



NATIONAL CAPACITY ASSESSMENT REPORT
Federal Republic of Nigeria

**EMERGENCY PREPAREDNESS AND RESPONSE (EPR)
DISASTER RISK REDUCTION (DRR)
CAPACITY ASSESSMENT**

July 2012

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PART 1: Hyogo Framework for Action Priorities 1-2-3-4

DIASTER RISK REDUCTION CAPACITY ASSESSMENT

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LIST OF DRR ACRONYMS

BCPR - UNDP Bureau for Crisis Prevention and Recovery

CA – Capacity Assessment

CADRI – Capacity for Disaster Reduction Initiative

CCA – Climate Change Adaptation

CDRCR –Center for Disaster Risk and Crisis Reduction

DaLA – Damage and Loss Assessment

DRR – Disaster Risk Reduction

GEVC – Grassroots Emergency Volunteer Corps

GRIP – Global Risk Information Platform

HFA – Hyogo Framework for Action

IFRC - International Federation of the Red Cross/Crescent

LAPPDA – Lagos Physical Planning Development Authority

LASBCA – Lagos State Building Control Agency

LASEMA – Lagos State Emergency Management Agency

LGA – Local Government Authority

MoU - Memorandum of Understanding

MSB – Swedish Civil Contingencies Agency

NASRDA –National Space Research and Development Agency

NEMA –National Emergency Management Agency

NIMET –Nigeria Meteorological Agency

NYSC – National Youth Service Corps

SEMA – State Emergency Management Agency

UNCT – United Nations Country Team

UNDP – United Nations Development Programme

UNIDO - United Nations Industrial Development Organization

UNISDR – United Nations International Strategy for Disaster Reduction Initiative: The UN office for
Disaster Risk Reduction

UNOCHA – United Nations Office for the Coordination of Humanitarian Affairs

VCA – Vulnerability and capacity assessment

WHO – World Health Organization

I. Introduction

A Disaster Risk Reduction Capacity Assessment (DRR/CA) of Nigeria was conducted at the request of the Government of the Federal Republic of Nigeria through the National Emergency Management Agency (NEMA). The DRR capacity assessment took place from 18th to 28th April, 2012 and was conducted through an inter-agency approach with the participation of UNDP, UNICEF, UNHCR, IOM, FAO, UNFPA, and UNOCHA. The exercise was carried out under the guidance and leadership of the UNDP Bureau for Crisis Prevention and Recovery (BCPR) and CADRI with support from Swedish Civil Contingencies Agency (MSB).

The methodology and tools used to conduct the assessment were developed by CADRI and have been tested in many countries in Africa including Ghana, Gambia, Mali and Madagascar. CADRI is a joint UNDP, UNISDR and UNOCHA initiative with a mission to increase capacity development for disaster risk reduction at global, regional and local levels in line with the Hyogo Framework for Action (2005-2015). CADRI supports countries to make DRR a national and local priority, enables the UN and regional organizations to deliver on DRR, and provides advisory services to learning and training organizations and practitioners.

The main purpose of the Nigeria Disaster Risk Reduction Capacity Assessment was to identify gaps and challenges the country is currently facing and to fully engage in preventing, mitigating and reducing natural disaster risks. The assessment was also an opportunity to clearly identify existing capacities both at national and state levels, to understand desired capacities, and to propose recommendations on how they can be further developed and strengthened.

The DRR exercise focused essentially on Priorities 1 to 4 of the Hyogo Framework for Action (HFA; 2005-2015) and complements a first assessment conducted in March 2012 on emergency preparedness and response (HFA Priority 5) under the leadership of UNOCHA. The results of the two assessments are combined in one joint report submitted to the UNCT and to the Government for endorsement.

It was conducted with a clear focus on national and state capacities for DRR using the indicators set for the implementation of the HFA. The DRR/CA looked into five technical areas of capacity development: (i) ownership, (ii) institutional arrangements, (iii) competencies, (iv) working tools and resources, and (v) relationships/coordination.

For the HFA Priority 1, the Capacity Assessment (CA) focused on the level of National and State ownership as a basis for creating the enabling environment for DRR, in order to guarantee the sustainability of the capacity development process. It analysed the overall institutional arrangements and legal base for DRR in the country, as well as the level of financial resources allocated for DRR. For HFA Priority 2, the CA looked at federal and state capacities related to risk identification and early warning systems. For HFA Priority 3, the team evaluated existing competencies, knowledge creation on DRR, innovative working tools and resources, etc. HFA Priority 4 focused on identifying progress made at national and state levels in Nigeria on addressing the root causes of risk and underlying risk factors. For each of the HFA Priorities, a set of clear and concrete capacity development recommendations were proposed to address gaps and challenges identified. The level of proposed actions will take into consideration the country's real capacity to implement them within three to five years.

II. Methodology of Assessment

1. Assessment Process

The capacity assessment took place from 18th to 28th April 2012. Background data collection was conducted by the CADRI team in Geneva in March, 2012 before the assessment was conducted in Nigeria. The assessment was undertaken by a team of experts from UN Agencies (UNDP, FAO, UNICEF, UNHCR, IOM, OCHA), supported by experts from the National Emergency Management Agency (NEMA), under the leadership of BCPR and CADRI/MSB.

2. Data Collection

- **Document review:** the Disaster Risk Reduction Capacity Assessment (DRR/CA) methodology is based on a review of primary data and relevant documentation related to DRR, environmental management and climate change adaptation in Nigeria. The evaluation was based on a methodology developed by the UNDP Capacity Development Group (CDG) and later adapted for the DRR sector by UNDP/ BCPR and CADRI. This methodology outlines the capacity assessment questions and includes data collection methodologies, data sources, and key respondents. The data collected were primarily qualitative, consisting of background documentation, document review and analysis, reports, and assessments.
- **Semi-structured interviews:** the second component was face-to-face interviews with federal and state government actors, UN agencies, NGOs, local government authorities, and with other partners working on disaster reduction and recovery.
- **On-site field missions:** The DRR capacity assessments were carried out in four States: Abuja (FCT); Kaduna in the north; Lagos and Oyo (Ibadan) in the south. In conducting the exercise, particular attention were given to issues related to capacities for preventing and mitigating natural disaster risks in Nigeria at the national, state, and local government levels. During the field visits, the different teams spent about ten days in the country and carried out sector wide consultations, interviewed a wide variety of stakeholders from different sectors and organizations as illustrated in Annex 1.
- **Data analysis and reporting:** The last component focused on data analysis and elaboration of DRR capacity draft report that was shared with all national stakeholders for their inputs and comments. This led to a national validation workshop on 3th – 4th July, 2012, in Abuja, with all stakeholders for their endorsement of the report. It will be followed by the development of a National Plan of Action for DRR Capacity Building geared towards the implementation of recommendations emanating from the report.

3. Availability of Data

A significant amount of information was collected through interviews at the NEMA office in Abuja and during interviews with key stakeholders both at national and state levels (SEMAs, State Ministries and LGAs). Data obtained from respondents in the field provided a key source of information on: DRR related capacities, gaps and challenges within the country; effectiveness in meeting the targeted objectives of the HFA; and also on efficiency of the partnerships between different national stakeholders on one hand and the federal and state levels on the other hand.

4. Limitations

The assignment was undertaken within a limited time frame, a week and half. However, it was successfully carried out, despite the initial concerns expressed. One of the major concerns raised during the briefing with NEMA and other stakeholders in Abuja was the size of the country (36 states) and how focusing only on four (4) states could represent the entire country. This concern was addressed by requesting NEMA's Zonal Offices located in different geo-political zones to make their inputs on DRR issues in their respective zones for inclusion into the report. Discussions with federal institutions also provided an opportunity to capture issues that cut across the entire country. Therefore, the findings presented in this report largely reflect the current situation in the country.

For field mission interviews, the main difficulty encountered was the non-availability of some appropriate stakeholders for interview, especially in Lagos State where the team had difficulties in meeting with key officials and also in Abuja, due to insufficient planning, especially at the beginning of the exercise. These difficulties were as a result of the absence of contact persons in some key ministries during the assessment period combined with the short time frame for the interviews. Nevertheless, both teams managed to have substantive discussions with stakeholder in Oyo and Kaduna States where the visit was better organised by NEMA and SEMA staff on ground.

III. Disaster Profile of Nigeria

Nigeria is located between latitude 4° N to 14° N; and longitude 3° E to 15° E. It has a land area of about 923,769 km²; a north-south length of about 1,450-km and a west-east breadth of about 800 km. It has diverse geophysical characteristics and ethnic nationalities. The country has 36 states and the FCT with 774 Local Government Areas.

Nigeria is the most populous country in Africa. According to 2006 census figure, Nigeria has a population of about 140 million people. Rapid population growth, urbanization, and sociopolitical issues, compounded by ethnic plurality, has often led to fierce competition for scarce resources, leading to deteriorating livelihoods, social marginalization, crime and general insecurity.

Extreme weather and climate events have constituted serious threat to economic growth over the past few years. In Nigeria, severe floods, windstorms, drought and desertification, and several other extreme weather and climate events have impacted negatively on its socio-economy with many people being affected throughout the country.

Flooding: Nigeria is prone to flooding, mainly along the Niger River through the River Benue and Sokoto basins which adversely affects agricultural land. Most of the country's large rivers have flood plains, which are subject to flooding during the rainy season. These include the Rivers Niger, Benue, Cross River, Katsina-Ala, Imo, etc.

Urban flooding occurs in towns located on flat or low lying terrain (coastal areas) especially where little or no provision has been made for surface drainage, or where existing drainage has been blocked with municipal waste, refuse and eroded soil sediments. Nigerian towns are generally characterized by poor drainage system and are therefore subject to flooding. Particularly affected are Lagos, Ibadan, Aba, Calabar, Maiduguri, Port Harcourt, among others. An estimated 25 million people or 28% of Nigeria's population live in the coastal zone and are at risk from flooding. The areas most severely affected by the impacts of flooding are the coastal areas of Lagos, Ondo, Delta, Bayelsa, Rivers, Akwalbom and Cross River states.

EROSION: Nigeria is prone to all types of erosion, from the coastal states to the hinterlands.

Gully Erosion; Most south – south states suffer varying magnitudes of gully erosion

Coastal Erosion: In Nigeria, coastal erosion is experienced in almost all the country's coastal communities. The social and economic consequence of coastal erosion is substantial in many cases. It may cause displacement of a whole community, including the loss of lives as the case with Ogulaha community in Forcados South Point, Delta State, Nigeria.

Drought: The major areas that are impacted by drought are areas within the Sudan/Sahel belt. These include areas north of latitude 110° N comprising of Borno, Yobe, Adamawa, Taraba, Sokoto, Bauchi, Katsina, Kano, Gombe, Kebbi and Zamfara states.

Other Disasters: Epidemics, Ethno-religious/communal crisis, Collapsed Buildings, and Terrorism.

The country has experienced many cases of collapsed buildings in some major cities (Abuja, Lagos and Port Harcourt) and currently facing internal security challenges related to ethno-religious conflicts in states such as Kaduna, Kano, Plateau, Bauchi, Adamawa, Yobe, Gombe, Benue and Borno States as well as militant activities in the Niger Delta area of the country relating to oil and gas explorations and its impact on the environment and livelihood.

Many of the disasters are caused by rapid population growth, ethnic plurality, urbanization and socio-political factors which create fierce competition for national resources. Consequently, Nigeria have become increasingly at risk to a wide range of hazards.

IV. Results of the Disaster Risk Reduction Capacity Assessment

A. HFA Priority 1: Making disaster risk reduction a policy priority, institutional strengthening

1. Existing Capacity at Federal and State Levels

1.1 Identified capacities at the federal level

The Federal Republic of Nigeria is a signatory to the Hyogo Framework for Action (2005 – 2015) and reports progress made towards the implementation of the five priorities every two years (national progress report which is submitted for the Global Assessment every two years). The country attended all regional and global platforms and other international meetings and conferences with high level representation.

The country has made a substantial achievement by joining the World Bank /Global Facility for Disaster Reduction and Recovery (GFDRR) Board, and NEMA was invited to attend the April 2012 Board meeting held in Washington.

Institutional framework: One of the key successes made by the Federal Government of Nigeria on addressing disaster management issues in the country is the creation of the National Emergency Management Agency (NEMA) under the Office of the Vice President. NEMA was established by Act 12 as amended by Act 50 of 1999. The Federal Government through the National Emergency Management Agency (NEMA) has the mandate to formulate policy on all activities relating to disaster management in Nigeria, coordinate the activities of other stakeholders in Disaster Management, coordinate plans and programmes for efficient and effective response to disasters in the country, and promote research activities relating to disaster management in the country.

In 2009 a DRR Unit was created in the Planning Department and headed by a management staff, with staff strength of 9. The Agency is made up of six Departments and about 700 hundred employees.

DRR Policy development: The Country through the active participatory discussion and contributions of stakeholders in Disaster Management across the six geopolitical zones developed, in 2006, a National Disaster Risk Reduction Action Plan. It is a very detailed document and largely matches DRR activities mentioned in the HFA. The implementation of the Plan is under the leadership of the National Emergency Management Agency (NEMA), and rests on a set of disaster risk reduction guiding principles. NEMA needs further support to review the Action Plan and for full implementation.

The objectives of Nigeria's Plan of Action for DRR (2006-2015), as set out in the 2007 HFA update report, are to: identify natural/human-induced hazards and assess their associated risks and costs in Nigeria; improve the capabilities of communities to predict, and offer early warnings on natural hazards and disaster risks; enhance public awareness of disaster prevention and mitigation through training, education and public enlightenment; promote understanding of the DRR paradigm; and promote appropriate intervening institutions to enhance the capabilities of SEMAs, LGAs and communities.

The National Disaster Management Framework (NDMF) is a review of the National Disaster Response Plan. It was drafted under a broad base national consultative process with public hearings. The document complements the existing NEMA Act, not only as a result of lengthy participatory

processes, but also reflecting the time needed to obtain buy-in and commitment for DRR. The Policy development started in 2006 and the NDMF acts as a guide to all stakeholders and all jurisdictions.

Budget allocation for DRR: In terms of budget, the country allocates one percent (1%) of its national budget (GDP) to the Ecological Fund and twenty (20%) of this is allocated to NEMA. The remaining 80% of the Ecological Fund are utilized by the federal ministries such as Environment, Health and others that contribute to disaster risk reduction and mitigation, as well as states and local governments. NEMA also counts on other funding sources. In case of a disaster, if more funds are needed based on an assessment by NEMA, the Office of the Vice President (Chairman of NEMA Board of Governing Council) could approve further expenditure from the Ecological Fund. In case there is need of assistance from international community, the National Planning Commission facilitates the resource mobilization with international partners. Similarly at the state level, when there is an emergency, SEMAs send assessment report to the Board of the Ministry of Economic Planning which will decide on funding.

DRR Coordination mechanism: The country established a National DRR Platform in 2009 under the coordination of NEMA. Other members of the platform, include several federal Ministries, Departments and Agencies, such as the police, national and international NGOs, the media, universities, etc. NEMA has relations with a number of DRR stakeholders, both within the country and internationally. As a coordinating agency for disaster management and as the focal point for the HFA implementation in Nigeria, NEMA drives the process based on consultation and perceived gaps in the sector of DRR.

NEMA's experience is well recognized in the region and provides South-South support to Anglophone countries in West Africa - The Gambia inclusive. There is also an interest expressed by ECOWAS to replicate the Nigerian DRR capacity development process, which was started by the current capacity assessment, in other countries in the region.

1.2 Identified capacities at State level

Since its establishment, NEMA has been putting a lot of effort into supporting various states across the country to set-up disaster management institutional frameworks. Through its zonal offices, NEMA provided support to many states on the establishment of State Emergency Management Agencies (SEMAs). The NEMA Act mandated all states to establish State Emergency Management Committees (now Agencies) while local governments are to establish Local Emergency Management Committees. So far, 22 States in Nigeria have Emergency Management Agencies that are backed by law, while some still have Emergency Relief Agencies.

The existence and distributed structure of the NEMA zonal offices and SEMAs in the country provides a strong building block for DRR capacity. The NEMA zonal offices serve as implementation liaison between the NEMA Headquarters which coordinates DM activities of federal organisations and the States. The six zonal offices have deep understanding of the specific risks of each region; communicate these needs and challenges to NEMA headquarters. The SEMA offices visited in Lagos, Oyo and Kaduna have built strong working relationships with their respective state governments, positioning them to act as the DRR focal points and coordinators.

In Kaduna, for example the SEMA office is responsible for formulating state disaster management policies and coordinating with other institutions on implementation. It also has the responsibility for educating the public on disaster related matters, while Lagos, has a State Disaster Management Committee, which meets regularly and involves state ministries, the Red Cross, and NGOs.

Following the August 2011 floods considered as the worst in the history Oyo State, the governor set up a Flood Management Committee. That Committee is composed of representatives of all relevant state ministries, as well as scientists and professors from universities. The Committee has submitted a report to the Governor outlining activities to be undertaken to mitigate flood risks. As a result, two hundred and eighty million Naira (₦280 million) has been allocated to clear 43 wash streams in the state. The State Task Force on Flood Management was also established after the floods as an inter-agency body to support and monitor the implementation of the Flood Committee recommendations.

In Lagos State, the mandate of the Ministry of Environment's Drainage Department includes flood prevention through improved and maintained drainage, and public awareness campaigns. The Department has engineers and other professionals who liaise with NIMET and the Ogun-Oshun River Basin Development Authority. In some ministries, some risk reduction efforts are underway without being labeled as DRR.

2. Identified Gaps and Challenges

2.1 National level

- There is no DRR legislation at the national level and the DRR National Action Plan developed in 2006 is not being implemented as it should be. On the other hand, the *"Nigeria Vision 2020"* mentions, very briefly, disaster emergency needs and made no mention of DRR or disaster prevention. A lot of effort is being made at the federal level through NEMA, but DRR is yet to be seen as a national priority and decision makers lack or have limited knowledge of disaster reduction issues.
- The budget allocation is relatively small to meet the demand of disaster risk reduction and NEMA's part of the Ecological Fund is more applied towards disaster response than prevention and mitigation of hazards and risks.
- The National Platform for DRR established in 2008 has not been active, as it met last in 2010. NEMA does have regular contact with the federal ministries but during the visits we were not able to identify any focal point for DRR or NEMA related issues in the federal ministries. It is expected that in 2012 a meeting of the National Platform would take place. Part of the challenge the National Platform is faced with the technical nature of DRR and being a new subject for most stakeholders, while NEMA's ability to convene and coordinate DRR issues is still limited. A way to contribute to a smooth functioning of the National Platform would be to ensure that all of its members benefit from some DRR technical support, preferably provided by international agencies.

2.2 State level

- Disaster risk reduction is not part of the formal responsibilities of state ministries, though the officials recognized the importance and agreed it would help to have a coordination forum for DRR. Across the various state ministries in Lagos, Oyo and Kaduna, DRR is not explicitly mentioned in their charters, and usually DRR issues are passed on to SEMA.

- There is no budget dedicated to disaster prevention and reduction at the state level. The Oyo State Ministry of Economic Planning and Budgeting reported that there were no specific funds allocated to DRR during budget allocation exercise. The Ministry of Economic Planning of Kaduna State raised the same issue during our discussions with them. Most of the annual allocations by the Ministry of Finance are for response purposes.
- At the state level there is knowledge and awareness about responding to emergencies but efforts to put in place prevention and mitigation measures are very limited. This is due to unavailable resources and lack of understanding of DRR issues. The interviews conducted highlighted that very few individuals were familiar with the concept of reducing disaster risk. Due to this lack of knowledge, the Kaduna State ministries rarely ask for disaster prevention and recovery funding as part of their regular budget allocations through the Ministry of Economic Planning. While Staff of both SEMA and the state ministries are yet to undergo any training on DRR.
- There is no formal DRR Platforms or coordination mechanism between stakeholders engaged in activities and programmes related to DRR issues at the state level. There is no evidence of horizontal interaction between ministries, as DRR issues are not on the agenda of their meetings. The only disaster related issues at such meetings are focused on response. Organizations external to the state governments indicated that the state government bureaucracy is one of the main challenges hindering the successful implementation of disaster risk reduction measures. Furthermore, the lack of guidance, clear mandates, and disaster risk reduction related methodologies and tools were also highlighted as significant weaknesses.
- The State Emergency Management Agencies are focused primarily on emergency preparedness and response, and there is little recognition of the importance of disaster risk reduction mechanisms, and indeed a limited understanding of the concept. There is no special DRR unit in SEMAs. However, DRR is said to be mainstreamed throughout the work of each SEMA and often attached to the planning department.
- The relations between LGAs and SEMA/NEMA are not formalized; there is no MoU or law governing this relationship. There is no bilateral coordination between different local governments, even when faced with common hazards. More technical support and expertise is required from federal and state governments to help the local government to work better in addressing the needs of the people. There is an Association of Local Governments. However, this forum is not used to address DRR issues. However, that in some cases, activities described by the Local Government chairmen qualify as DRR, but are not so called or perceived as such.

3. Recommendations

- Regularly sensitize national, zonal, state, local authorities and stakeholders on disaster risk reduction and climate change adaptation concepts and practices, specifically regarding their mandates, roles, and responsibilities, in order to assume ownership and further engage in DRR for resilient long-term development.
- Regularly sensitize Local Government Chairmen, urban planners, and city technical teams on urban risk management concepts and practices, and advocate for the adoption of the UNISDR campaign on “Safer Cities”, in which Abuja is already a participant.

- Review the NEMA DRR Unit functions to include climate risk management and consider upgrading it to the level of a Department. Reinforce the capacity of NEMA in terms of staff, competencies, tools and equipment in order for it to further engage in advancing DRR at the national level.
- Strengthening the existing National platform on DRR to include climate change adaptation issues. The platform should ensure the streamlining of all disaster risk reduction and climate change adaptation activities and initiatives in the country.
- State and local government platforms on DRR should be created in line with the already existing national platform.
- Introduce systematic information exchange between the DRR Unit of NEMA and regional/global DRR policy makers, who can provide policy support to NEMA DRR unit in the form of structural and institutional development advice and for amendments of relevant legislation.
- UNCT and NEMA/SEMA should work with MDAs and state ministries to ensure all new legislations are DRR sensitive. Review existing legislations in each state with a view to encouraging ministries to work together more closely.
- Ensure that federal legislations, policies and strategies relating to reducing the risk of disasters are properly disseminated to the State and Local Government levels and ensure that clear guidelines are given on how to appropriately incorporate this into their structures, legislation and policies.
- Provide adequate and direct funding for all DRR activities and Climate Change at all levels, and ensures that greater percentage of funds is allocated for direct DRR activities.
- NEMA should allocate 10% of the given 20% of the national 1% ecological fund for DRR. Advocate for states, local government and other stakeholders to allocate funds in their annual budgets to be used for risk reduction activities.
- Each State should establish DRR working groups under the respective SEMAs to help raise the profile of DRR and put it on the agenda more regularly.
- Provide adequate capacity and training for all DRR , climate change platforms and other stakeholders across all levels
- The platforms should improve the vertical and horizontal coordination, collaboration and implementation of all DRR and climate change activities at all levels of government aimed towards sharing of data and expertise.
- In collaboration with the National Planning Commission and the Federal Ministry of Finance, NEMA should establish regular training programme on mainstreaming DRR into

development planning targeting the planning units, not only for post-disaster, but also preventive DRR.

- NEMA/ SEMA to formulate modalities (fund raising, joint assessments, and awareness and NGO charters) for engaging NGOs and Civil Societies especially as it relates to DRR.
- Involve the judiciary as a DRR stakeholder and sensitize them to the efforts of the ministries and LGAs. Work towards expediting cases with potentially disastrous outcomes.

B. HFA Priority 2: Identify, assess and monitor disaster risks and enhance early warning

4. Existing Capacities at the federal level

Many institutions and agencies have the required technical skills to undertake risk assessment and identification. NEMA has established within the Department of Planning a Geographic Information System (GIS) Unit, which is already working on flood and landslide hazards maps for isolated areas with techniques that could be used for wider assessments across the country. The academic system, including the **University of Ibadan, Ahmadu Bello University in Zaria, Federal University of Technology in Minna**, etc conducts GIS courses that provide the skills needed to expand this risk mapping initiative.

The Federal Government established the **National Space Research and Development Agency (NASRDA)** on 5th May 1999 to champion the development and application of space science and technology capable of translating the dreams of socio economic transformation of the nation. There exist six centers at various locations of the country whose activities are coordinated and controlled by NASRDA in order to realize its objectives. These Centers are: National Centre for Remote Sensing (Jos), Centre for Space Science and Technology Education (Ile-Ife), Centre of Satellite Technology Development (Abuja), Centre for Space Transportation and Propulsion (Epe), Centre for Geodesy and Geodynamics (Toro) and Centre for Basic Space Science and Astronomy (Nsukka).

The National Centre for Remote Sensing (NCRS) located in Jos, Plateau State, conducts several training programs, seminars and periodic conferences in all areas of Remote Sensing aimed to build the technical capacity and technological expertise that will enable Nigeria to develop, build and maintain its own earth observation and communication satellites by the year 2012. The Centre is mandated by the Federal Government of Nigeria to carry out, among other things, the following functions: to undertake pure, applied and action-oriented research, development and applications of remote sensing, GIS and related technologies; to acquire, store, publicize and provide regular information about the availability of Remote Sensing data in Nigeria; to undertake promotional activities in the practical applications of Remote Sensing through dedicated conferences, seminars, workshops and newsletters; to develop joint/collaboration programmes with any local or international organisation whose objectives are in line with national interest; to operate a Remote Sensing Ground Receiving Station capable of receiving data from diverse remote sensing satellites; etc.

The NCRS has a lot of capacity on the following subjects: inventory and mapping of agricultural lands; assessment of changes in agricultural land, crop inventory and yield estimate, assessment of degraded lands; early detection of crop diseases; food security arrangement; flood monitoring and assessment, mapping and monitoring of coastal water areas, production of geological and geomorphological maps, etc.

The **African Regional Centre for Space Technology and Education- English (ARCSSTE-E)**, affiliated with the United Nations, was inaugurated in Lagos, Nigeria on 24 November, 1998. ARCSSTE-E is located at the Obafemi Awolowo University. One of the key objectives of the Centre is to develop skills for satellite communications applications including those associated with rural development and health services, long distance education, disaster mitigation, navigation and regional networking/linkages with industries. ARCSSTE-E has successfully executed, and is presently carrying out many local, national and international Research and Development activities in collaboration with institutions in Nigeria and abroad. Some of these activities include: Monitoring Deforestation and Implication for Biodiversity in Nigeria, Nigerian Mesoscale Experiment (NIMEX), Desertification

Impact Modeling using field measurements from a Distributed Sensors Network, Climate Impact Modeling: Impacts of global climate change in the African region, etc.

The **Nigerian Meteorological Agency (NIMET)** provides weather forecasts and seasonal rainfall predictions. This provides early warning alerts for climate related disaster threats across the country. The Agency has long historical climate data, some of which span over 100 year coupled with its unlimited access to the WMO's enormous global database. These constitute an invaluable tool and is shared free of charge.

NIMET issues periodical publications on basic information products such as the decadal, quarterly and annual agro-met bulletins, which provide information on drought indices, and evaporation/temperature trends, development and updating of the in-house seasonal climate prediction model for effective monitoring of drought, desertification, erosion, crop failure, etc., and dissemination of critical weather/climate alerts using specialized weather dissemination system for rural areas, namely the Radio-Internet (RANET) system. This system does not require electricity to function and elaboration of The Farmers' Guide: A form of handbook that all investors in agriculture rely on for advisory on what to plant, where to plant, how to plant and when to plant.

The National Water Resources Institute (NWRI) is the only institute in Nigeria in charge of training and applied research in the water sector. This institute, located in Kaduna, was created in 1979 under the supervision of the Nigerian Ministry of Agriculture and Water Resources. The NWRI's main mandates and activities are: basic and professional training, basic and applied research, documentation and database management. The institute has trained more than 1,400 students since its creation. The institute carries out studies on the impacts of floods, dam collapse surveys, monitoring of sedimentation of dam reservoirs, monitoring of surface and ground water quality, some of which was done in collaboration with NEMA and NASRDA, etc. The institute is also engaged in a country wide research programme on ground water pollution and contamination in three States namely: Bayelsa, Rivers and Delta.

The NOSDRA (National Oil Spill Detection and Response Agency) plays a key role in the oil producing regions. The National Oil Spill Detection and Response Agency (NOSDRA), a parastatal under the federal Ministry of Environment was established in 2006 by an Act of the National Assembly. It is vested with the responsibility to co-ordinate the implementation of the National Oil Spill Contingency plan (NOSCP) for Nigeria in accordance with the international convention on oil pollution preparedness, Response and Co-operation (OPRC) 1990, to which Nigeria is a signatory. NOSDRA is also mandated to play the lead role in ensuring timely, effective and appropriate response to oil spills, as well as ensuring clean up and remediation of all impacted sites to all best practical extent. It shall also identify high risk/priority areas in the oil-producing environment for protection as well as ensure compliance of oil industry operators with all existing environmental legislations in the petroleum sector.

Epidemic surveillance and early warning systems: NEMA organized the consultative stakeholders meeting on early warning mechanisms for epidemics in July 2009 to establish a committee to examine the existing epidemic surveillance mechanisms at the national level. That committee was given the mandate to: identify the existing Epidemic Early Warning Mechanisms and its effectiveness; identify stakeholders that will support the system and their roles; develop a work plan for the implementation of the Early Warning System on Epidemics.

In the same perspective, a **National Influenza Sentinel Surveillance (NISS)** has been created by the Federal government. As one of the strategies for Early Warning detection and prompt response to

Avian influenza and other viruses with pandemic potential, a sentinel surveillance system has been established by the Federal Ministry of Health with financial support from the US Centers for **Disease Control and prevention (CDC)**. Seven sentinel sites, covering all the six Geo-political Zones of the Country have been identified. Currently, four (4) of the Sites: Aminu Kano Teaching hospital, Kano, Asokoro District Hospital, Abuja, Lagos State Teaching Hospital, Ikeja, Lagos and the Nnamdi Azikiwe Teaching Hospital, Nnewi, are operational.

The Nigerian Red Cross Society (NRCS) supports the Federal Ministry of Health **Integrated Disease Surveillance and Response system (IDSR)** in Nigeria. NRCS help raise local awareness of the hazards that communities are exposed to and most times community based volunteers alert health authorities. Also the Society assists local organizations and vulnerable populations with the interpretation of early warning information and taking appropriate and timely action to minimize mortality and morbidity. Efforts in building these capacities complement local indigenous capacities and knowledge related to disaster early warning and alert.

The Emergency preparedness unit of Medecins Sans Frontieres (MSF) has an ongoing surveillance system that is always active. The surveillance system is in line with that of the Federal Ministry of Health's system where they obtain data from the FMOH, SMOH and other stakeholders and act on such information in conjunction with and the permission of the Federal and State Ministries of Health. The organization communicates with authorities in the areas they cover on a weekly basis for the purpose of surveillance by phone and physically go to the fields as often as possible. They also have an informal system comprised of people in states and LGA's where they have worked or are currently working, and in this way are alerted very early when any epidemic is suspected or occurring.

Flood early warning system: The United Nations Development Programme (UNDP) has funded the establishment of flood early warning system (August 2008). Having noted the huge economic losses from floods nationwide, and poised to adopt a proactive preventive approach in the management of floods, the Federal Ministry of Environment collaborated with the United Nations Development Programme (UNDP) to organize a National Workshop on Flood Early Warning Systems (FEWS) to create awareness of its importance and work out modalities for the establishment and implementation of FEWS in the country.

NEMA has conducted, in collaboration with UNICEF and WHO's a **Vulnerability and Capacity Analysis (VCA) in 21 Local Government areas in Nigeria**. The target here is to conduct this vulnerability and capacity assessment exercise in the 774 local government areas existing across the country.

Civil Society networks such as the West Africa Civil Society network and the WANEP also contribute to mapping vulnerabilities and act as additional early warning systems.

5. Existing Capacity at State level

Many examples from the state level demonstrate scattered capacities in risk assessment. For example, many local governments in Lagos State have resident engineers tasked with monitoring the drainage and runoff situation, and report systematically to local government authorities in order for them to take appropriate measures, which serves as a form of early warning.

The Climate Change Department of the Lagos Ministry of Environment conducted a vulnerability study on sea level rise called "*Climate Change Scenario and Coastal Risk Analysis Study of Lagos State*". From 1998-2001, for instance, a joint project called "*Reducing the impact of flooding in Lagos, Nigeria*" between the Nigerian Institute for Oceanography and Marine Research, Lagos State

Ministry of Environment and Physical Planning (Department of Drainage), the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the Coastal Regions and Small Islands (CSI) platform addressed the problem of flooding in Lagos. From 1998 to 1999 the project aimed to determine the causes of flooding in Lagos and the implications of tidal and sea-level changes as well as societal impact on the efficiency of drainage channels to discharge flood waters. From 2000 to 2001 the project intended to reduce the impacts of flooding on settlements through public information and awareness-raising campaigns.

In a report released in August 2000, the main drainage channels of Victoria and Ikoyi Islands in Lagos and their response to tidal and sea level changes were investigated. The report found two factors responsible for the problems of drainage blockage and flooding: engineering problems, whereby some of the canals have reverse flows, while the other is attitudinal, evident in the dumping of refuse in canals and other drain channels by Lagos inhabitants. The study revealed several additional problems such as clogging of the drainage channels by domestic waste and blocking of some channels by buildings, low gradient of the channels and variable channel width from head to outfall, collapsed drainage channel walls, reverse gradients in most channels such that when heavy rains coincide with high tides, tidal waters flow back into the channels through the outlets causing excessive flooding.

Although the results from the report were submitted to the Lagos State Ministry of Environment and Physical Planning and several recommendations were made including rerouting, repairing, fencing and screening of several channels, construction of new channels, increasing beach height, and a public awareness campaign to discourage dumping of solid refuse in the drainage channels, only a few steps have since been undertaken by local government to involve social actors. Following that study, Action Aid undertook a *'Participatory Vulnerability Analysis'* (PVA) in 2006, investigating the urban poor's experiences of climate change impacts and disaster management policies in five African cities including Lagos.

To combat the urban disaster risk of building collapse, the Lagos Physical Planning Development Authority monitors and inspects buildings on an ongoing basis, and passes this information onto the Ministry of Physical Planning & Urban Development. But it is unclear how often buildings are inspected. Two organizations participate in the assessment process, Lagos State Physical Planning Permit Authority (LASPPPA) and Lagos State Building Control Agency (LASBCA). On the other hand, the Oyo State Ministry of Water Resources routinely monitors and tests surface water at the source in order to evaluate possible danger to the public.

The University of Ibadan task force conducted a geographic information system mapping of flood plains around the area after the 2011 flooding episode. They have also elaborated vulnerability mapping for low-lying areas across the South West socio-economic zone based on satellite images. Unfortunately these maps and existing information developed by the University are yet to be properly used by Oyo State agencies in charge of disaster risk reduction and response.

In 2008, an NGO called Community Research and Development Centre (CREDC) conducted a flood risk assessment in several States. The assessment also looked at fire and storm hazards. This assessment followed a template from West African Network for Peace building (WANEP) including about 25 questions focusing on vulnerability identification. The results were analyzed by WANEP, and CREDC used the findings to support DRR grant proposals that went unfunded.

The Kaduna State Ministry of Health has developed an integrated disease surveillance and response system in order to monitor epidemics and provide information on major diseases like cholera and yellow fever. An inter-ministerial epidemic preparedness and response mechanism is

currently being established at the state level under the leadership and coordination of the Ministry of Health and SEMA office.

It should also be noted that at the local level, traditional early warning systems (in particular for storms, floods or drought) have great relevance and are an essential component of the communities' resilience mechanisms.

6. Identified Gaps and Challenges

- The early warning system is not systematic and a lot of problems have been identified during the assessment in relation to the dissemination of alerts and how these alerts reach local communities, which are most at risk.
- The country has never been engaged in comprehensive risk identification or risk assessment activities. There are some scattered efforts carried out by various institutions (universities, research institutions) but not in a coordinated approach for a common interest.
- There is no coordinated monitoring of floods or established early warning systems for flood disaster reduction in Nigeria. The majority of the river systems in Nigeria do not have functional water level gauges, while those rivers that have stage and discharge stations are not integrated into a coordinated system. The status of hydrometeorology data collection and monitoring for flood early warning is grossly inadequate in the majority of the river basins in the country.
- The information management of existing risks and data is not systematic. Although most of the information within governmental structures is shared free of charge, in the majority of cases it has to be requested for by the user because there is no automatic information flow between stakeholders.
- There is no clear guidance from the state governments when it comes to mandate or guidance on which methodologies should be used for risk or impact assessments, and no particular tools are being provided for these activities. Some state agencies spoke of regular assessments, but could not provide details on where, when, or how these assessments were done. No risk identification or assessment had been done within their domain at state level.
- The 2009 VCA is a step in the right direction, and its findings would be presented to stakeholders for implementation. Lagos SEMA indicated that a comprehensive risk assessment was undertaken for Lagos State in 2009, with support from NEMA, UNICEF and WHO, but there is no continuous execution of state-based comprehensive risk assessments and little recognition of the importance of risk mapping. The state agencies interviewed do not conduct structured assessments of hazards, vulnerability, or capacity. They are not aware of risk assessments that may have been conducted by outside organizations.
- The Oyo state Department of Physical Planning and Urban Development stated that no town in Oyo State has a master plan with risk/hazard information and maps. Local government authorities have no flood risk maps available to their departments of planning and generally work without hazard maps.
- Historical information on disaster incidents and losses are recorded in decentralized ways, but records of previous disaster events are not yet stored in a database by a government body, no aggregation or analysis is done, and detailed maps do not exist. Baseline data on

disaster incidents and vulnerability are not available to measure improvement. For example, the Oyo Fire Service investigates the cause of each fire, but no statistics are tallied. While the state ministries are working diligently to assess new building projects and deal with existing problems, historical statistics on high-risk builders or neighborhoods are not available.

- With floods being the primary threat in the SW zone, early warning consists of rain forecast alerts from NIMET. However, the ministries and SEMA do not receive these warnings directly from NIMET, but instead learn of them from the public website, through the media, or upon direct request. There is no systematic, automated process for distributing early warning alerts. At local level it is estimated that 40-50% of local communities do not understand the disseminated information (predictions of NIMET, etc).
- Both post disaster damage assessments and post disaster needs assessments are done for isolated incidents by scattered agencies without coordination. Damage assessment checklists are sometimes used in particular by the Nigerian Red Cross Society. However, a systematic structure for conducting post disaster damage and needs assessments is not in place, and the capacity to conduct such assessments is limited.

7. Recommendations

- Engage GRIP to facilitate the data management of the risk assessment, including creating a disaster observatory of historical disaster events and building local technical capacity to implement assessments.
- Establish baseline data for disaster incidents in order to prioritize risk reduction work and measure its effectiveness; building on historical disaster data collected by the Nigerian Red Cross.
- Conduct a national disaster risk assessment, including risk mapping on a state-by-state level, led by NEMA with participation from SEMA, the 6 NEMA sponsored University programs, and international organizations, with clear identification of roles and responsibilities of all stakeholders.
- The role of civil society groups in supporting risk assessment and VCA should be highlighted and stronger partnerships fostered with NEMA and SEMAs.
- Organize trainings for technical practitioners on tools and methods for undertaking risk assessments related to the main identified risks in their region and build a strong working relationship between SEMAs and the universities to share information and provide trainings.
- Encourage and facilitate sharing of resources and information between the universities to cooperate on a national assessment and establish a National Disaster Observatory under NEMA as an institutional structure for systematically collecting, storing, analyzing and interpreting disaster-related data and information for decision-making.
- Organize a communication forum of all data producers and users, including maps and satellite data, to systematize information exchange for improved decision-making in DRR. LEMC should be responsible for the dissemination of information on emergencies at local

level.

- NEMA should strengthen its partnerships with media houses for disseminating emergency related information and engage in cooperation arrangements or MoUs.
- Conduct a technical level study on the expected implications of climate change across Nigeria, with particular focus on the eventual changing risk patterns that climate change could bring.
- Review and revise the NIMET early warning communication strategy to ensure that alerts are promptly distributed to stakeholders at all levels. Negotiate an MoU with radio and television broadcasters in every region.
- Standardize a post disaster damage assessment methodology, which would be formally approved by the stakeholders meeting, with further training of technical staff from all relevant ministries. The UNDP BCPR Recovery Unit can support the national DaLA committee in developing this.
- Standardize a post disaster needs assessment (PDNA) methodology, formally approving it through the stakeholders meeting. Regularly train technical staff on how to conduct it

C. HFA Priority 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels

8. Existing Capacity at Federal and State levels

National Committee on city resilience campaign: The Federal Government of Nigeria, through the National Emergency Management Agency (NEMA) and in collaboration with various national stakeholders, is fully engaged in the UNISDR's Making Cities Resilient campaign. A national committee was established in 2011 to oversee the program and advocate for it. The city of Abuja, as Federal Capital of Nigeria, has joined this Safer Cities campaign. The established committee will try to convince community leaders and local governments to commit to a checklist of Ten Essentials for Making Cities Resilient and work alongside local activists, grassroots networks and national authorities. Consequently, the Committee is saddled with the following tasks: to provide a strong network among the federal and state Ministries, Departments and Agencies (MDAs), international agencies, and professional bodies; to develop frameworks and strategies for getting state and local governments to show commitment towards achieving the objectives of the ISDR campaign by signing up to it.

Mainstreaming DRR into education: Nationally, DRR mainstreaming into the primary and secondary school curricula is handled by the Education Research and Development Council initiated and sponsored by NEMA. DRR awareness and risk reduction activities are being included in lesson plans, though much remains to be done to integrate these curricula at the local level and to train teachers.

NEMA has been providing substantial support to the university system in Nigeria since 2009. Six universities, one from each of the geo-political zones of the country, have been identified and supported by NEMA to develop and deliver Masters Degree programmes on Disaster Risk Management and Development Studies. These universities are: University of Maiduguri, Maiduguri - North - East zone; Ahmadu Bello University, Zaria - North West zone; University of Nigeria, Nsukka – South East zone; Federal University of Technology, Minna - North Central zone; University of Port-Harcourt - South South zone; and University of Ibadan, South - West zone

During the assessment, the team visited two of these universities (Ahmadu Bello University, Zaria - North West zone and University of Ibadan, South - West zone) in order to see how the Masters Degree programmes supported by NEMA are being carried out. The Centre for Disaster Risk Management and Development Studies (CDRMDS), established at the Department of Geography of Ahmadu Bello University, has ambitions to be centre of excellence on DRM and sustainable development through training, research, community development and public enlightenment. The programme trains professionals with knowledge of disaster risk reduction concepts and techniques, creating a base of qualified candidates for DRR positions throughout Nigeria. The main objective is to build disaster risk management capacity at all level within Ministries, Departments Agencies and communities in Nigeria.

In Zaria the centre has a 12 months Masters Degree and also a post-diploma in Disaster Risk Management. The first batch of students from both courses has just graduated. The Centre is looking at incrementing the offering of courses by developing short-term courses for professionals. Being a new department (created only last year) it is looking at developing partnerships with other universities abroad (Stanford University) and disaster organisations (such as ADPC). These partnerships are to be established with the aim of developing the curriculum and in the future promoting student / professor exchanges. The Centre with the support of the World Bank, organised an international disaster management conference in May 2011. At the practical levels, the Centre in Zaria is planning to conduct vulnerability and capacity assessments of communities in the North West and then expand to the rest of the geopolitical zones. It also conducts some awareness

campaigns on fire and it is willing to expand this to cover other natural hazards, such as floods and drought. Ahmadu Bello University, Zaria, is also looking forward to the possibility of building a dedicated block for the Centre when the funds are available.

NEMA has put in place a monitoring mechanism. A grant of 10 million Naira has been provided to each of the six Universities while the second envelope of 5 million Naira will be released to each of them based on their performance. The funds will be used to produce teaching materials, access to internet and send students abroad who upon their return will provide a study papers while the universities will, on their part, contribute by providing the premises. At the end of the three year support, it is expected that the universities will be able to self-support their DRR courses.

NEMA has a Training Department that coordinates the training within and outside the organization. NEMA has managed to get Disaster Risk Reduction mainstreamed into professional programmes in high level administration training schools such as the Police Training College, Armed Forces Command and Staff College, Nigeria Institute for Policy and Strategic Studies, the in-Service Trainings for Civil Servants and National Security, the Nigeria Security and Civil Defence Corps and the National Youth Service Corps (a one year compulsory service period for graduates of Universities and Polytechnics).

NEMA has made some efforts to increase its staff capacity in DRR. The aim of NEMA's training activities is to raise DRR awareness among its staff, the government at the national, states and local levels and among communities. Internally, NEMA is committed to increasing its staff's familiarity with DRR. In this regard, it has been sponsoring its officers to international DRR courses. Gender is a deliberate policy in NEMA: gender issues are mainstreamed in training manuals and women's participation in the trainings is encouraged. Two NEMA officers attended a workshop in Cambodia in March 2012 on mainstreaming gender in DRR. In general, strengthening of NEMA's awareness in DRR and its capacities to conduct DRR activities is highly needed. In 2008 and 2009 there were two batches of officers trained in the 6 geopolitical zones, which included staff from the local, state and federal levels. Currently NEMA has taken this task as part of its duties, but as the number of local government officials is large, it is difficult to reach out to all of them. For these reasons, the Bournemouth Disaster Management Centre was invited to provide training.

Advocacy for Disaster Risk Reduction: NEMA celebrates annually the International Disaster Reduction Campaign by organizing sensitization and advocacy activities at the Federal level. This occasion provides the opportunity for NEMA to bring together stakeholders (UN Agencies, NGOs, Civil Society, government institutions, bilateral partners, etc.) to discuss issues related to risk reduction in the country. In the same vein, the National Platform developed 12 resource materials in the English language for public enlightenment and capacity building of different population groups in Nigeria. These include materials published by UN agencies, which were adapted by NEMA to match local needs.

UN Agencies are also engaged in the promoting and advocating for disaster risk reduction in the country. For example, UNICEF has developed a manual to integrate climate change adaptation into the school curricula. Other Agencies, like UNDP, FAO, and UNHCR have conducted many activities on this matter.

At the State Level, the Lagos Ministry of Education and Department of Climate Change in the Ministry of Environment are engaged in advocacy campaigns on issues of climate change in the schools. They have ensured that each school has a climate change club, which is optional for students to join. The main activities of these campaigns are planting of trees, drama, and cleaning up the areas surrounding the schools, including drainage.

Oyo and Kaduna States have similar clubs established in many schools with climate change integrated into the geography part of the curriculum at primary and junior secondary levels. The objective of these campaigns is to raise the awareness of climate change among youth as well as to inspire students to take action, in particular, when it comes to the issue of waste disposal. These campaigns mostly focus on climate change mitigation but sometimes raise the issue of adaptation. Also, five trainings have been given on disaster risk management to staff at the Oyo Ministry of Education.

The Project Unit within the Lagos Ministry of Education is responsible for the construction and rehabilitation of schools in the State. Although they were not aware of the Safer Schools campaign, they are indeed engaged in ensuring the physical safety of students through extensive measures aimed at assessing and addressing school structure risks. They undertake annual risk assessments of all schools in the state, with an annual report released in July/August each year. Based on the recommendations made, and depending on the level of available funds, they engage in retrofitting and rehabilitation activities. The Ministry has also developed school construction guidelines, which ensures that all newly erected schools are built according to defined safety standards.

The Lagos Ministry of Physical Planning & Urban Development runs a campaign to create awareness to the dangers of collapsed buildings and the requirements to obtain building permits. Relevant laws are targeted to both building owners and builders.

The Kaduna State Ministry of Water Resources carries out some awareness raising campaigns on prevention that deals with the issue of clean drainage. Some preventive measures are also put in place before disasters happen, such as building latrines or building water pumps in rural communities. At the state level, a partnership with rural leaders and some NGOs is also used to disseminate information.

Disaster Risk Reduction volunteerism: NEMA has supported efforts at taking Disaster Management to the grassroots level by conducting community sensitization on flood risk and market fire awareness campaigns in many Communities and Development Councils located in all the geopolitical zones of the country. The Grassroots Emergency Management Volunteers Corps (GEVC) program has been recognized as a veritable tool of DRR and is being pursued vigorously. The GEVC was initiated in 2008 and has so far spread to about 23 states with numerical strength of 6408 registered volunteers, to achieve the goal of extending disaster management services to the grassroots. NEMA aims to train up to 200 GEVC volunteers in each local government area across the country. The program has already reached some communities, with the Ibadan NE LGA utilizing the volunteers for limited DRR awareness campaigns. The two LGAs visited in Lagos State were not participating, though NEMA pledged to start GEVC programs in both LGAs during these interviews.

The National Youth Service Corps is another resource, which is being to be utilized for DRR mobilization. The NYSC is a compulsory 1-year service program for all university and higher national diploma graduates, and NEMA has been introducing DRR concepts into the corps.

The Nigeria Red Cross Society (NRCS) is traditionally strong in raising public awareness. It conducts campaigns on protecting living environments of communities by going to the communities. NRCS works closely with Youth Union Forum and meets with them twice a month during which NRCS disaster officers talk to the representatives of the youth and informally teach and drill them on how to protect their livelihoods before the rainy season and floods, as well as other hazards (cleaning canals, drainage systems, etc.). The NRCS also organizes environmental awareness days for youths and community representatives, focusing on the importance of protecting the environment and

sustainable solutions, such as waste management and recycling. One hundred and fifty (150) NRCS trained volunteers organize weekly meetings with over 700 schools across the country. Issues such as climate change and desertification are addressed. The NRCS conducts regular training of volunteers on disaster awareness with a certification program. NRCS organizes an annual Lagos State summer camp for 1000 people, where an environmental specialist is invited from the US Consulate in Lagos to talk to camp participants. NRCS works with University of Maiduguri on a disaster management program and they have also produced brochures and posters on various aspects of DRR, such as environmental awareness, preservation of livelihoods, floods protection, drainage, and water channel cleaning.

9. Identified Gaps and Challenges

- The mission could not meet with the Nigerian Educational Research Development Council (NERDC), which is in charge of developing school curricula. The mission was told by other stakeholders that NERDC has developed materials to mainstream DRR into selected subjects in primary and secondary school in collaboration with NEMA. Instead of creating a separate subject on DRR and CCA it was decided to mainstream these subjects in existing compulsory subjects so that all students will be exposed. If DRR and CCA were to be separate subject it would be optional and some students may choose not to attend the course. The curriculum needs to be strengthened towards the side of climate change adaptation. Despite the existing materials, DRR is yet to be mainstreamed and the teachers trained. The official interviewed from the Federal Ministry of Education was not aware of NERDC DRR curriculum development.
- The mission met with both the Ahmadu Bello universities in Zaria (Kaduna State) and University of Ibadan (Oyo State). From the interviews conducted with the two Centres, it is evident that the Centres are not collaborating with each other or if they do, it is a sporadic relationship.
- The assessment team was repeatedly told that DRR is a new concept and there is still much to learn. SEMA engineers in Lagos, for example, reported that they were first oriented to DRR during a training programme in 2011 and only 3 of the 15 Oyo SEMA staff are DRR sensitized. There is no ongoing DRR training program for state officials, and each agency is working towards a better understanding of their roles in DRR. Some individual members of ministries have undergone basic trainings in DRR in association with other programs, but no systematic DRR sensitization for public officials is in place. Several ministries stated that they have no responsibility or capacity for DRR, and they do not see clear links between their schedule and DRR.
- In the south West region, there is no official inclusion of DRR or CCA in the state school curricula for primary or secondary students. Lagos SEMA has developed a curriculum on DRR for schools, which is not yet infused into the elementary educational system at the state level. The Lagos Ministry of Education is aware that the same initiative was conducted by NERDC at the Federal level in Abuja, and the two curricula were developed separately but They indicated that the national efforts will be welcomed at the state level. However, they are waiting for formal instructions before they engage in reviewing the state school curricula. Oyo SEMA is engaged in training teachers in state schools on disaster management issues, but the extent of these trainings seems to be very limited.
- DRR public awareness building is not centralized, and individual ministries and organizations promote DRR without a common strategy. Unofficially, there is a wide understanding that

more needs to be done to improve public awareness on disaster risk, with emphasis on floods and building collapse. Many ministries are engaging the public to play their individual parts in risk reduction. However, the messages are general and not targeted at specific at-risk communities. The Lagos Ministry of Environment commented that with the rapid population growth, “Development is faster than planning”, which results in new building often being started before risks are investigated.

- Local government authorities need to improve on DRR capacity building just as their national and state counterparts. All of the LGAs visited have very rudimentary understandings of DRR concepts. Their administrative and program capacities are limited in general, and they focus very little of their scant resources on risk reduction.

10. Recommendations

- Continue to integrate DRR into Primary and Secondary school curricula at the national and state level, building in flexibility to tailor the education to the specific risk profile of each state and locality.
- Advocacy by NEMA to the Honorable Minister of Education to revisit earlier submissions by the Agency on DRR integration into school curricula.
- Organize regular national/state events with the Ministry of Education and Local government authorities to share best educational practices, tools, and materials, and agree on a plan of action.
- Develop the capacities of NEMA and SEMAs where they exist in terms of technical, human and financial resources to provide regular trainings on DRR to various national institutions, NGOs and the private sector. Include developing training modules for teachers to sensitize them to the new DRR curricula, building on existing NEMA/SEMA trainings through the Ministries of Education. Intensify efforts to ensure functional SEMAs are established where they do not exist.
- NEMA in collaboration with the Ministry of Environment should articulate and standardize DRR and Climate Change training manuals which can be used across levels.
- Review the methodology for school and hospital safety risk assessments and school and hospital construction guidelines to better integrate risks\hazards.
- Enhance climate change advocacy and intensify enlightenment campaigns to ensure more focus on climate change adaptation measures.
- Enhance the development of child-centered disaster risk assessment for schools as a means to raising awareness of disaster risk among pupils /students, in order to strengthen the voice of children in the school environment and communities.
- Strengthen the formal collaboration with research institutes, in the utilization of technologies, tools and methods to reduce the risk to disasters.
- Build on the existing public awareness campaign including developing tailored messages in local languages to targeted high-risk groups, especially women and children. Evaluate the

performance of these campaigns by measuring changes in both public knowledge and changes in behavior.

- Build awareness from top down to local levels on the documentation that is publicly available about the technical implementation of DRR which is available on PreventionWeb.net and through the UN-ISDR regional office in Nairobi.
- Support NGOs to build on their capacity to deliver targeted information to the public. Assist them in their external grant proposals and partner with them for information sharing and program collaboration.
- Support key stakeholders by assisting with the training of their staff on developing, publishing and disseminating of awareness brochures and posters: Awareness programs for the summer camp and school initiatives.
- Concerted effort should be made to include the media in DRR activities.

D. HFA Priority 4: Reduce underlying risk factors

11. Existing Capacity at Federal and State levels

Environmental management and sustainability: In an effort at addressing the key environmental problems and challenges of land degradation (deforestation, desertification and coastal and marine environment erosion), air and water pollution, urban decay and municipal waste, as well as hazards of drought, ocean surges, floods and erosion, the Federal Government of Nigerian unveiled a **National Environmental Policy in 1989. The policy was revised in 1999 to accommodate new and emerging environmental concerns.**

The House of Representatives and Senate Committees on the Environment have the primary responsibility for the review and oversight of the existing environmental legislation, the collection and analysis of relevant information, and the development of informed draft legislation designed to strengthen the legal framework for environmental management. These committees are each comprised of five sub-committees - Biodiversity Conservation, Desertification, Erosion and Flood Control, Industrial Waste Management and Pollution Control. It is the responsibility of these sub-committees to focus on strengthening the legislative framework relevant to their assigned technical areas. The National Assembly is at an advanced stage of legislating for a Climate Change Commission in the country.

The NESREA Act of 2007 established the National Environmental Standards and Regulations Enforcement Agency (NESREA) as an Agency of the Federal Ministry of Environment that is charged with the responsibility of enforcing environmental laws, regulations and standard to deter people, industries and organization from polluting and degrading the environment. NESREA has responsibility for the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general, and environmental technology including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines, all of which have critical relationships with issues of climate change.

In order to ensure the implementation of the Environmental Policy, specific policies and action plans were enacted by the government, which if properly implemented could be adapted to support national DRR and climate change adaptation response efforts, particularly with respect to drought and desertification, erosion, flood control and coastal zone management, forestry, and biodiversity protection.

National Policy on Drought and Desertification; Drought Preparedness Plan, (2007): The NPDD was preceded by a National Action Programme (NAP) to Combat Desertification and Mitigate the Effects of Drought developed in 2000, and it remains the main implementation modality for the policy. NAP was developed in line with Article 10 of the UN Convention to Combat Desertification as a key operational tool for the implementation of the Convention. The document spells out long-term integrated strategies that focus simultaneously on improved productivity of land, and the rehabilitation resources in dry sub-humid, semi and arid areas of Nigeria, with particular emphasis on agriculture, water resources management and environmental rehabilitation, regeneration and conservation. In addition, Nigeria has in place a Drought Preparedness Plan (2005) which, although it may not have explicitly addressed climate change, contains a number of adaptation strategies in some of its specific objectives.

The National Biodiversity Strategy and Action Plan (NBSAP) provides a framework and programme instrument for the conservation of Nigeria's biological diversity and its sustainable use by integrating biodiversity considerations into national planning, policy and decision-making processes. It provides

frameworks for addressing (i) biodiversity conservation, (ii) sustainable use of biological resources, (iii) equitable sharing of benefits, (iv) conservation of agro-biodiversity, (v) bio-safety, and (vi) biodiversity-industry interface, each with different policy perspectives. The goal of the NBSAP is to conserve and promote sustainable use of Nigeria's biological resources for poverty reduction and for fair and equitable benefits among the present and future generations.

National Erosion and Flood Control Policy: The goal of the National Erosion and Flood Control Policy (NEFCP) of 2005 is to protect the environment from degradation, loss of productive land and negative impacts of flood, ensure coordinated and systematic measures in the management and control of the hazards of erosion and floods to reduce their impacts on the people and the environment. Some of the NEFCP key strategies of implementation include: (i) producing flood vulnerability and erosion hazard maps for all the ecological zones of the country; (ii) evolving a mechanism for forecasting, monitoring and control of erosion and floods; (iii) reviewing the land use laws and regulations; (iv) promoting and strengthening training at all levels in erosion and flood prevention, management and control; (v) creating public awareness to encourage participation; (iv) protect marginal lands by limiting utilization to their carrying capacity; (vi) subjecting resources users and developers to guidelines in order to reduce the vulnerability of the environment to flood and erosion-related disasters; and (vii) providing early warning systems to avert the escalation of flood and erosion hazards.

In addition to the above mentioned policies and strategies, Nigeria has many laws and regulatory measures to promote sustainable environmental management in many sectors of the economy. Government is implementing a number of initiatives to address a number of environmental challenges contained in the policies and strategies that were reviewed. As part of the efforts at combating desertification and mitigating drought, the government is participating in the Green Wall Sahara Programme, which is designed to green the desert portion of Nigeria. It is also actively involved in the Desert to Food Programme initiative, as well as the integrated ecosystem management of the trans-boundary environmental resources between Nigeria and Niger Republic. In addition, the government has supported the rehabilitation of ten oases and provision of potable water to communities in desertification-prone areas of the country.

Climate Change adaptation: The Federal Government has recently established a new Department for Climate Change under the Ministry of Environment. A Centre for Climate Change and Freshwater Resources was also set up at the Federal University of Technology, Minna. The Department is created to implement the Convention and the protocol activities. It also has responsibility of coordinating the activities of the Inter-ministerial Committee on Climate Change with representation from the following ministries: Finance, Agriculture, Water Resources, Energy Commission, Nigeria National Petroleum Corporation (NNPC), Foreign Affairs, Nigerian Meteorological Agency (NIMET), Industry, NGOs (Nigerian Environmental Study/Action Team), and Academic (Centre for Climate Change and Fresh Water Resources, Federal University of Technology Minna; Centre for Energy, Research and Development, ObafemiAwolowo University Ile-Ife; and AbubakarTafawaBalewa University, Bauchi). There is also a Presidential Implementation Committee on the Clean Development Mechanism (CDM) in the Presidency. Towards improving the national capacity to generate observational climate data and climate monitoring systems, the government upgraded the Department of Meteorology in the Ministry of Civil Aviation to a full-fledged Nigerian Meteorological Agency (NIMET) in 2003, which now has a Climate Research Unit for data generation and climatic information dissemination. Furthermore, there is a National Council on the Environment, made up of representatives of governments at the federal and state levels. The Council meets at regular intervals to take stock of the state of the environment in Nigeria.

In the National Assembly, the Senate has a standing committee on ecology (Senate Committee on Ecology) while the House of Representatives has a standing Committee on Climate Change. Members of these committees have in the past participated in regional and international fora on climate change and have facilitated the passing of a Climate Change Commission (CCC) Bill in both the House and Senate.

There is a growing awareness and concern for climate change adaptation issues in Nigeria with positive political commitment and patronage. For instance, the House Committee on Climate Change established in 2008 is embarking on broad based advocacy among the media, civil society, private sector and government while a number of state governments have taken some proactive stance.

Lagos State has recognized the imperatives of climate change adaptation and has therefore put in place measures to tackle the problem. The state established a Climate Change department and took a number of concrete actions to raise awareness among the public and also through the Lagos State Public Schools Climate Change Clubs. Under the school advocacy programme, students of primary and post primary institutions in the city of Lagos are educated on the issue of Climate Change and environmental management by specially trained instructors. It organized the first International Summit on Climate Change in Nigeria in 2009 and held the Second Regional Summit on Climate Change in May 2010.

Niger State has convened a Climate Change Dialogue with support from the UNDP, making it the first State in Nigeria to convene such a dialogue. The state took further steps to harmonize legislations and restructured institutions to promote sustainable development and response to climate change. It is expected that more states (e.g. Sokoto, Anambra and Cross Rivers) will follow Niger State's example. It is however not certain if these were out of genuine development priority or merely to attract the UNDP support.

During the preparations for Nigeria's participation in the series of Climate Change negotiations leading to the Copenhagen Conference in December 2009, the SCCU organized a roundtable with the objective of accelerating the engagement of all stakeholders nationwide on the consequences of climate change and the imperative of adopting a low carbon development strategy for the country's sustainable development. The Unit also briefed the National Assembly, the Inter-Ministerial Committee on Climate Change and also organized a post-Copenhagen Climate Change Roundtable to deliberate on the implications of the Copenhagen Accord for Nigeria.

Food security: The Federal Government of Nigeria developed an **Agricultural Policy in 2001**. The main objectives of the Nigerian Agricultural Policy include: (i) the achievement of self-sufficiency in basic food supply and the attainment of food security; (ii) increased production of agricultural raw materials for industries; (iii) increased production and processing of export crops, using improved production and processing technologies; (iv) generating gainful employment; (v) rational utilization of agricultural resources, improved protection of agricultural land resources from drought, desert encroachment, soil erosion and flood, and the general preservation of the environment for the sustainability of agricultural production; (vi) promotion of the increased application of modern technology to agricultural production; and (vii) improvement in the quality of life of rural dwellers.

A major initiative for the implementation of the Agricultural policy was the National Fadama Project, which started in 1991. Its main objectives are to improve the quality of life of smallholder farmers, food security, and rural infrastructure. Some of the main activities in the implementation of the National Fadama Project are indicative of possible anticipatory adaptation measures including: (i) promotion of simple and low-cost improved irrigation technology, and (ii) enhancing the capacity of Fadama users to adopt environmentally sustainable land management practices.

The Central Bank has established the Nigerian Incentive-based Risk Sharing System for Agricultural Lending, called NIRSAL. This is a kind of insurance mechanism for the agricultural sector, and incentives should be designed to stimulate innovations in agricultural lending, encourage banks that are lending to the sector, eliminate state-dependency by banks for deploying loanable funds to agriculture, leverage commercial bank balance sheets for lending into agriculture; and most importantly ensure risk sharing approaches that will build a business approach where banks share in the risk of lending to the sector. The loan beneficiaries are the small scale farmers, medium to large scale farmers, agro-business, agro-dealers, and processors.

Physical planning and building codes: In Nigeria, a number of legal and policy provisions to support and ensure proper physical/land use planning have been put in place and are being implemented. These included the **Land use Act of 1978, Urban Development Policy of 1992, Urban and Regional Planning Act 1992** as well as the **Housing and Urban Development Policy of 2002**. In addition, control measures have been introduced to improve land use planning and development.

The Federal Ministry of Housing and Urban Development has developed a new Building Legislation, currently going through legislative process at the National Assembly.

12. Identified Gaps and Challenges

- A major constraint is that government has not been able to put in place a comprehensive implementation strategy that will enable these policies to translate into meaningful inter-sectoral activities for sustainable environmental management and disaster risk reduction, which could easily make these policies become anticipatory adaptation and disaster prevention options for Nigeria's response to climate change/natural disasters
- Rapid urbanization and continuing growth of the Nigerian population create some challenges in the urban environment. The urban plans developed several decades ago were hardly reviewed. Population pressure on existing facilities forces people to build even in high risk areas such as river banks, while municipal authorities lack the capacities and sometimes the will to deal with the problem.
- Irrespective of existing laws and policies, urban centres in Nigeria are still plagued with problems arising from ineffective physical planning. Land use management is still ineffective and uncoordinated in many states across the country. The responsible factors include non-adoption and utilization of modern planning approaches; outdated and outmoded land use planning policies, laws and regulations; inadequate manpower; poor and inadequate funding; as well as inadequate institutional frameworks for land management.
- State Ministries of Physical Planning do not possess enough human resources to effectively operate a physical planning mechanism. Monitoring officers are grossly inadequate while only few of the personnel are knowledgeable in the appropriate techniques of monitoring urban growth.
- Access to water is a source of conflict and disaster in Nigeria. On one side, there is a conflict between upstream water management authorities and downstream communities, in particular, relating to flooding. On the other hand, there is conflict between pastoralists and farmers. Climate change is increasing drought in the North and the neighboring countries, which creates conflict between pastoralists and farmers to access the lessening water points. This phenomenon is also worsened by rapid population increase and the pressure it

exerts on the existing arable land and related resources. Drinking water is also an issue: despite investments in the last years in the sector, more Nigerians still lack access to safe drinking water.

- Lack of comprehensive hydrological resources maps is also a big challenge in the country. The country has over 200 dams, mainly built for agricultural purposes. The dams are often poorly maintained due to lack of resources and face serious problem of sedimentation. Most of the dams were constructed following the 1972-73 droughts with a view to establish an irrigation system for farmers. Currently however, the use of water for agricultural purposes is limited and due to poor maintenance, the gates of the dams are mostly open during the raining season for fear of collapse thereby causing floods downstream. Urban flooding also results from blocked drainages. The LGAs are involved in their cleaning using volunteers.
- Across the SW region, the lack of appropriate measures to enforce laws and policies related to construction is leading to poorer segments of the population settling in flood prone areas and the construction of unsafe structures. Although the state governments are engaged in ensuring that new constructions are safe and legal frameworks are in place to guard against illegal buildings, there is recognition of the considerable challenges in implementing these measures. At some levels, building codes are largely ignored. There is no formal process of informing land buyers or developers on risks and hazards associated with a parcel of land. Oyo SEMA stated that they have no role in DRR proofing of land development or urban projects, though they realize the importance, especially of limiting risk to lifeline critical infrastructure.
- Urbanization pressures are shifting risk patterns in cities across SW Nigeria, where several interviewees pointed out that infrastructure development lags well behind the pace of urbanization. Urban migrants are often disconnected from traditional community links and shared support structures. Interviews attributed urban migration to economic pressures, including food insecurity due to climate change and security issues. In Oyo, deficient land use planning was highlighted by ministries as a major concern and one of the main underlying factors contributing to the risk of floods. Though 12,000 houses have been marked for demolition for obstructing the free flow of water, there are significant political obstacles to executing these demolitions. The lack of appropriate legal frameworks and clear guidelines, and the inability to enforce them, result in different interpretations of what should be done to mitigate floods. Further, the issues of compensation and relocation of the people living in these buildings remain unsolved without any clear plan for resolution. Local governments in Lagos cite urbanization, climate change, and non-compliance with building codes as factors increasing risk in their municipalities

13. Recommendations

- Focus on HFA 1-2 in the immediate-term (capacity building and institutional strengthening) and HFA 4 in the future. The implementation of realistic DRR strategies will involve significant strengthening of the coordination and facilitation capacity of NEMA/SEMA, as well as building capacities at state and local government, agencies, and civil society organisations.
- Provide technical capacity training for DRR mainstreaming staff of SEMAs and organise stakeholders meetings, highlighting gender and climate change themes.

- Integrate DRR/CCA into the development agenda and programmes such as Millenium Development Goals, United Nations Development Assistance Framework, Poverty Reduction Strategy Paper, Vision 202020, and the 5th National Development Plan in collaboration with NEMA and stakeholders.
- The importance of spatial or geo-information for physical planning and land use in the form of maps, plans, aerial photographs, satellite imageries cannot be over-emphasized. It is therefore urgent for the Federal Ministry of Housing and Urban Development as well as state ministries to commence the process of training all their staff in RS and GIS. In this regard, they can seek collaboration with the Regional Centre for Aerial Survey (RECTAS), Ile-Ife, Centre for Research in Space Studies (CESRA), National Space Research and Development Agency of Nigeria (NARSDA) etc.
- There is the need to expeditiously review the existing master plans in many risk prone cities across the country. This process must be accompanied by detailed preparation of comprehensive land use plans, subject plans, action area plans, district plans, local plans, and structure plans. Development control units in many states must be empowered sufficiently to be able to deliver their services quickly and effectively. These include the provision of project vehicles and other logistics. For effective enforcement of the various laws, regulations and standards on physical planning, there is the need for the establishment of well-staffed legal department in states' Physical Planning Ministries all over the country.
- Empower SEMAs and LEMCs nationally with the mandate and resources to coordinate and monitor efforts in their state to reduce risk factors and vulnerability, and build local resilience.
- Systematize current flood reduction initiatives into a cohesive, nationwide flood risk reduction strategy, ensuring proper waste management, appropriate water flow, and the establishment of drainage and flood barriers where necessary.
- Build on the existing VCA (if available) to identify vulnerable populations to target for development and resilience building. In a second phase, all states should embark on VCA.
- Assist the climate change departments in each state with CCA trainings and a DRR budget. Elevate them as stakeholders in land-use and development planning across each state.
- Work to resolve the electricity availability issues, prioritizing the provision of essential services like water supply and treatment, hospitals, and emergency services.
- Sensitize local authorities on planning for DRR during post-disaster recovery, including safer building after floods.
- Strengthen law-enforcement measures related to the construction sector and ensure developers know the risk profile for their land, newly erected buildings adhere to sound safety and environmental standards, and existing buildings remedy problems discovered in environmental audits.
- Continue to replicate programs like the Sustainable Ibadan Project with consideration to climate change, urbanization, drainage, and canal cleaning.

- Improve food security by protecting agricultural lands from floods and developing a safe travel system for farmers to reach markets.
- Review various sectoral development plans in order to evaluate their contributions to reducing underlying risk factors (agriculture, environment, etc.) in terms of financial investment for disaster risk reduction in Nigeria.

PART 2: Hyogo Framework for Action Priority 5
EMERGENCY PREPAREDNESS AND RESPONSE CAPACITY
ASSESSMENT
STRATEGIC PARTNERSHIP FOR PREPAREDNESS (SPP)

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II. List of EPR Acronyms

BCP	Business Continuity Plan
BMPIU	Budget Monitoring and Price Intelligence Unit
CERF	Central Emergency Response Fund
CSO	Civil Society Organizations
DM	Disaster Management
DREF	Disaster Relief Emergency Fund
DRM	Disaster Risk Management
DRU	Disaster Response Unit
DVG	Disaster Volunteer Group
ECOWARN	ECOWAS Early Warning Department
ECOWAS	Economic Community of West African States
EP	Emergency Preparedness
EPR	Emergency Preparedness and Response
EPRWG	Emergency Preparedness and Response Working Group
ERM	Emergency Readiness Measures
EW	Early Warning
FAO	Food and Agriculture Organization
GIS	Geographic Information System
GSM	Global System for Mobile Communications
IFRC	International Federation of the Red Cross
LEMC	Local Emergency Management Committee
MPM	Minimum Preparedness Measure
NDMF	National Disaster Management Framework
NDRP	National Disaster Response Plan
NGO	Non-Governmental Organization

NRCS	Nigerian Red Cross Society
NYSC	National Youth Service Corps
PDNA	Post Disaster Needs Assessment
SAREEP	Search and Rescue and Epidemic Evacuation Plan
SEMA	State Emergency Management Agency
SEMC	State Emergency Management Committee
SOP	Standing Operating Procedure
SPHERE	Humanitarian Charter and Minimum Standards in Disaster Response
SPP	Strategic Partnership for Preparedness
TOT	Training of Trainers
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNISDR	United Nations International Strategy for Disaster Reduction
WFP	World Food Programme
WHO	World Health Organization

III. Terms of Reference

1. Background Context and Rationale

In recent times, Nigeria has been exposed to a wide range of human and natural hazard induced disasters. Some of these disasters include ethno-religious crisis, political turmoil & electoral violence, floods & drought, population movements (IDPs & refugees) and others. In addition, some parts of the country face food insecurity and malnutrition; while health epidemics such as Polio, Meningitis, Cholera and Lassa fever, are recurrent diseases that continue to affect the lives and livelihood of the populace. Located at the intersection of West and Central Africa, the multiple humanitarian challenges posed by these disasters on the country, could have far reaching impact on the entire region.

In order to brace up to some of these challenges, the Federal Government of Nigeria, established the National Emergency Management Agency (NEMA), to lead activities that will contribute to efficient disaster management in the country. NEMA, by its mandate, is to coordinate and integrate the activities and efforts of disaster management stakeholders and structures, and to complement their resources to avoid haphazardness, duplication and waste.

NEMA however, faces several constraints having to take on the responsibilities of other first responder agencies who fail to lead in some critical disaster situations for lack of capacity to do so. Lessons learnt have highlighted the limited human and material resources available for disaster response among responder agencies and stakeholders. Consequently, the bulk of the tasks still fall back on NEMA.

Naturally, despite all the efforts being put in place by NEMA to tackle disasters in a timely manner, the multiplicity of crises affecting the country overstretch its capacity while the critical challenges of the country still remain.

In view of these challenges the Government of Nigeria has given signals of a renewed commitment to work with the international community to tackle the country's humanitarian issues. In addition the UN has been requested to provide support to address its IDP issues, notably to assist in the elaboration of an IDP policy. NEMA (in particular) has also solicited OCHA and other partners for trainings and workshops on DRR, response preparedness, capacity building on effective and principled humanitarian intervention and support in updating the National Contingency Plan.

During a visit to Nigeria in July 2010, ERC/USG Valerie Amos discussed with Muhammad Sani Sidi, the Director General of NEMA, ways of enhancing the partnership between OCHA, the wider UN system, and NEMA to further advance the disaster management agenda in Nigeria. It was agreed that OCHA and partners will deploy a technical mission to conduct a joint-assessment mission to Nigeria. Subsequently in January 2012, OCHA scoping mission was conducted during which consultations were held with NEMA and key stakeholders, UN system in Nigeria, ICRC and NGOs amongst others to: identify priority areas; agree on the geographical scope; identify key government

institutions/stakeholders to be consulted during the capacity assessment mission; and agree on a draft TORs as detailed below.

2. Objectives of the mission

The main aim of the mission was to conduct a comprehensive assessment of the emergency preparedness and response (EPR) capacity of NEMA and its key government stakeholders which also include disaster risk reduction (DRR) capacity. It complements WFP’s Capacity assessment performed in 2010. This assessment serves as a basis to enhance capacity development of emergency preparedness and response and disaster risk reduction in Nigeria.

3. Methodology

This assessment focused on the Hyogo Framework for Action (HFA) Priority 5 “Strengthen disaster preparedness for effective response at all levels” and followed the Strategic Partnership for Preparedness (SPP) methodology already used in other countries. OCHA and NEMA led the emergency preparedness and response component of the mission.

At the end of the mission, an initial debriefing was organised on 29th March, 2012, attended by NEMA and its key stakeholders to present the initial findings/recommendations of the mission.

4. Geographical Focus

The following geographical regions were selected for the SPP assessment:

State	Rationale for the assessment
Abuja	Federal level
Enugu	Landslides, soil erosion, functional SEMA, recent communal crisis
Ebonyi	Erosion, communal violence, SEMA backed by law but gaps in functionality
Kaduna	Post electoral and communal violence, IDPs sites, resettlement areas, floods, functional SEMA
Katsina	Desertification, drought, flash floods, no SEMA
Lagos	Coastal erosion, floods, buildings collapse, SEMA backed by law and well functioning
Oyo	Floods, SEMA backed by law but gaps in functionality
Osun	Floods, SEMA backed by law but gaps in functionality

5. Expected Outcomes

- 5.1. Recommend measures to strengthen disaster preparedness and response coordination and streamlining of DRR at the national and state levels;
- 5.2. Provide a detailed action oriented joint-mission report with analysis, recommendations and conclusions, which will form the basis for further engagement in the area of disaster management and DRR between the UN and the Government of Nigeria;
- 5.3. To further develop and strengthen the links between the Government of Nigeria and the UN in disaster management in Nigeria and the sub region (ex: cross border disaster early warning systems and response);
- 5.4. The mission would also be an opportunity to identify how the international disaster response and risk reduction systems can support national mechanisms. The mission will work to raise awareness of the potential role to be played by the UN system and its partners in Nigeria to support the risk reduction and response to major disasters;
- 5.5. To provide inputs for the revised United Nations Development Assistance Framework (UNDAF) 2013-2016 for Nigeria.

6. Areas of focus for the capacity assessment mission (based on the outcomes of the scoping mission and in agreement with NEMA):

- Government organizational structures and functionality for disaster management (DM) at national, state and local government levels (NEMA HQ, Zonal Offices, SEMAs and local government emergency management structures);
- 6.2. Government organizational structures and functionality for disaster risk reduction mainstreaming at national, state and local government levels;
 - 6.3. Legal framework for DM and DRR at state and local level;
 - 6.4. Multi-stakeholders contingency planning and business continuity planning of key services;
 - 6.5. National Emergency Operations Centre and its Standard Operations Procedures (SOPs);
 - 6.6. Command and control structures (national incident management system/incident command system) for major incidents and national disasters;
 - 6.7. Roles and responsibilities of the key stakeholders including the emergency services, police and military in the case of onset disasters and major emergencies;
 - 6.8. Coordination mechanisms at national, state and local levels and with international organisations, UN, NGOs, the Red Cross Movement and private sector amongst others;
 - 6.9. Civil-Military coordination at federal and state levels;
 - 6.10. Response mechanisms for internal displacements including IDP camp management;
 - 6.11. Emergency health capacity (floods/epidemic response, mass casualties and trauma management);
 - 6.12. Fire response capacity at federal, state and local levels ;
 - 6.13. Urban Search and Rescue capacity;
 - 6.14. Needs assessments, baseline data collection and analysis, post disaster damage and loss assessments and reporting tools used at the federal, state and local levels;

- 6.15. Monitoring and Evaluation system for disaster management;
- 6.16. Recovery and rehabilitation (including IDPs resettlement, environmental damage remediation, i.e. oil spills rehabilitation);
- 6.17. Satellite image interpretation and analysis, capacity to use available GIS data for disaster management and DRR;
- 6.18. DRR and urban planning/renewal;
- 6.19. Adequacy of human resource capacity in disaster management systems
- 6.20. Adequacy of current training available and role and responsibilities of NEMA
- 6.21. Federal, state and local funding for disaster management

7. Timeframe and Duration

The mission took place from 19th March to 30th March, 2012 to cover the emergency response preparedness component.

8. Team Composition

The SPP mission comprised NEMA, the Swedish Civil Contingencies Agency (MSB), UNDAC experts from Austria and France, OCHA regional office for West and Central Africa and HQ, members of the Emergency Preparedness and Response Working Group in Nigeria (IOM, UNICEF and UNHCR). The team was split into three to cover different geographic areas.

E. Organizational structures, functionality and roles and responsibilities for disaster management

Most of the SEMAs have legislative backing or are in the process of passing their enabling laws. The National Emergency Management Agency is in the forefront of advocating for their legislations, functionality as well as supporting the capacity building process. However, aside a few States (like Kaduna and Lagos) with functional SEMAs, the others are not properly functioning. The departments within the SEMAs are also not properly aligned with the disaster risk management phases.

Though some States have their legislations covering the establishment of Local Emergency Management Committees (LEMCs), the majority of the Local Government Areas do not have any semblance of such.

Most of the SEMAs have warehouses but prepositioning has been inhibited due to late release of funds by Government. NEMA has been providing support in this regards by stocking its warehouses located in the 6 Geo-political zones and the FCT. Multiplication and overlapping of roles and responsibilities are the bane of response organizations inhibiting seamless operations. Apart from NEMA with an Emergency Funding most of the SEMAs do not have sustainable funding for Emergency Management as well as for training and procurement of equipment

Recommendations

- i. Advocacy to the state governments to implement law on funding mechanism through the state allocation of the national ecological fund.
- ii. Develop a disaster response plan including the identification of emergency responders and stakeholders and clarify their roles and responsibilities.
- iii. Services to be provided by emergency responders should be in line with the existing minimum standards, including services provided by SEMA and NEMA.
- iv. Departments at SEMA level should be structured to reflect the national disaster management architecture.
- v. Define management structures for emergency responders in line with the National Disaster Response Plan
- vi. Allocation of resources should be based on a strategic plan for capacity development.
- vii. Disaster management should be widened to also include response to the specific needs of vulnerable groups. For example, the vulnerable Groups Care Unit at NEMA should be mirrored at SEMA level.
- viii. Trust and confidence building activities between stakeholders should be encouraged, for example joint simulation exercises, joint disaster response planning and risk mapping
- ix. Gender balance should be increased; inclusion of female personnel can go a long way in improving emergency response, in particular in conservative societies.
- x. Establish a database of emergency service providers at all levels, which would include their hotlines & locations.
- xi. Emergency Response Community Volunteers should be provided adequate training where they exist.

F. Coordination mechanisms, command and control structures and Standard Operating Procedures

Strengths

Having pre-established, predictable and well-functioning coordination mechanisms based on clear structures and inclusive partnerships are prerequisites to facilitate a more effective assistance during emergencies and disasters. Knowledge of the different stakeholders' roles, responsibilities and capacities, having existing command and control structures as well as shared and agreed standard operating procedures for emergency operations are also important elements of a more coordinated response.

In Nigeria, NEMA is the body responsible for providing coordination at the federal level and in addition to its headquarters in Abuja. NEMA has established six zonal offices, one in each of the geo-political zones. At state level, State Emergency Management Agencies are either established or in the process of being established. In the Local Government Areas, Local Emergency Management Committees are expected to serve as the coordination body, but these are to a large extent either non-existent or still in an early phase of development.

In the states covered by the assessment mission, the overall impression was that good working relationships and cooperation between NEMA and SEMA had been established. The same observation was made regarding cooperation between SEMA and key stakeholders at the state level, including the military and the Red Cross. Furthermore, some states had involved the private sector in emergency response activities. For example, the Federal Road Safety Corps in Enugu state used private contractors on a regular basis to tow heavy trucks since they did not have the capacity to do so themselves. However, coordination is predominantly based on interpersonal relationships and ad-hoc arrangements rather than formalised, pre-established coordination structures and standard operating procedures, making the system very vulnerable.

Civil/military cooperation is strength and the interactions between NEMA, SEMAs and military units involved in disaster response are regular.

Challenges

There is a general lack of SOPs for emergency response in states visited with the exception of Lagos and the F.C.T. There is gap in the harmonization of SOPs. When there is an incident, every agency will arrive at the scene and will act according to its own SOP.

The incident Command and control is supposed to harmonize the SOPs under one coordination structure. NEMA has developed SOPs for the different types of emergencies stating essentially who should do what but not how it should be done. Incident command and control seems to be largely dependent on which organization has been present on the scene first and not on pre-established incident command systems. This is a pragmatic approach which should work well in many smaller incidents but certainly not in larger incidents or crises requiring a multi-disciplinary emergency response.

In Oyo State, emergency responders could not demonstrate the ICS which further brings to fore the need for a common operations centre where all stakeholders can come to share information and establish a unified operational picture of a disaster. In Lagos State on the other hand, coordination of LASEMA seems to be under control with the deployment of the call centre facilities for Incident control. Stakeholders' meeting reportedly happens every month for debriefing the state agencies and other emergency stakeholders in the state.

At the state level, State Emergency Management Committees have been established to serve as a coordination platform for emergency response stakeholders. Regular meetings chaired by SEMA, on average four to six per year are scheduled to take place, but in practice, these meetings do not take place at all or are not attended by stakeholders. This underlines the need for formal structures and procedures as well as mutual commitment from all stakeholders to participate in coordination activities.

Other factors hampering coordinated response is the general lack of a common toll free emergency number and the lack of standard operating procedures that are known within each organisation as well as among the various responders. Currently, most responders rely solely on GSM communication for alerts, with different numbers for each GSM operator, and GSM is also used for interagency communication without access to radio communication. However, progress is being made towards installing common, toll free emergency numbers and establishing joint call centres. For example, two emergency numbers as well as toll free numbers for disaster reporting is in place in Lagos and NEMA is currently working on setting up a nationwide call centre. The latter is yet to become operational and its capacity can therefore currently not be assessed.

Recommendations

- To strengthen preparedness measures and to ensure a higher level of predictability in terms of emergency response, it is recommended that a Memorandum of Understanding be developed between stakeholders including private institutions that can provide support during emergencies. MoUs such as the one between the Nigerian Red Cross and UNICEF regarding prepositioning of UNICEF relief items in Red Cross warehouses, already exist to a certain extent but not in a coherent way throughout the emergency response system.
- There is an urgent need for a common operations centre, where all stakeholders can come to share information and establish common operational procedures for any sudden onset emergency.
- States need to domesticate the federal response plans and practice them, for instance through systematic risk mapping and simulation exercises.
- To facilitate a timely, coordinated and more effective response, it is recommended to develop standard operating procedures for emergency responders and key stakeholders. The standard operating procedures should be well implemented within each organisation as well as shared with other stakeholders.
- An observed hampering factor for improved coordination is the irregularity of coordination meetings as well as the sometimes low level of attendance. Therefore, it is recommended

that a system with cost sharing of meetings is implemented and that stakeholders put participation in coordination activities as a priority. Furthermore, coordination mechanisms should be structured in a way that appeals to other actors such as faith-based organisations and NGOs.

- A monitoring and evaluation mechanism should be established within the institutions of all key emergency responders (as already existing in the planning and forecasting department of NEMA).
- Common and standardized tools for rapid needs assessments should developed.
- It is recommended that emergency communication be further developed. The on-going NCC initiative to install a nationwide toll free emergency number should be evaluated once operational. Furthermore, it is recommended to look into possibilities to improve access to radio communication to facilitate communication between emergency responders as well as to serve as a back-up system.

G. Emergency Health

General information

Public health care shall include, among other things:

- Education concerning prevailing health problems and the methods of prevention and control
- Promotion of food supply and proper nutrition
- Maternal and child care, including family planning
- Immunization against the major infectious diseases
- Prevention and control of locally endemic and epidemic diseases
- Provision of essential drugs and supplies
- Major events/disaster preparedness and response

There is a three-tier system of health care, namely: Primary Health Care, Secondary Health Care, and Tertiary Health Care.

Primary Health Care:

The Provision of health care at this level is largely the responsibility of Local Government Authorities, with the support of state ministries of health and within the overall national health policy. Private medical practitioners also provide health care at this level.

Secondary Health Care:

This level of health care provides specialized services to patients referred from the primary health care level through out-patient and in-patient services for general medical, surgical, pediatric patients and community health services. Secondary health care is available at the district, divisional and zonal levels of the states. Adequate supportive services such as laboratory, diagnostic, blood bank, rehabilitation and physiotherapy are also provided.

Tertiary Health Care:

This level consists of highly specialized services provided by teaching hospitals and other specialist hospitals which provide care for specific diseases such as orthopedic, eye, psychiatric, maternity and pediatric cases. Care is taken to ensure an even distribution of these hospitals. Also, appropriate support services are incorporated into the development of these tertiary facilities to provide effective referral services. Similarly, selected centers are encouraged to develop special expertise taking advantage of modern technology to serve as a resource for evaluating and adapting these new developments in the context of local needs and opportunities.

To further the overall national health policy, government health institutions work closely with voluntary agencies, private practitioners and other non-governmental organizations to ensure that the services provided by these other agencies are in line with those of government.

In major emergencies and disaster response, there is no specific structure in terms of emergency admittance, emergency acceptance, training in disaster medicine and principles of disaster triage established. The differentiation from departments of surgery and trauma surgery can be observed only in tertiary structures, what will be the first step to medical response on disaster scenario and lead to a sustainable training and educating system in existing healthcare.

Strengths

- In the assessed locations, the role of NEMA/SEMA accords to the concerned objective, following the NPEM
- Prepositioned stockpiles of vital basic needs concerning prevention are established in some vulnerable locations
- Joint assessment missions of stakeholders, guided by SEMAs have begun
- The integrated disaster surveillance and response structure provides an overall functioning information management system between federal and local level.
- The existing network of healthcare covers the country very well
- The National Centre for Disease Control is being expanded and is present in the 6 geo-political zones
- Available manpower on ground

Challenges

- At the local level, the knowledge of and ability to provide primary health care in disaster situations is limited.
- Considerations of who will take over the lead concerning medical care in case of disaster/emergency should be identified and trained
- There is general lack of trained medical staff in trauma care and emergency health care and lack of equipment
- Maintenance of provided equipment is lacking
- Prepositioning of emergency facilities and drugs at the state level
- Multiplicity of “ambulance services” and lack of professionally coordinated ambulance services within and outside the state capitals
- The lack of central emergency call centers
- There is incomplete and/or delayed reporting of outbreaks in some states.
- There are only two laboratories in Nigeria which are capable of conducting higher level sampling

Recommendations

- Improve the already existing level 3 trauma care hospital and establish new ones
- Plan a long term strategy for implementing trauma surgery with responsibility given to disaster medicine health facilities in each level of health care
- Increase training of staff in providing health care during disaster situations.
- Structures for emergency response at each level of health system should have a good knowledge of at least simple, basic SOPs. These SOPs should concern doctors and medical personal as well.
- A training programme for BLS, ALS extending to first aid should be available and defined for all agencies, who are involved in emergencies(including NEMA, NRSC, NPF, Fire services etc.) as well as the definition of a minimum standard agreed upon by all agencies
- The lead agency for each headline (SAR, advanced aid, triage etc.) should always be defined
- Establish triage SOPs according to “triage principles”
- Define the stakeholders responsible for disaster preparedness and emergency response in health care system and identify persons to occupy key positions
- Preposition medical supplies in secondary health care system for disaster situation as well as other facilities like a stock of stretchers, reserves of beds / line /sanitation facilities
- Set mobile medical supply units (Infusions, analgesics, dressings) for onset response
- NCDC should have a decentralized laboratory capacity in the six geo-political zones.
- Improve the management of routine immunization as a disaster prevention measure, including ensuring a cold chain for vaccines.
- Compilation of the database of emergency health specialists with their hotlines.
- Hospital preparedness for non-conventional (toxicology) events including chemical, biological & radiological attacks.

H. Fire Service

The fact-finding mission set up by UN-OCHA has appointed an UNDAC member, LCL Bruno ULLIAC, Fire-fighter officer and civil protection expert, to appraise the Nigerian fire service, at state and local level. The mission entrusted to this expertise to "take stock of current situation and the existing structures in fire department and identify actions to be taken."

There wasn't enough time to go into all the usual elements of an audit in detail. Furthermore, the situation of the Nigerian fire service is so worrying and degraded to a level that requires a comprehensive study. However, this report includes the elements of the four visits as part of this mission which shows that in general, the fire service doesn't have sufficient means to carry out its tasks properly and respond to the needs of the population. In 2011, the Nigerian fire-fighters carried out 11, 284 operations with 7, 129 of them on fire incidents.

Observations

The assessments have highlighted weaknesses at the organizational, structural and operational levels. The structures of fire-fighters, despite a clear desire to move forward does not have the minimum requirement to carry out their tasks, although these are often clearly set by laws. Therefore, they are not able to respond to emergencies or to exceptional situations, like some recurring floods, landslides, urban fires, market fires or bushfires.

In addition, road crashes are a real scourge and it's the country's second biggest killer after malaria. Finally, the risk associated with TMD (transportation of hazardous materials), including oil, in Nigeria is constant. This situation is compounded by the lack of adequate training of the firefighters and the deficiencies in the training field.

There is currently no training program in the 3 states visited. The standard operational procedures, and other instructional materials required to educate fire fighters in prevention and preparedness are insufficient. The continuing professional education programme normally intended to develop reflexes and make the firefighter operational is very limited. In general, training devices are inefficient and poorly adapted, and the quality of initial training is very low, except in Lagos Fire and Safety Services. The transmission of knowledge and culture, specific to the job of fire fighter, is too poor to develop a good quality of service.

The level of basic technical equipment for Nigerian fire fighters is dramatically low; this include lack of vehicles, equipment and materials; poor maintenance culture, lack of water supply system for the urban fire defense etc. Beyond the current risks, it remains clear that the Nigerian firefighters do not have enough specialized equipment as breathing apparatus, bunker gear, rescue material. To respond to the specific risks they need appropriate vehicles and special materials as aerial ladders, foam tender, water supply trucks which are lacking. These significant deficiencies have real impact on the success of response operations. The situation is unbearable for the fire services personnel.

Nigerians are known for their fire-brigade service approach to things, but unfortunately the fire service is not working well. For it to function, the federal and states fires services need general overhauling, re-engineering and re-packaging to win the confidence of the public to which they are responsible. Moreover, the tasks performed by the fire services are not sufficiently known,

understood and integrated by other partner services or the highest administrative authorities or politicians. For example, the Oyo and Osun fire services have never benefited from planning and funding to improve their most basic needs.

Strengths

The authorities are increasingly aware of the importance of the role of a fire service at state and local government levels. Efforts to improve local firefighting capacity are being undertaken in several states including Katsina, Kaduna and Enugu). There is an increased public awareness in some areas through initiatives in fire prevention in schools. The fire services have aspiration to improve their capacity.

Challenges

With few exceptions, the fire response capacity is inadequate and virtually don't exist in local governments. There is a common need for maintenance and procurement of equipment. The number of firefighters does not match the needs and size of populations to be covered. Firefighters are employed but not provided with adequate training. The command and control system and the operational management are still very limited. There is no hazmat, decontamination or containment response capacity.

Recommendations

The overall response capacity of the fire services at all levels should be prioritized and strengthened in terms of equipment, manpower, training, management, procedures, and should be expanded to cover areas outside the cities. The roles and responsibilities of response service providers should be further clarified and an incident command structure put in place. There should be legal provisions for enforcement of fire safety and fire prevention.

- *An institutional development program should be established by each state to ensure they have the capacity, and importantly, the budget to support and to perform fire services.*
- *The roles and responsibilities need to be clarified between all the emergency service providers, in each state.*
- *Cross jurisdictional arrangements between states should be developed so that resources and information can be shared.*
- *As a matter of priority, states must reserve funds for essential supplies and maintenance of fire service equipment.*
- *Register of available equipment and supplies for use in fire service response activities, including those available from other sources (private services) should be compiled and regularly updated, at the state and local level.*

- *Coordination between the state fire service and all the other emergency services should be strengthened.*
- *Provide good vehicles, materials and equipments to the fire service at the state and LGA and levels.*
- *Use new technical firefighting systems with appropriate materials (GIMAEX is one such system for example).*
- *Provide good individual protection clothes to the firefighters.*
- *Provide good and intensive firefighting trainings in each state.*
- *Provide a good communication system in each state.*
- *Reinforce and provide the water supply fire defense system with hydrants and/or water tanks.*
- *Recruit additional staff to strengthen each fire service. Use of Nigeria Security and Civil Defense Corps personnel could be a solution.*
- *In each state, the fire service must have a greater role in the emergency management.*

I. Search and Rescue

Strengths

A search and rescue capacity has been established in Nigeria through international cooperation. Some NEMA zonal offices have trained officers and some resources in terms of equipment for search and rescue operations. There is an interest among several emergency responders to develop their search and rescue capacities with the necessary manpower.

Challenges

There is a lack of common understanding of search and rescue concept. Several emergency responders provide rescue services but the duplication of the services and the scattered resources hamper the development of a solid search and rescue capacity.

Recommendations

The roles and responsibilities need to be clarified among all the search and rescue service responders.

Each state should undertake an audit of their search and rescue capacity. Following the audit, one or two organizations should be provided with the necessary logistics and training to be able to provide search and rescue services.

The collaboration between all the search and rescue responders should be strengthened through training, drills and simulation exercises

The population should be sensitized on the management and response to casualties in incidents and disasters.

J. Geographical Information Systems (GIS)

Context

The joint capacity assessment was mandated to specifically look at the national disaster response preparedness. The GIS Lab at NEMA currently focuses chiefly on supporting DRR actions and has very limited activities in response and preparedness. This analysis examines GIS activities and potential in all aspects of the disaster risk management cycle.

It draws also from the report of the UN-SPIDER Technical Advisory Mission to Nigeria in June 2011.

Overview of current capacity

As currently established, the NEMA GIS Lab has adequate capacity to produce basic map outputs to support localised DRR projects. It also has potential to be utilised for disaster preparedness and response; however, these activities are not currently a priority in the unit's work plans.

The Unit is staffed by nine GIS professionals, although not all are technically current in what is inevitably a fast-changing field. The team has gained valuable experience in field data collection methods through its DRR projects, however, it lacks collective awareness of how to exploit its capacity to produce situational maps to support key stages of emergency response operations.

GIS software and IT infrastructure exists at a rudimentary level but is not adequate to exploit properly the potential of the unit's professional staff.

A lack of base map data poses a severe constraint on the unit's outputs. This arises as a result of gaps in Nigeria's overall spatial data assets. However, most of the crucially relevant and operational data that exist is not available to the unit due to institutional barriers between NEMA and the national mapping agency (the main data owner, - the Office of the Surveyor General of the Federation – OSGOF).

The National Centre for Remote Sensing can provide additional capacity and should strengthen its cooperation with the NEMA GIS Unit.

The GIS team is well versed in acquiring and utilising remote sensed data from satellite and air survey sources. Some members of the team have been trained in the mechanism of how to activate the International Charter to access imagery for specific disaster events. However, the ability to access and use such space-based resources is not a good substitute for access to appropriate conventional map data at appropriate scales, which would obviate the need to expend effort in re-creating basic maps from images instead of focusing on thematic mapping.

The GIS unit is constrained by limited internet connectivity hinders the acquisition of GIS data from various sources and the dissemination of mapped outputs. As GIS technology moves increasingly online, this lack of adequate connectivity will inevitably limit the development of GIS services.

The GIS unit currently lacks the capacity to provide data or information into the field at an appropriately early stage of an emergency, to support search and rescue, coordination, assessment and relief actions.

Current activities and services

The GIS unit currently contributes mainly in DRR projects rather than in operational disaster response and preparedness. DRR work comprises mostly stand-alone mapping projects to support risk and vulnerability projects led by the NEMA DRR and Simulation units.

Typical DRR projects completed to date have focused on a specific community or locality 'hot spot' known to be vulnerable to natural hazards (usually flooding). Due to a general non-availability of large-scale map data, GIS personnel usually acquire satellite imagery and then visit the study site where they undertake GPS surveys to collect relevant map data including elevations and settlements at risk. This is then loaded into GIS software to produce risk maps for use in identifying safe zones and evacuation routes, and designating no-build zones for future land use planning.

Although the capacity assessment has identified the need for a national-level risk mapping to assist in disaster preparedness resource planning, the unit does not currently have such mapping in its work plan.

The unit has recently created a prototype web mapping application using open-source software that is capable of displaying data on past disaster events across the country. However, additional data layers could easily be added to display other thematic information useful for DRR and preparedness.

To date, the unit has not produced maps for disaster preparedness, for example the large area at risk of flooding from a dam failure at Lake Nyos in neighbouring Cameroon. There is also no contingency plan in place for rapid deployment of mapping units to the field in a major emergency although consideration has been given to such deployments on an ad-hoc basis in the recent past.

Recommendations

In disaster response, mapped information has potential to contribute substantially to operational planning and coordinated response, particularly in, an inter-agency context. This involves the rapid creation and updating of a series of relevant situation information layers depicting physical damage zones, locations and movements of affected people, assessment actions planned and completed, relief distributions, and 'who's doing what, where' (3W). This exploits GIS to create a common operational picture of needs and response at both operational/field and national levels during the crucial stages of an emergency response operation.

If NEMA wishes to exploit the potential for utilising GIS in disaster preparedness and response, the following key recommendations are suggested. It should be noted however that most of these recommendations will also enhance productivity and effectiveness in the current DRR programmes.

- **GIS unit role and development plan.** Create and endorse a mission/mandate, key goals and development plan/road map for the GIS unit, endorsed by NEMA senior management team. This should include a mandate to support disaster response operations and preparedness (even if this remains secondary to DRR). Specifically, the GIS unit should commence a programme of national level (rather than only local ‘hot spots’) risk mapping to support planning of disaster preparedness resources across Nigeria by NEMA and other actors.
- **Access to base map data.** Seek an institutional partnership with the office of the surveyor general (OSGOF) to ensure access to the full range of national map data held by OSGOF, without the need to procure maps or datasets on an ad-hoc basis. Ideally, NEMA should hold a copy (with appropriate safeguards against unauthorised release) of all OSGOF digital mapping for immediate use. A ‘round table meeting’ with OSGOF and other partners (RECTAS and NASDRA) has already been proposed, however it may be necessary for NEMA to engage at a higher level to secure the policy decision necessary to achieve a commitment to share data systematically.
- **IT infrastructure.** Review the annual budgets for IT hardware for the GIS unit. Priority should be given to upgrading the LAN server, providing an image scanner and upgrading printers. It is very important that a regular annual budget is established with allowances for maintenance and consumables.
- **Training and team development.** Create a staff development and training plan for the GIS unit. This should focus on building awareness on the application of GIS in disaster response and preparedness. A tentative opportunity exists to take advantage of training by WFP GIS units in April: this should be explored since WFP has considerable experience in this field.
- **State/zonal level capacity.** The team that visited the states identified that there is limited or no GIS capacity at the SEMA and NEMA zonal levels. Given the costs and risks of implementing such capacity, this analysis does not recommend that GIS be rolled out at state/zonal level at present. However, the current programme of providing basic support in GPS data collection methods should continue, facilitated by the NEMA GIS unit on a rolling basis. The use of easy-to-use free tools, notable Google Earth, should also be promoted at state/zonal level. For major disasters this should be supplemented by the deployment of GIS support from NEMA GIS team, as outlined below.

- **Deployable GIS teams.** Consider establishing a deployment mechanism for the GIS unit to provide immediate assistance to the NEMA zonal offices and SEMAs during major disaster emergencies. This would need to include protocols for immediate mobilisation (i.e. within 24 hours), standing travel permissions, standard operating procedures (SOPs), equipment packing lists, pre-loaded map datasets, etc.

In addition to the above key recommendations, the following suggestions are offered, subject to feasibility and other priorities.

- **Standardised settlement coding.** The NEMA GIS unit could champion the establishment of a nation-wide 'p-code' (standardised reference codes for settlements) system to enhance situation data collection in emergencies. This could be achieved in partnership with the NEMA zonal offices.
- **Regional knowledge sharing.** Liaison with the Ghana national disaster management agency (NADMO) may be useful to compare practices for GIS in disaster response (it is unclear whether NADMO currently has a GIS capacity however). The NEMA GIS unit could also liaise with the UN OCHA Regional Office for West and Central Africa (ROWECA) team in Dakar, Senegal, on emergency data preparedness and GIS. General support could be sought from the World Bank's Global Facility for Disaster Risk Reduction (GFDRR) which already assists in national GIS programmes elsewhere in Africa.
- **Informal networking.** The NEMA GIS unit could instigate the creation of an informal 'community of practice' of GIS practitioners in public and private sector organisations within Nigeria and the wider region. The group could thereby maintain cross-institutional technical knowledge sharing and information cooperation.

K. Response mechanisms for repatriation, internal displacement including camp management

Despite the limited time and scope to cover, two teams, one in Kaduna and the other in Ebonyi, could assess, to some extent, the internal displacement response capacity.

Strengths

NEMA, Civil society organizations, CBOs are active in providing support and confidence building initiatives to the internally displaced persons. Traditional coping mechanisms and solidarity links reduce the concentration of IDPs in camps or sites.

At present there is an on-going joint programmes for the return of migrants (Government and IOM).

Challenges

There is the need to clarify the roles and mandates between stakeholders involved in internal displacement issues and to distinguish the normative/institutional level from the operational and response-based level.

The pattern of displacements differs depending on the area of origin and the type of triggers. It is therefore critical to adapt the response strategies to the regional context.

Recommendations

- Nigeria should domesticate the African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa;
- Stakeholders, including security forces, should take the necessary steps to ensure that needs beyond those providing immediate relief, for example protection, are addressed;
- NEMA and other relevant key stakeholders should be trained in IDP protection and camp management;
- The NEMA special vulnerable group care unit only exists at HQ level; it should be mirrored at state level and in the NEMA zonal offices;
- Medical attention should be provided during repatriation of migrants.