor living conditions increases the vulnerability of women and girls to abuse and gender-based violence.

The community groups most frequently reported by KIs as having a particular need for assistance following the event are female heads of households (reported by 83% KIs), followed by persons with disabilities, and households headed by elderly persons (73% and 72% respectively). Gender Based Violence is more acute in the wake of a natural disaster like the flood, and it occurs at every stage of an emergency. The GBV Survivors are usually women and adolescents, whose vulnerability is exacerbated in the chaos of a crisis.

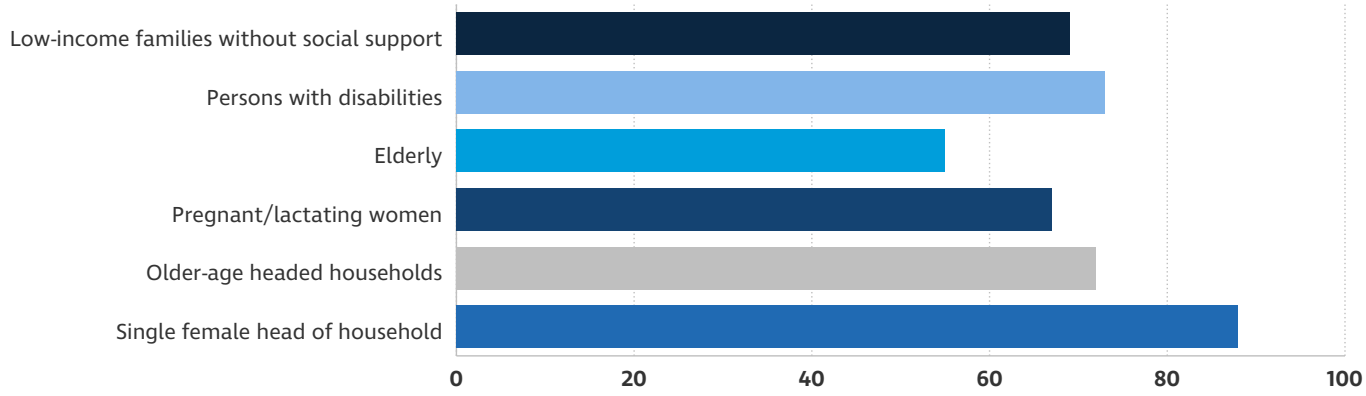
Before the onset of the flooding in the country, GBV was a widespread problem that goes underreported due to a culture of silence that considers it to be a private family matter outside of the jurisdiction of law enforcement. This violence

ranges from physical abuse both in workplace and the family setting in the form of sexual violence, domestic violence, and intimate partner violence.

According to the 2019/20 Demographic and Health Survey (DHS) report, the lifetime physical and/or sexual violence from their intimate partners is 33.3%. Nearly 4 in 10 married women have experienced physical, sexual, or emotional violence by their current or most recent husband or partner. Overall, 48% of women aged 15-49 experienced either physical or sexual violence (GDHS, 2019).

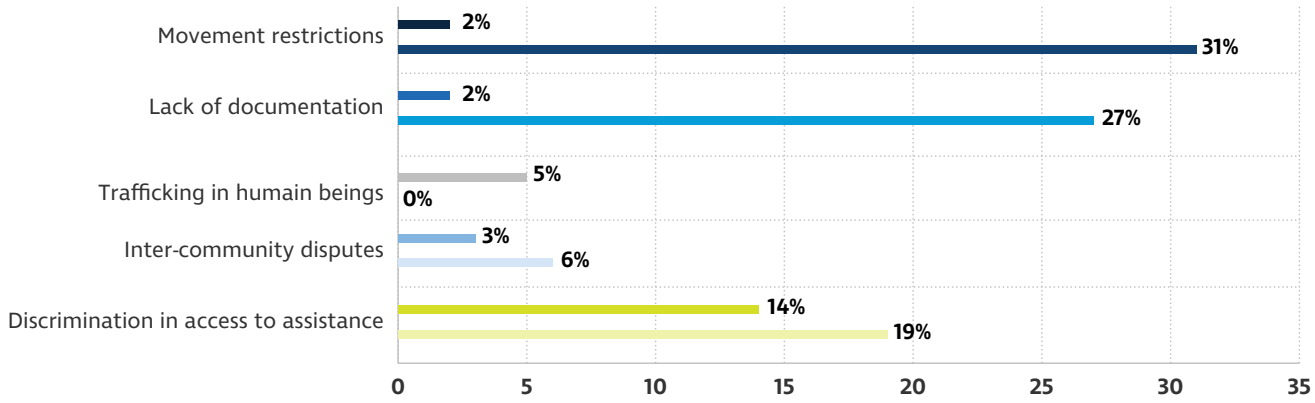
The community groups most frequently reported by KIs as having a particular need for assistance following the event are female heads of households with at least 83%, persons with disabilities, and households headed by elderly persons.

Groups in the community most frequently reported by the KIs as being in particular need of assistance as a result of the event



The protection issues most frequently reported by KIs have worsened in their community since the event. Indeed, 31% of KIs reported movement restrictions, lack of documentation (27%) and 19% reported discrimination for access to assistance. It should also be noted that 14% of KIs reported crimes as a protection issue in their community, which should be considered in the list of the most relevant protection problems.

Protection issues most frequently reported by KIs has having worsened in their community since the event

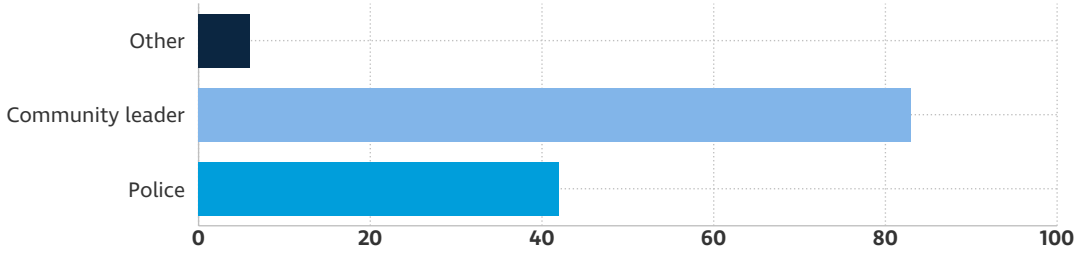


Due to its cross-cutting nature, protection is affected in several sectors. Indeed, in addition to the above factors, the main factors that aggravate the living conditions of displaced persons are inadequate shelter, livelihoods, access to basic services such as health care, water and sanitation, and these concerns are triggers for concerns about the protection and vulnerability of women and girls.

Food scarcity and inflation were endemic in the community before the floods began, June to October in The Gambia is a lean season with limited access to food supplies has a strong tendency to lead displaced people to negative coping mechanisms that have led to serious protection problems.

Access to sanitation and WASH facilities is also a challenge for many vulnerable people, especially women and girls, due to the collapse of latrines and water points and sources. Safe and dignified access to WASH facilities, especially for women and girls, is also an issue. The lack of functional sources means that many women must walk long distances to fetch water, increasing the risk of harassment and abuse.

Most frequently reported places where people seek assistance in situation of protection problem in their community, according to KIs



To overcome these protection problems, people turn to three reporting locations to seek help. Community leaders remain the first resort of communities with more than 80% followed by the police for 40% of cases.

Response Planning

- Organize community's sensitization on GBV using the community volunteers to raise awareness and referring cases to the GBV services delivery points in the one stop centers.
- Organize community dialogue session among young girls and women groups within safe space locations.
- Conduct sensitization on Child protection Issues and Gender Based Violence in the areas affected.
- Organize PSEA training for all intervening partners.
- Install or strengthen Community Child Protection Committees (CCPC) and Mother's Club structures in all affected areas.
- Brief local authorities on issues related to child protection and GBV in relation to emergency.

- Brief social service workforce on psycho-social support for people affected during floods, particularly children.
- Support visits in host families to provide psycho-social support to displaced children.
- Establish a clear monitoring, reporting and referral pathway in collaboration with an established multisectoral committee (Police, Social Workers, health workers, community volunteers).

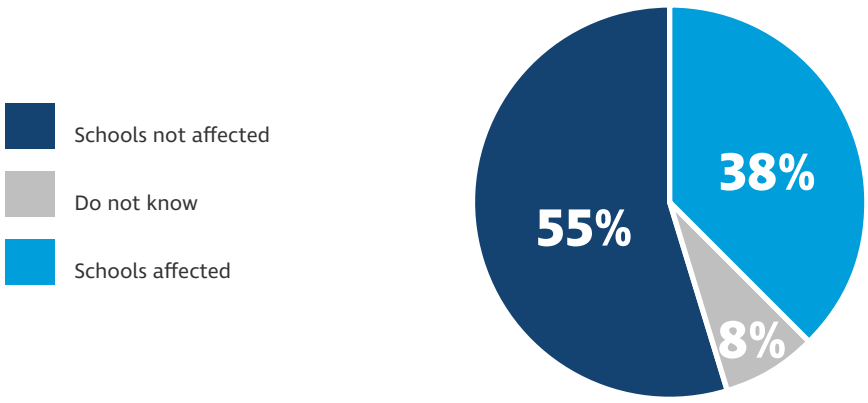
Recommendations

- Ensure the mainstreaming of GBV and protection concerns across other sectors like food security and WASH in reducing vulnerability of women girls in distribution of Food and NFI.
- Ensure accountability to affected population is well established and upheld across all the sectors.
- Establish Coordination Mechanism for the Protection sector in collaboration with Ministry of Gender.

Education

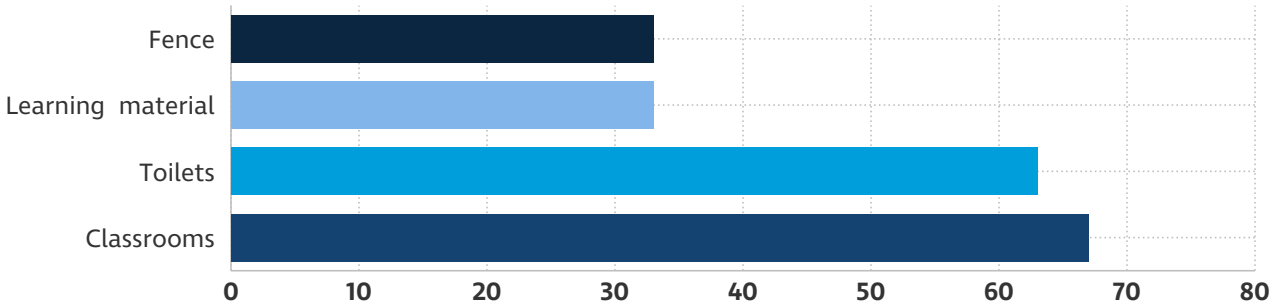
Critical to child protection, education structures have been affected by the floods. Although the floods occurred during school holidays, this did not prevent a negative impact on schools, which are most of the reception sites for households that have been flooded. More than a third of KIs reported that there was at least one school building in their community that was affected by the flood.

Proportion of KI reporting that school(s) in their community was/were affected by the flood



According to the KIs, the most affected facilities at these schools were classrooms and toilets (67% and 63% of KIs respectively). This could pose a real risk of disruption to the start of the school year in the areas concerned. The areas were KIs most frequently reported that school were affected by the flood were in the West Coast (60%), Central River South (67%), Central River North (50%).

Parts of the school most affected by the flood, amongst KIs reporting that the school in their community has been affected



It should be noted despite the holidays, access to schools is critical in some areas and may pose problems especially at the reopening, due to erosion and flooding of roads to these sites. One school attracts particular attention, that of Nema Kunku. Indeed, the koranic school with 255 students suffered water contamination.

Response Plan

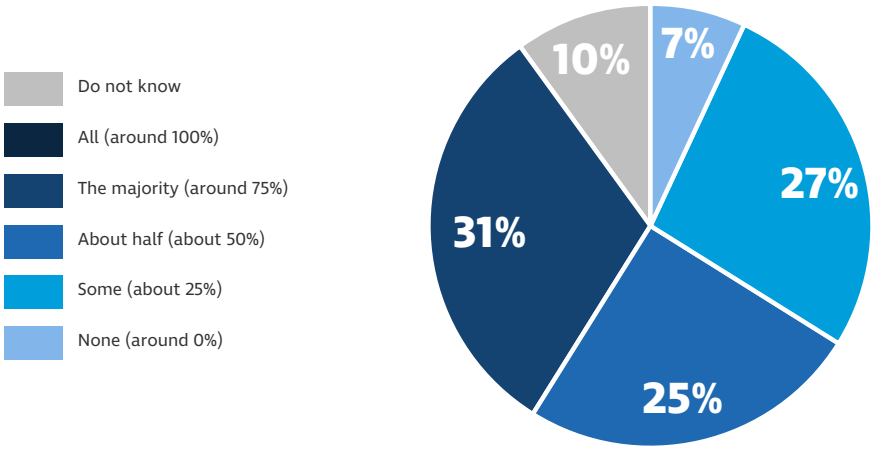
- Coordination through Local Education Group is being instituted. This forum is led by Ministry of Basic and Secondary education with considerable membership.
- Coordination with WASH sector to ensure water supply, Hygiene and sanitation facilities in most effected schools is ensured.
- Hygiene promotion in collaboration with Mothers clubs and other actors.
- Once the schools are opened, region wise assessment of impact of flood on schools will be carried out by MOBSE with support from UNICEF.
- In preparation to reopening, urgent measures need to be taken for school buildings currently serving as shelters for affected populations, to be prepared for students to resume classes, including fixing of sanitation facilities as necessary.
- Provisions must also be made to support in school materials children who have lost their materials.

Early Recovery

Early Recovery is cross-cutting and relevant to all sectors. More than half of the KIs reported that there was a loss of income and/or livelihoods after the event in their community, for between half or most of the population. Survey indicators showed at least more than half of communities lost their income and/or livelihoods.

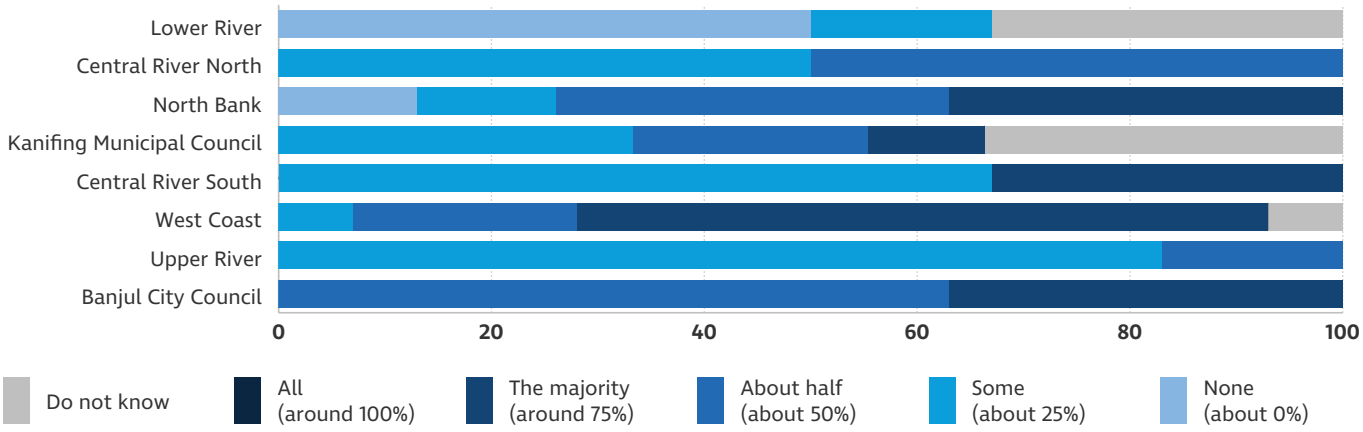
For example, for food security, in addition to the loss due to flooding, the investigation revealed the decline in available land for cereal and rice fields in the CRR and URR regions. These fields are key economic support for the rural population and sources of income for households. From this situation their restoration and revaluation must be included in the response plan without forgetting the market gardens which beyond the nutritional aspect constitute a source of income for women.

Proportion of KI reporting a lost of income/source of livelihood amongst people in their community



In addition to these findings, the floods have created a delay in the sowing of local cereals in the URR area, predicting a bad agricultural season in some communities in the region.

Proportion of KIs reporting a lost of income/source of livelihood amongst people in their community, per region

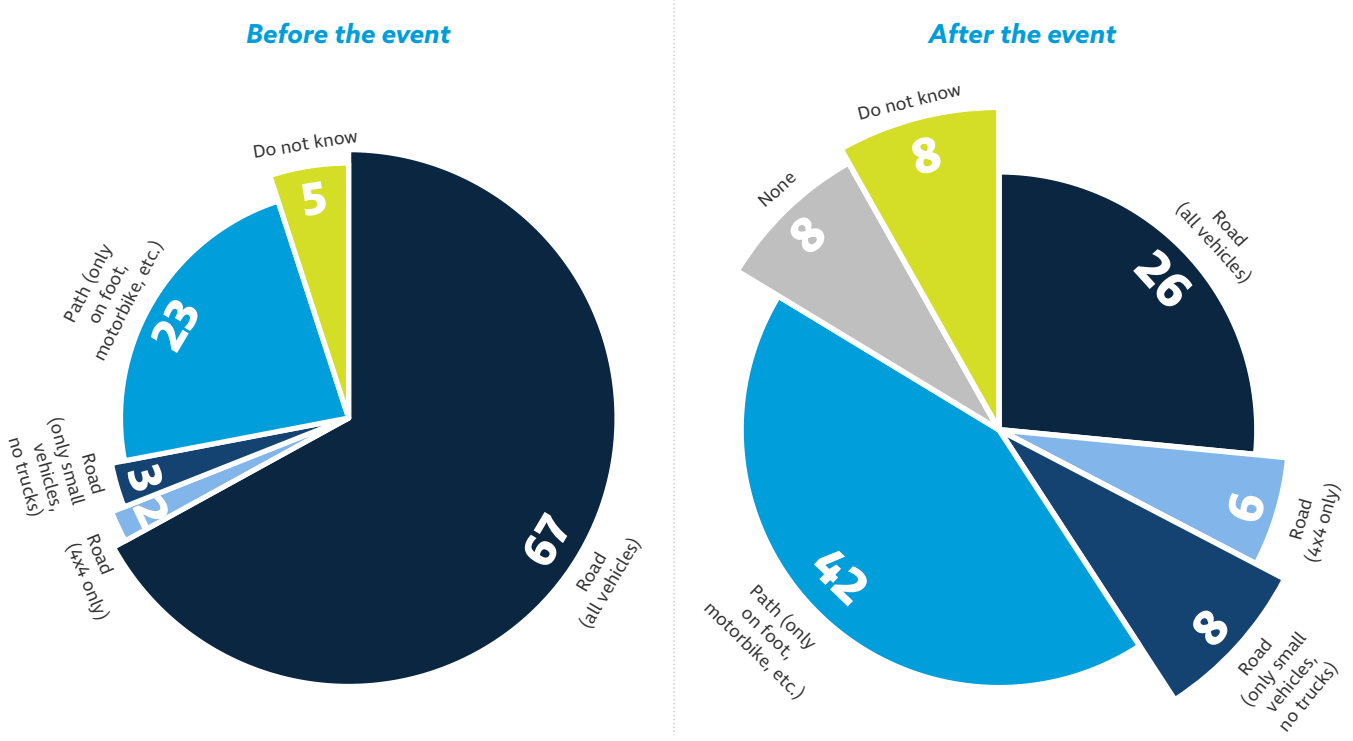


Access Constraints

It is important to note that a vast majority of KIs reported that rain had affected physical access to their community (91%). These access problems were more frequently reported in Banjul, Central River North and North Bank. Response actors can reach affected communities using 4x4 vehicles and motorbikes. However, the floods have impacted heavily on physical access communities to services, according to the report of KIs in the assessment. It should be noted that the problems of physical access are more related to the means used by the communities, car, motorcycle, bicycle or on foot. An important change of means of physical access were highlighted by the KIs before and after the event. While a majority of the KIs (61%) reported that their community was accessible by road and using all vehicles before the event, this proportion dropped to 28%.

After the event, the most frequently reported means of transportation to physically access their community was using a path (only on foot, motorbike, etc.) (42%), while before the event if was reported by a minority of KIs (23%).

Main means of physical access to the assessed communities reported by KIs



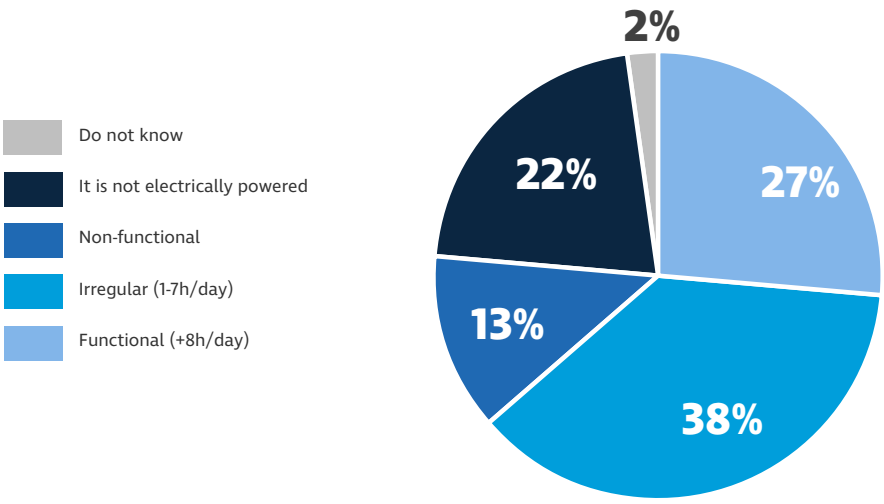
This situation makes it difficult to access the areas in case of delivery, evacuation, etc. especially since only twenty-eight are usable by vehicles. This isolation is most pronounced in the Upper River, Central River North, and Lower River areas.

Electricity and Communications

Electricity and communications are increasingly vital to human life in both rural and urban areas. They were impacted by the floods. Indeed, the proportion of the functional status of the electricity service in the community, reported by KI is low after the events, with less than a third of KI reporting that electricity was functional and regular. A majority of KIs reported that access to electricity was irregular and functional only around 1 to 7 hours a day. It is also important to note that 35% of KIs reported that electricity was non-functional or that their community was not electrically powered.

Electricity and communication services are very irregular according to 38% of the KIs surveyed. For those with electricity, this irregularity ranges from 1 to 7 hours of time. It should further be noted that the electricity was previously not functioning for 35% of the areas visited. Prior to the floods with 58% of KIs reporting functionality of 8 hours and more. The impact of the floods was keenly felt in terms communication due to interruptions to electricity supply.

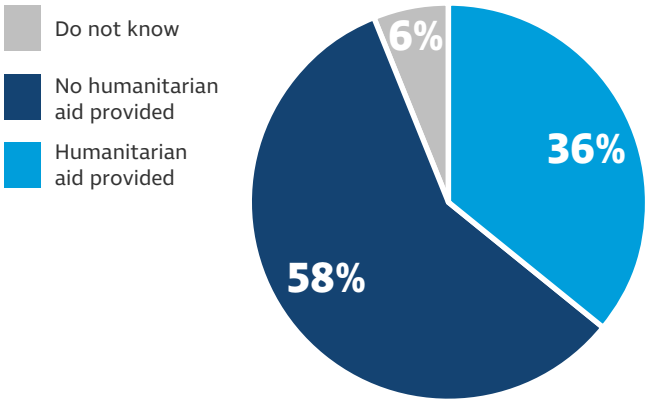
Access to electricity and communications afer the event, reported by KIs

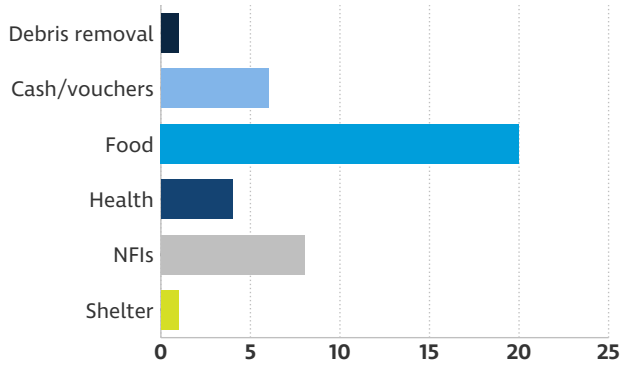


Humanitarian Response

After the floods, humanitarian responses did not follow as expected. Only 36% of KIs said humanitarian assistance was provided in their community. This sufficiently shows the gap in the assessed areas. The only areas that had reportedly received humanitarian responses at the time of data collection were in the West Coast, Upper River, Banjul, and Kanifing Municipal Council areas.

Proportion of KIs reporting that humanitarian aid was provided in their community and sectors



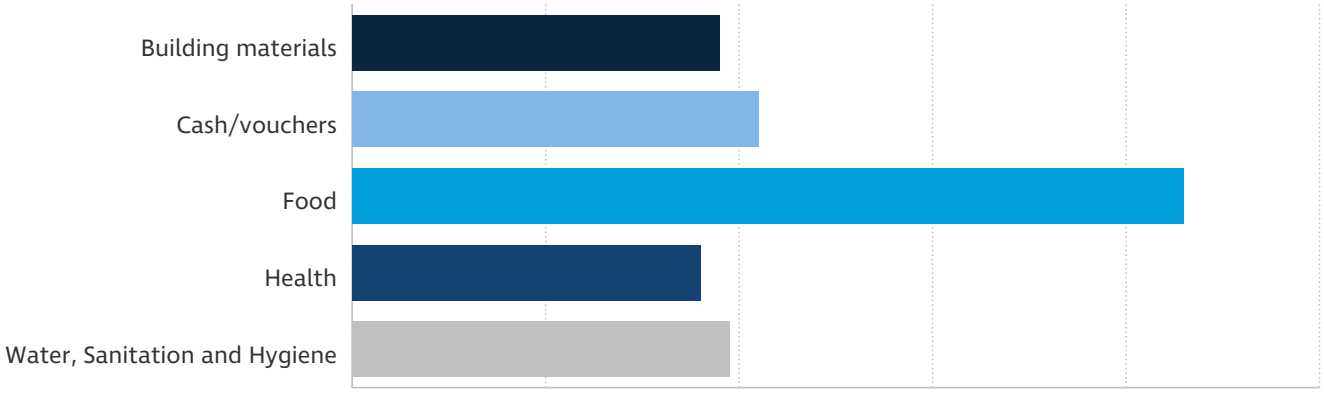


The main supports offered to the affected populations are food, followed by cash transfers and supply of NFIs. It should be emphasized that these efforts have been made by several organizations that have mobilized to support the Government in responding to the crisis. In the typology of organization, the Gambian Red Cross stood out with a quick response and assistance to the communities. In addition to the GRCS, NGOs and the UN have also been able to join the State's efforts to relieve the populations of the most affected areas.

Prioritization of Needs

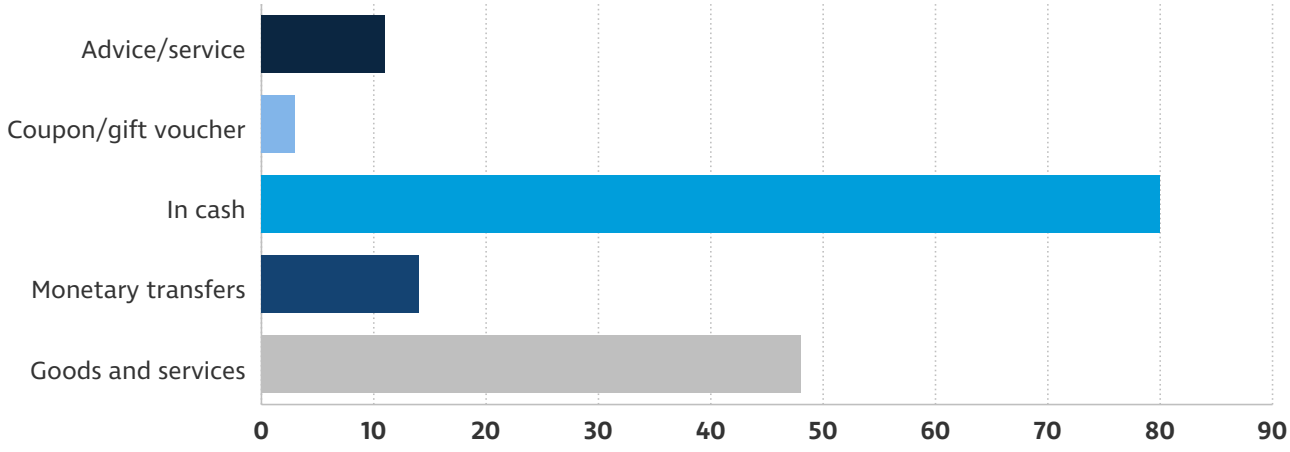
Despite the efforts made by the Government and its partners, communities are still in dire need of assistance. According to the KIs, distribution of food was the most frequently reported need of assistance in their community (88%), followed by cash and/or vouchers (41%), WASH distributions (39%) as well as building materials for reconstruction (38%).

Type of assistance most reported by KIs as priority needs in their community



For the modalities, cash support is the preference for assistance according to 80% of the KIs, followed by distribution of goods and services (48%). These types of responses should still consider the potential problems raised above on protection to make a better assessment of the needs of communities.

Proportion of KIs reporting on the preferred type of assistance in their community



Joint Assessment Implementation

The following recommendations are offered to improve the work of joint multi-sectoral assessments implemented by the NDMA, the United Nations and Partners.

- Preparatory work be conducted with local authorities, NGOs, and partners, so that they are trained in the collection of data, if possible, in digital form, to enable rapid communication in the event of a disaster. A unified collection system could help to accelerate the availability of information.
- Updating the lists of KIs in each community considering the implementation of the assessment.
- Mapping of localities and estimated or actual population to facilitate household surveys and targeting.
- Follow-up of the update of the 5W matrix at the level of the UNDRM, the State and NGOs.
- Real-time update of the Dashboard for better monitoring of interventions.
- Update of the information collection questionnaire and agreement for usage in future emergencies. If necessary, it can be supplemented by other modules, for example inclusion of displaced people living in informal settlements due to the impact on homes and localities.
- Capacity building on the analysis of collected data to have a technical capacity to rapidly clean, validate and structure the collected data. The identification of a database manager or institution that can provide these capabilities would be particularly important (universities, INE, etc.). Local training in data management particularly in Kobo, but also the use of Excel and data visualization tools.
- Consider conducting rigorous data collection on affected populations' needs (numbers, geographical location, profiles, etc.)

Environmental Impacts

The environmental sector faces significant challenges to address vulnerabilities to flooding. Due to climate change, rainfall is becoming increasingly erratic causing more frequent droughts and floods. As sea levels are to rise, this will also become an important hazard especially to low-altitude areas of The Gambia. In addition to the current and future challenges related to flooding, the coastal zone is also rapidly eroding.

Road networks and associated transport infrastructure have not always fully considered water flow particularly in times of high rainfall. Unregulated settlements and commercial developments have encroached on waterways limiting their capacity. This combined with insufficient maintenance has meant that flood waters have been trapped.

Insufficient formal collection and management systems for waste including human, household/commercial and industrial is an issue in both urban and rural areas. Medical waste is of particular concern. Insufficient disposal of waste is a major cause of flooding, especially in unregulated settlements with few or poorly maintained drainage systems.

Flooding therefore is a risk to life and property as it occurs, and there is further residual risk as flood waters are contaminated by waste and contaminate water supplies.

In response to the flooding, specific attention must be paid to the continuous response and recovery actions of the oil spill in Brikama, as well as the recurrent oil spill at the sewage sub-station. In addition to that improved drainage and sewage systems are of utmost importance to decrease the impact of flooding. This is seen as crucial particularly in the months prior to each rainy season. Critical infrastructures such as power supply facilities or sites that pose a higher risk for the environment (petroleum storage depot, petrol stations, chemicals, and fertilizer stores etc.) and connected sectors must also ensure against contamination in the event of flooding.

In that sense, the spotlight should be put on investment in the sector and sustaining the coordination structures and mechanisms to manage environmental impacts of disaster. Coordination across the related sectors to ensure inter-agency collaboration is essential. Environmental risks have significant implications for other sectors, and environmental impacts should be considered in spatial planning and infrastructure project.

Recommendations:

- Sustain investment and coordination for environmental risk and emergency management.
- Continued response and recovery of oil spill incident at Brikama Power Station.
- Increase efforts for improved waste management.
- Risk profiling and regular inspections of environmental risk facilities.
- Environmental Education – providing education and improving the public understanding of the issues that are central to better resource conservation and management.

Environmental Response and Emergency Management

The Environmental Emergency Management and Response Programme established under the Technical Services Network of the National Environment Agency (NEA) is a comprehensive response-oriented programme that focuses on preparing for and reacting to environmental emergencies. The programme aims at developing legislation, partnership arrangements and environmental contingency planning that collectively underpin the public sector reactions to an event that threatens the ecosystem. This program is also responsible for responding to spills of hazardous materials and harmful substances. Compared to HEALTH and WASH, there is no (cross)sectoral coordination for environmental emergencies. Due to the significant environmental impact of the flooding the Ministry of Environment Climate Change and Natural Resources (MECCNAR) and NEA have established an

environmental response coordination group. The committee is co-led by UNDP and coordinates response efforts to current flood related incidents as well recurrent challenges across the different sectors. The Programme was established following a scoping mission conducted by the UNEP-OCHA Joint Unit in The Gambia 2013. The office serves as the disaster focal point of the NEA, among others. Its purpose is to provide a periodic assessment of specific environmental hazards and maintain an up-to-date hazard profile of the environment across the country, including hazardous substance storage facilities.

A key actor in addressing the environmental impact of the flooding is NAWEC – the National Water and Electricity Co. Ltd. The company is engaged in the generation and provision of electricity, water, and sewerage services for domestic, public, and industrial purposes. It is governed by a Board of Directors which is appointed by the Honorable Secretary of State for Energy. The Managing Director, appointed by the President, is responsible for directly overseeing the operations of the Company. The electricity, water, and sewerage assets are owned by government but managed and operated by NAWEC. As a public enterprise NAWEC does not operate on a commercial basis in the sense that both water and the provinces are subsidized by the Electricity Division. Although NAWEC has achieved financial sustainability for its normal operations, it still lacks the resources to properly expand the electricity and water supply system. Due to these constraints, the system is insufficiently equipped to satisfy growing demand and needs substantial investment for both maintenance and expansion.

Waste Management and Sewage System

Poor sewage and waste management has been identified as a critical driver of the flooding. Lack of maintenance from the responsible organizations and insufficient compliance by the public has resulted in blockages of drainage and sewage systems. It is essential that the management of waste is adopted as part of a wide integrated flood management program. The National Environment Agency (NEA) has put together a list of waste management options that had been proposed which are listed in order from those most to least likely to be utilized in The Gambia. In that order they are waste reduction, reuse, recycling, composting, incineration, with energy recovery, land filling, incineration without energy recovery, and encapsulation and stabilization.

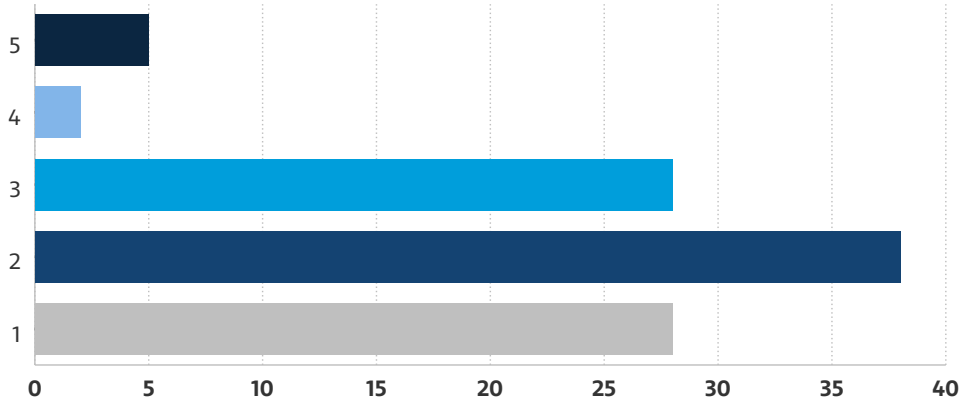
Landfills are the most popular form of large-scale solid waste disposal in The Gambia. If they are properly and efficiently managed, then they could be used to great advantage. Landfills range in type from uncontrolled open dumps to secure sanitary landfills. Generally, there are three landfill categories: Open dumps, Controlled dumps, Sanitary landfills.

The NEA does, however, point out that if the proper precautions are not taken, long-term damage could be done to the environment. Recommendations include adding a lining of clay, plastic or asphalt to the land designated to become a landfill, draining the land of water to reduce contamination, and reducing running water from the surrounding areas. Next is collecting the contaminants and either removing them from the site or treating them appropriately. Another possibility that could help increase landfill usage is the practice of compacting.

Bakoteh Dump Site - Landfills are most popular form of solid waste disposal in The Gambia (source: UNDAC)

The survey found that informal collection types make up for 38% of collection activities compared to only 28% managed by municipalities. Thus, at least 28% have no waste management system at all. The risk of pollution is even higher when it is noted that over 40% of compounds have open wells and over 90% of these wells are in the vicinity of pit latrines.

Most frequently reported type of waste collection by KIs in their community, before and after the event



The wastewater and sewerage system in the capital Banjul is managed by the National Water and Electricity Company (NAWEC). A visit together with the Department of Water Resources and PURA (enforcement authority) gave insights into the system. According to the information received all households in Banjul are connected to this wastewater (sewage) system. The sewage system is discharging untreated wastewater into the ocean (125 m3/h dry season, 440 m3/h rainy season) There are several problems in the daily operations such as lack of spare parts and personal protection gear. The other main important issues are:

- The households throw household waste into toilets, which damages the pumps.
- Some of the pipes are under the water table, which make them hard to repair.
- Check valve is believed to be missing in the overflow protection mechanism, which is supposed to discharge the overflow into the day water system (drainage). During the floods the water from the day water system flowed into the wastewater reservoir.
- No access to sewage trucks.
- No treatment of wastewater, which is discharged on a nearby beach.

A further visit to the Kotu sewage dam in Banjul (also managed by NAWEC) demonstrated that the dam has insufficient capacity and lacks maintenance. Initially it was designed to treat waste (sewage) water from the hotels nearby. Today sewage trucks from the whole country empty their waste in the system. There is only a mechanical filter that empties into a large lagoon. From the lagoon the water is discharged into the river. A large problem is the sludge, produced naturally, in the lagoon. To avoid blocking of the circulation the sludge is removed and dumped in the natural environment close to the dam.

Environmental Education is widely acknowledged to be a vital part of the environment conservation and sustainable development process. Public awareness is therefore the first step to full acceptance. The objective is always to produce an informed society that can participate actively in sound environmental planning and management.

In response to the environmental drivers, the report makes the following recommendations.

Short term recommendations:

- Support the process of cleaning up disaster waste.
- Encourage people in the affected area to organize waste collection and treatment systems and supply communities with basic equipment.
- Establish waste collection in all areas of settlement.
- Existing dumpsites which are open to the public should be designed and maintained considering safety and health risks => investigate geotechnical stability and install suitable perimeters (e.g., Bakoteh dump site and asbestos storage site Soma).
- Hazardous waste must be handled separately and disposed in closed and confined areas to prevent contamination and health risks.
- Ensure that proper personal equipment is available.
- Support the establishment of sound health care waste management practices in compliance with national laws and regulations.

Uncontrolled waste management – flooded dumping areas polluting communities (source: UNDAC)

Medium and long-term recommendations:

- Further develop waste collections system for different types of waste such as electronic waste, chemical waste, and other hazardous waste.
- Develop systems for recycling/ reuse. Consider health and safety issues and provide proper equipment.
- Identify suitable locations for waste management / dumpsites in an area with certain distance to the ground water table (e.g., not near the coast). Dumpsites should be located on a safe distance and downstream of wells and water resources.
- Construct new dumpsite so leachate from the waste is prevented from infiltrating the soil and contaminate groundwater.
- Closure of existing dumpsites should include cover to prevent water from infiltrate the waste and avoid contamination.
- Information about the locations of waste management (former and active) must be documented and future use restricted to prevent risks of health problems, damage on constructions and/or environmental pollution.
- Incorporate waste management in contingency plans. Identity future areas for waste management during disaster events.
- Education and information about waste and proper disposal to prevent negative impact on health and environment. Information campaigns can be carried out in public places, local meeting points and in cooperation with health centres and schools.

Case Study: Oil Spill Brikama Power Station:

Among the numerous concerns arising from the heavy rainfall on 30th and 31st of July, was the overflow of oil sludge at the NAWEC managed Brikama Power plants 1, 2 and 3 causing spillage to the surrounding communities including Kembujeh Sabu Kunda. Each of these three stations generates a quantity of waste oil daily that is kept in large trenches dug behind each of the stations without concrete linings. At the Power Plant 3, the trench is estimated to be two meters deep and twenty meters in length and is dug to contain the burnt Heavy Fuel Oil (HFO). The floods caused the release of 20 to 30m^3 of HFO into the natural environment impacting on the village downstream of nearly 3000 inhabitants, not counting two open wells, a borehole for water supply and polluted housing and farmlands.

In response, the NEA in collaboration with key stakeholders conducted a Rapid Assessment on the 2nd of August, followed by multisectoral assessment with NDMA, to serve as basis for full compensation of the affected parties.

Ecological Impact:	× Soil contamination. × Surface water contamination. × Contamination of flora and fauna (rodents, reptiles, vermin, and some microorganisms) that supports ecological process.
Agricultural Impact:	× Farmlands such as groundnut, cassava, and beans fields. × Livestock disturbance including death of some chickens and ducks and goats painted with sludge. × Grazing field contamination.
Infrastructural Impact:	× Several compounds were affected by the spill. × Two open wells were said to be contaminated with the spilled oil. × Some parts of the road network were visible with spilled oil.
Effects on human health:	× Complaints of Coughing. × Complaints of itching in the mouth and nose. × Chest pain. × Unbearable odor of stagnant oil within residential areas.

Oil Spill at NAWEC power station, Brikama (source: UNDAC)

Short term recommendations:

- Disposal and removal of contamination including thermal treatment of residual material based on the detailed multisectoral assessment.
- Sensitization programmes in the affected community (health and hygiene promotion) and support of local communities for clean up at household level.
- Chemical analysis of water (specifically on hydrocarbons).
- Sample taking from open wells, wetlands, and borehole to ensure groundwater is not contaminated.
- Supervision on the progress of cleaning.
- Monitoring of human health of affected communities.
- Continued coordination with NAWEC and regional as well as national authorities and agencies – specific supervision of rehabilitation and recovery planning.
- Temporary oil booms/barriers in the affected community to avoid more contamination during rainfalls (can be transited as flood / oil spill prevention measure).

Medium and long-term recommendations:

- Supervision of compensation payments and compensation indicators.
- Inspection and risk profiling (from environmental and public health perspective) of all NAWEC power stations in The Gambia considering geological maps to identify underground layers. Permit discharge of oil into dug out reservoirs without proper containment.

Industrial facilities and hazardous materials

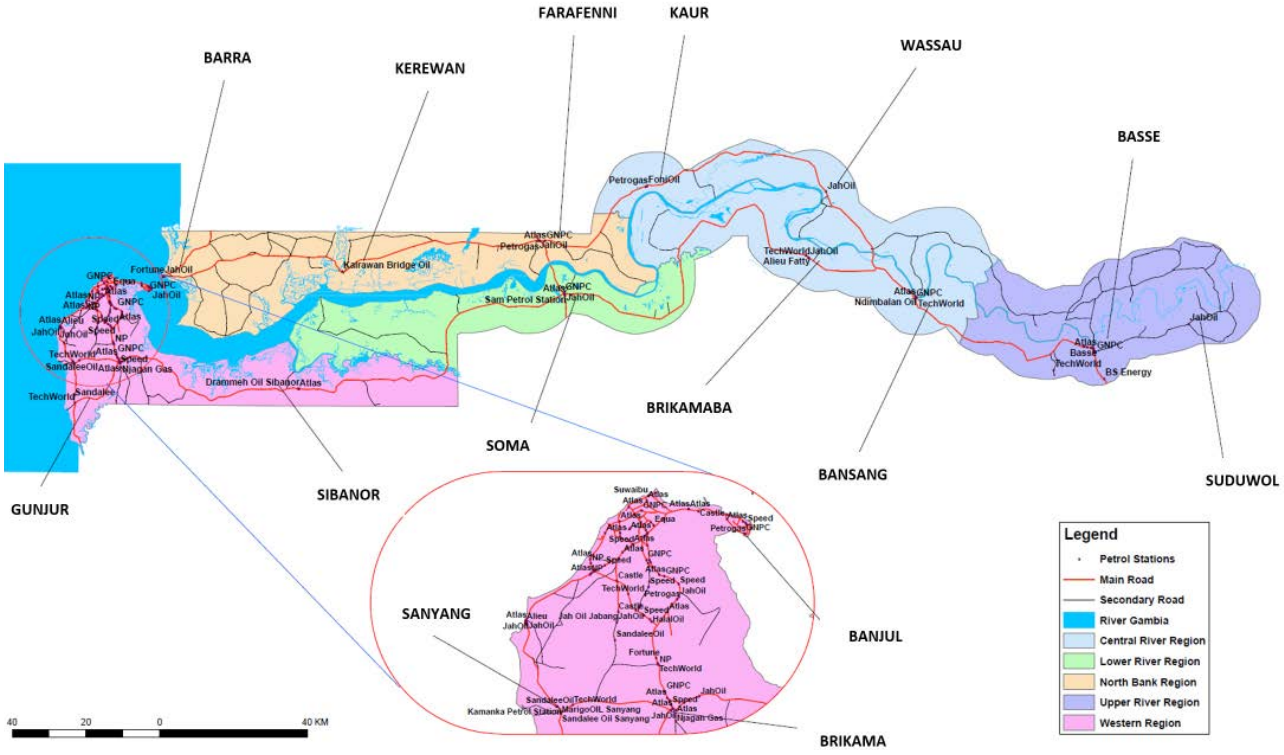
Under the Environmental Quality and Site Permit Regulation (2001), actors are required to seek permits (environmental approval) for all activities with the potential to cause industrial discharges. Like with import permits, these approvals are not stored systematically. No separate SEVESO -type legislation or risk assessment requirements exists for large facilities, as these are scarce in the country. The strongest control of chemicals from the authorities' side is related to import of large amounts of quantities by sea. An exception is the land route from Senegal, where small amounts of pesticides and fertilizers pass through. Under the Hazardous Chemicals and Pesticide Control Management Act (1994) the NEA is mandated to control the import and use of several chemicals. Under the act, those intending to import chemicals are required to register (type, quantity, intended use) with the agency and receive an import license. The agency can deny import if the amounts are too large, or the use is banned (separate list of chemicals according to categories developed under the act). Safety data sheets for each of the chemicals are required to be submitted. No organized database on the imported chemicals and users has been established, although unsuccessful attempts to systematize this information have been made. Granted permits are stored in paper form in the agency.

Recommendations:

- Improve the storage facilities for hazardous substances (pesticides, chemicals) to reduce risk and damage in future events such as floods.
- Information about products must be properly saved and available.
- Include existing storages and risk sites in contingency plans and assure proper response equipment for incidents is available.
- Risk profiling of hazardous locations => matching of the spatial distribution of e.g., petrol stations with flood risk models, to identify areas of attention and derive prevention and preparedness measures, as well as proposed response plans.
- Facilities that are not necessarily seen as industrial hazard sites must be inspected on regular basis to comply with occupational health and safety (e.g., garages where they repair cars, generators, and motorbikes).

Infrastructure and Drainage

The government has highlighted infrastructure development as a key element of the National Development Plan. In the last decade, technological infrastructure in The Gambia has been expanding quite rapidly. There are more telephone lines, and cellular usage is up although it has been challenging to coordinate. Furthermore, enhancing Internet communication is a possible next step as many in The Gambia gets their news from the radio. There are over 2,700 kilometers (1,678 miles) of road in The Gambia, 35 percent of which are sealed. While main roads and those in and around Banjul are mostly sealed, unsealed roads are often impassible in the rainy season and suffer heavily from erosion. In addition, electricity is not well developed, and petroleum is imported as there is limited energy resources from inside the country. Transmission and distribution to the population outside Banjul remains a challenge, and country-wide electricity supply is unreliable.



Spatial Distribution of environmental risk facilities (petrol stations) (source: NEA)

The issue of poor drainage in most areas in The Gambia is often a problem, particularly during the rainy season and a major multiplier of flood impacts. The problem is worst in the capital city and Kanifing Municipality, where many places are flooded, and with some parts even becoming effective 'no-go areas' during the rainy season. Main road infrastructure projects in the past few years have supported connectivity between the regions and neighboring countries. However, in some cases the vulnerability towards climate related risks has increased (e.g., Kabakama, Upper River Region), as the roads have blocked the natural flow of water and drainage systems seem to be undersized, blocked or not suitably located. An important aspect has been observed that drainage systems are recommended to be constructed not only enable water to pass through under the roads or aside. Elevation must be considered to avoid backflow to communities. It is crucial that water is drained further towards low-risk areas (e.g., wetlands or riverbeds) and not directed towards communities, increasing the impact of flooding. As subsistence farming is the key livelihood in the rural areas, it is also necessary to consider the impact of drainage systems and infrastructure project in the agricultural sector.

The Ministry of Works, Construction and Infrastructure is recommended to work with the National Roads Authority and local authorities, to do something about the roads made impassable by pools of stagnant water and ensure that all the drainage systems are properly functioning. In addition to that Area and City Councils, for instance, should clear all the drains of any blockages, and clean all the roads of refuse that may block the drainage system. It is important to conduct remedial measures by repairing roads and creating waterways for the rainwater to drain away. An important aspect that has already been addressed in the waste

management section is that people should also desist from the habit of throwing refuse in the drains, or the sewage system, since this tends to block the free flow of water through the drainage system. Due to erosion the drainage system needs to be maintained against the build-up of silt and sand.

Drainage system in Upper River Region filled with sand and garbage because of soil erosion and poor waste management (sources: UNDAC)

Recommendations:

- Restore and reconstruct infrastructure specifically after the flood to reduce future risks (short-term).
- Ensure spatial planning and infrastructure projects in compliance with national laws and regulations e.g., building codes, development plans and authorization/legal permission. Conduct feasibility studies that include environmental impact assessment and ensure risk profiling of critical infrastructures.
- Maintenance plans for flood prevention structures and drains to assure future function.
- Inventory of damaged infrastructure and reconstruction programs in a long-term development plan.
- Revise infrastructural protection measures regularly to adapt to climate change.
- Major public infrastructure project selection criteria should include environmental impact assessment and risk assessment for natural hazards.

- Continuous monitoring of public assets and infrastructure and update risk profiles in alignment with climate related variabilities to derive adaption measures where necessary (e.g., continued evaluation of capacities of drainage systems, as amount of water to be captured tends to increase due to climate change).

Erosion and access to communities

Coastal erosion is a major challenge in The Gambia, due to the geological make-up of the coastline and climate change. It was revealed that 90% of the households were vulnerable to coastal erosion. It was found that 75% of the households do not have sustainable adaptation strategies to coastal erosion. Especially the greater Banjul area is affected by coastal erosion, coastal flooding, and pluvial flooding. Banjul city has an average elevation of only 80cm above mean sea level, which makes it particularly vulnerable. The terrain in the city is almost flat, which poses significant challenges to proper drainage by gravity in many areas. Along the paved roads erosion was visible due to runoff. Bad agricultural practices, mismanagement and bush burning as well as former and current sand mining areas have left large areas without vegetative cover, which will lead to more flooding and subsequent erosion of the land. Erosion affects livelihoods as well as infrastructure such as roads, piping systems. This has major implications for supply and access to communities.

Soil erosion at the river Gambia in the Central River Region (source: UNDAC Team)

Short term recommendations:

- Identify suitable areas where material for (re-)construction can be sourced and extracted to minimize impacts on the environment.
- Develop restoration plans and replanting programs with the same vegetation or other native trees/vegetation.
- Restrict the depth or area for extracting sand if necessary to prevent geotechnical hazards or other negative impacts.
- Implement restoration measures continuously as the activities progresses.
- Avoid using materials that can create future environmental and health problems.
- Make an inventory of infrastructure damaged due to erosion.
- Commission study of impact of erosion on infrastructure.
- Construct drainage systems to prevent erosion due to increased runoff.
- Preserve existing vegetation.

Medium and long-term recommendations:

- Support sustainable use of natural resources in the area to support livelihoods and mitigate future risk or negative impacts.
- Important resources such as water for drinking and areas for livelihood should be identified and protected to mitigate future negative impacts.
- Support (re-)vegetation programs. Programs should use native plants/trees.
- Investigate infrastructures impact on watercourses and erosion to mitigate negative impact.
- Improve erosion protection by vegetation and better drainage system.

Conclusion

Overall, while much has been done to respond to the floods, there remains much to do; in the short, medium, and long term. The climate emergency leaves no room for complacency. Urgent needs remain and significant numbers of affected populations are yet to receive assistance. Furthermore, efforts need to be enhanced for future events.

Four key locations emerge from the assessment information in terms of prioritized targeting. These are the Greater Banjul Area, the North Bank, Central, and Upper River Regions. The response to date has focused more on urban areas and should shift to include rural areas to account for their different needs.

Key vulnerabilities have been identified. Rural areas relying on subsistence farming have been particularly hard hit. Concerns with regards to escalating child protection and gender-based violence related issues must be followed up upon. Concerns around access to services are particularly exacerbated for persons with disabilities and the elderly.

Response efforts must take these considerations into account to effectively serve affected populations. They must also consider preferred modalities. Cash type programming is strongly preferred as it offers flexibility in terms of addressing specific needs.

Climate resilience efforts risk being outpaced by climate volatility. As such consideration should be given to relative prioritization of strategic planning, mitigation efforts, and response preparedness – both in terms of policy focus, capacity deployment, and resource allocation.

The Government, The United Nations, and Partners must invest time and effort to understand the support capabilities that exist in the wider region in West Africa and Globally. Depending on the scale of future crises, awareness must exist of what additional capacities can be mobilized should national capacities be overwhelmed. United Nations Agencies should invest in understanding emergency response supports – to ensure gaps in humanitarian response are filled rapidly and to request as required external supports in coordination, resource mobilization, technical expertise, and crisis communications capabilities.

While the floods of July 2022 did not pose a systemic risk to the overall functioning of institutions and society as well as critical infrastructures, it is necessary to prepare for future events that might. It is clear from other contexts that risks of losing route access and communications are real and must be considered accordingly. Response capacities should be assessed based on potential occurrences rather than ability to manage those that have occurred in the past.

Overall Recommandations

General recommendations

Immediate

- In the short term, an expanded multisectoral response is needed that addresses the needs of affected populations beyond the acute levels of current vulnerability. In this context, WASH, Food Security and Shelter/NFIs should occupy a prominent place with an accompanying consideration of protection and health.
- Given disparities within the different affected regions in terms of vulnerability, targeting should be done according to the level of severity.
- Specific needs of each affected district should be considered with appropriate multi-sectoral support.
- Gender, age, and disability must be considered in response planning.
- Protection mainstreaming should be implemented throughout.
- Continued response and recovery of oil spill incident at Brikama Power Station.

Medium Term

- Ensure capacity of key coordination bodies relevant to disaster management and disaster response namely NDMA and NEA.
  - Operational Capacities including mobility.
  - Information management capacities.
  - Communications capacities.
- Updating of the Emergency Preparedness and Response Plans.
- Initiate preparedness planning for 2023.
- Sustain investment and coordination for environmental risk and emergency management.
- Prepare framework and roadmap for resettlement programs, as well as prioritization of communities in high-risk areas (e.g. waterways)
- Periodic Simulation Exercises particularly before the rainy season should be implemented to ensure comprehensive preparation for potential disasters.
- Increase efforts for improved waste management.
- Environmental Education – providing education and improving the public understanding.
- Improve erosion protection by vegetation (rehabilitation and replanting) and better drainage system.

Specific recommendations

National Disaster Management Agency

- Implement after-action review considering coordination structures and management processes to ensure lessons learnt and the capturing of best practices.
- Leadership strengthening for emergency relief response coordination.
- Strengthen work dynamics, including the communication systems with the operational bases.
- Strengthen information management through ongoing implementation of the 5Ws with support from the United Nations.
- Coordinate cross-sectoral multi-hazard risk profiling and initiate regular inspections / supervisions of risk areas/facilities.
- Strengthen Geographical Information Systems capacity by leveraging partnerships with international organizations.
- Deployment of United Nations Volunteer to NDMA focusing on supporting the coordination functions.

United Nations

- Capacity building support to enable comprehensive understanding of emergency support capabilities existing at regional and international levels. This should cover resource mobilization, technical assistance, and crisis communications.
- Conduct post disaster needs assessment
- Deployment of Humanitarian and Environmental Advisors to the Office of the Resident Coordinator.
- Enhanced investment in response planning, pre-positioning, and crisis communications.
- Hosting of United Nations Volunteers deployed to key government agencies.

Coordination

- Strengthen the level of coordination with actors for an integrated and participatory response to optimize resources and have a better approach.
- Institutionalize the functioning of joint NDMA, UN, and Partners coordination mechanisms for the purposes of emergency preparedness and response.
- Strengthen sectoral coordination and initiate preparedness activities to enable the activation of emergency coordination as required.
- Initiate regular Information Management coordination – include preparedness activities to enable activation for emergency responses purposes.
- Improve linkages between existing communications related coordination mechanisms to enable the activation of comprehensive Government, United Nations, and Partners approach for crisis communications.
- Ensure regular exchange with OCHA Office for West and Central Africa.

Annexes

Annex 1 - Methodology

Preparation of data collection

The sampling list was based on a selection of the communities most affected by the flood. The UNDAC team, in partnership with NDMA, organized a participatory mapping exercise, to understand what the areas were most affected by the flooding. Once the participatory mapping was finalized by the regional coordination, each ward counselor indicated the most affected communities in the area.

The questionnaire was based on the questionnaire used in the Sao Tomé Response, with a consultation process made with different partners and actors present in The Gambia. The aim of this exercise was to have a multi-sector rapid needs assessment to fill information gaps. This questionnaire was based on previous experiences, while making sure to contextualize the questionnaire as much as possible for The Gambia and to the event.

Once the most affected communities were identified and the questionnaire consultations finalized, experienced enumerators were selected to conduct the key informant interviews. All the enumerators had previous knowledge of mobile data collection, using kobo, and were trained on the questionnaire.

Collection device

To facilitate the work, we have considered three levels of team distribution for the device

Cluster: grouping regions; in our case we have three with the areas concerned. On the sidelines of that, we have sixty-two settlements for surveys.

Cluster	Regions	Settlements
Cluster 1: NDMA HQ	BJL	7
	KM	10
	WCR	15
Cluster 2: Soma Jar	LRR	6
	NBR	9
Cluster 3: Basse	CRRN	2
	CRRS	6
	URR	7

Thus, for a better organization of the support device:

- One supervisor per cluster was proposed to support the field team, answer any practical questions, and ensure the smooth running of the
  - NDMA HQ, UN agencies (WFP, UNICEF, UNFPA, IOM, UNDP, OCHA, UNDAC) and partners will form the supervisory team (especially those who participated in the debriefing and review of the collection tool like Red Cross)
  - Two supervisory teams are formed: team one for the HQ NDMA zone and team two for Jarra Soma and Bass
- The team leader of each region is responsible for the consolidation and the questionnaire and the sending of the form via kobo of the community surveyed so that the HQ proceeds to the analyzes.
- Four enumerators per settlement (including the team leader) to investigate the different sectors

- The quality control of the forms was done at the NDMA level by the NDMA MEAL-GIS with the support of the OCHA MI for each questionnaire completed before validation.
- To facilitate communication, in addition to the credits allocated to the team leader,
  - WhatsApp groups have been created for each geographical entity and responsibility.
  - A data collection supervision sheet set up
  - A debriefing every evening for an update and corrections
- In real time recommendations are given through communication platforms
- After each day, a debriefing is organized for follow-up and organization of the coming days.
- Data collection and data cleaning

The enumerators were separated in several teams across three areas in the country. They went to the selected most vulnerable communities and did interviews with key indicators, selected with the help of the counselor of each ward.

Were considered as key informant people that were knowledgeable enough on the needs of their own community, they were community leaders, health workers, teachers, NGO workers or representative of associations.

Face-to-face data collection were conducted, with the use of paper form. In each community, between 3 to 5 interviews were conducted with key informant by the enumerators team. Once all the interviews were finalized, the enumerators would meet and consolidate all the data collected in one paper form, that would later be submitted to Kobo via tablets.

For data analysis, the average was calculated at district and region level, as well as for all the key informant interviewed.

Limitations of findings

It is important to consider the fact that findings, while aggregated at a higher administrative level, reflect the situation reported by the key informants in their own communities. Therefore, given the methodology that was used, findings can only be considered indicative and do not replace a household survey or sectoral specific assessments.

It is also important to note that several factors can influence the findings, such as the pre-selection of most affected communities, the prevalence of interviews made in urban areas, as well as the prevalence of male key informant interviews, especially regarding GBV indicators.

Annex 2 - Key informants

Roles of Key Informants	Number of Key Informants
Alkalo (Gambian Village Chief)	1
Alkalo's Representative	2
Community Adviser	3
Community Elder	1
Community Leader	1
Councilor	1
Education Staff	1
Flood Survivor	2
Head of Kaffo	1
Health Staff	1
Kaffo Leader	1
Opinion Leader	1
Retired Civil Servant	1
Security Staff	1
Traditional Birth Attendant	5
Village Development Committee Representative	9
Village Development Committee Assistant Chairman	1
Village Development Committee Chairman	6
Village Development Committee Member	2
Village Development Committee Secretary General	2
Village Development Community Adviser	1
Village Support Group	1
Ward Development Committee Representative	2
Water Committee	1
Women Mobilizer	1
Women Representative	1
Youth Chair	1
Youth PRO	1

THE GAMBIA FLOODS

RAPID NEEDS ASSESSMENT REPORT AND RESPONSE RECOMMENDATIONS

2022

UNDAC

United Nations
Disaster Assessment
and Coordination