NATIONAL CAPACITY ASSESSMENT REPORT

Federal Republic of Nigeria

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

July 2012

Final Draft v. 07/03/2014

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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

The 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). This DRR capacity assessment took place from 18 to 28 April and has been conducted through an inter-agency approach with the participation of UNDP, UNICEF, UNHCR, IOM, FAO, UNFPA, and UNOCHA. The exercise has been 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 are developed by CADRI and have been tested and implemented in many countries in Africa including Ghana, Gambia, Mali and Madagascar among others. 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 is to identify gaps and challenges the country is currently facing to fully engage on 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 capacity assessment focuses 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 on UNOCHA. The results of the two assessments are combined in one joint report submitted to the UNCT and to the Government for endorsement.

The Nigeria DRR/CA is 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) focuses 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 analyses 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 are proposed to address any 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 18 to 28 April 2012. Background data collection was conducted by the CADRI team in Geneva in March before the assessment was conducted in Nigeria. The assessment was undertaken by a team of more than ten experts from many 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 is face-to-face interviews with federal and state government actors, UN agencies, NGOs, local government authorities, and with other partners working in disaster reduction and recovery.

- **On-site field missions:** The DRR capacity assessment has been carried out in four States: Abuja (FCT); Kaduna in the north; Lagos and Oyo (Ibadan) in the south. In conducting the exercise, particular attention has therefore been 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 around ten days in the country and interviewed a wide variety of stakeholders from different sectors and organizations as illustrated in Annex 1.

- **Data analysis and reporting:** The last component focuses on the data analysis and elaboration of the DRR capacity draft report to be shared with all national stakeholders for their inputs and comments. This will lead to a national validation workshop with all stakeholders for the endorsement of the report and for the development a national Plan of Action for DRR capacity building geared toward the implementation of recommendations formulated in the report.

3. Availability of Data

A significant amount of information was collected from interviews at the NEMA office in Abuja and during interviews with key stakeholders both at national and state level (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 in one hand and the federal and state level on the other hand.

4. Limitations

The assignment was undertaken in a very tight timeframe, only a week and a half. It was a big success, but there were a number of considerations that affected the exercise. A major concern raised during the briefing meeting with NEMA and national actors in Abuja was related to the large size of the country (36 states) and on how this exercise focusing only on four (4) states will be applicable to the entire country. This concern has been addressed by asking NEMA's Zonal Coordinators in remote regions to send their inputs and main DRR issues in their respective areas so the assessment team can take them into consideration in the report. Discussions with federal institutions also provided an opportunity to capture issues that cut across the entire country. To that end, the findings we present in this report largely reflect the current situation in the entire country based on literature review and interviews with key stakeholders.

For field mission interviews, the main difficulty encountered was in reaching the appropriate stakeholders to be interviewed, mainly in Lagos where the team had difficulties to meet with key stakeholders and somewhat in Abuja due to insufficient planning, at least for the first days. This difficulty arose from a mix of factors, including the absence of contact persons in some key ministries at the moment of assessment combined with a short given timeframe to find the contacts and schedule the interviews, and a set of other external circumstances such as unavailability of some actors during the week of assessment. Nevertheless, both teams managed to have substantive discussions with stakeholders mainly in Oyo and Kaduna States where the visit programming was far 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 extent of about 923,769 km2; a north-south length of about 1,450-km and a west-east breadth of about 800 km. It is a country with diverse biophysical characteristics, ethnic nationalities, agro-ecological zones, and socio-economies. The country has 36 states with 774 Local Government Authorities.

Nigeria is the most populous country in Africa. According to 2006 census figure, Nigeria has a population of 140 million people. Rapid population growth, urbanization, and social and political issues compounded by ethnic plurality have been resulting in 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 global economic growth over the past few years, especially to the socio-economy of developing nations. In Nigeria, severe floods, windstorms, drought and desertification, and several other extreme weather and climate events have impacted negatively on its socio-economy and many people have been affected throughout the country.

Flooding: Nigeria is very prone to flooding mainly along the Niger River through Benue basin and Sokoto basin and this affects agricultural land use to a great extent. Many of the country's larger rivers have flood plains, which are subject to flooding during the rainy season. These include the Rivers Niger, Benue, Cross River, Katsina, 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 and are therefore subject to flooding. Particularly affected are such

towns as Lagos, Ibadan, Aba, Calabar, Maiduguri, Port Harcourt, etc. An estimated 25 million people or 28% of Nigeria's population live in the coastal zone and are at risk from flooding. The areas that receive severe flooding impacts include the coastal areas of Lagos, Ondo, Delta, Bayelsa, Rivers, Akwa Ibom and Cross River states.

Coastal Erosion: in Nigeria, coastal erosion is experienced in almost all the sections of the country's coastal zone. The social and economic consequences of coastal erosion can be 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. The consequences reflected in the loss of lives and properties could be quite severe, especially in Delta State where the coastal zone contributes to a major part of the nation's income

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

The country is also currently facing embarrassing cases of collapsed buildings in major cities (Abuja, Lagos, Port Harcourt), a very serious security issue related to ethno-religious conflicts in Kaduna, Kano, Plateau states, and reprisals in south-eastern Nigeria related to threats to oil and gas explorations due to environmental and livelihood issues in the Niger Delta. The Boko Haram sect is also a dangerous security concern for the country.

Many of the disasters are elicited by rapid population growth rate, urbanization and social political issues occasioned by ethnic plurality, which all in turn create fierce competition for national resources, resulting in deteriorating livelihoods, social marginalization, crime and general insecurity. Consequently, Nigerians 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 of the 2005 Hyogo Framework for Action and reports on progress made towards the implementation of five priorities of the HFA every two years (national progress report to be submitted for the Global Assessment Report every two years). The country attended all regional and global platforms and other international meetings and conference with high level representation.

The country has made a substantive achievement by joining recently the World Bank Global Facility for Disaster Reduction and Recovery (GFDRR) Board, and NEMA has been 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 has been the creation of the National Emergency Management Agency (NEMA) under the Vice Presidential Office. NEMA was established by Act 12 and 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 within NEMA and headed by an Assistant Director. Currently the unit has 9 staff and it is part of the Planning Department. In total NEMA has 6 departments and about 700 hundred employees. The DRR unit can count on an extended team: in all SEMAs there is a DRR focal point and in each partner Ministry a desk officer. Other relevant stakeholders with which the unit collaborates also have NEMA/DRR focal points.

DRR Policy development: In terms of policy, the country developed in 2006 a National Disaster Risk Reduction Action Plan through an active participatory discussion and contributions of diverse stakeholders across the six geopolitical zones across the country. The implementation of the National DRR Action Plan is under the leadership of the National Emergency Management Agency (NEMA). It is a very detailed document and largely matches DRR activities mentioned in the HFA. The Plan 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/man-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 done as a review to the National Disaster Response Plan. It was drafted in a genuine 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) can approve further expenditure of the Environment Fund. In case of need or if a possible cooperation arises, the National Planning Commission facilitates the resource mobilization with international partners. Similarly at the state level, when there is an emergency SEMA can send its assessment 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. The members of the platform, in addition to NEMA, include several federal ministries and agencies, 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). There is also an interest expressed by ECOWAS to replicate the Nigerian DRR capacity development process, which was started by the current capacity assessment, to 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 (SEMA). The NEMA Act mandated all states to establish State Emergency Management 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, and some still have Emergency Relief Agencies.

The existence and distributed structure of the zonal NEMA offices and SEMAs within many of the states is a strong building block for DRR capacity. The NEMA zonal offices serve as liaisons between the federal coordination in Abuja and the state level implementation. The six offices have visibility into the specific risks of each region and can communicate these needs and challenges with NEMA headquarters. The visited SEMA offices in Lagos, Oyo and Kaduna have built strong working relationships with the 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 implantation plans. It also has the responsibility for educating the public on disaster related matters. Lagos, for example, has a State Disaster Management Committee, which meets regularly and involves state ministries, the Red Cross, and NGOs.

In Oyo, a Flood Management Committee was created by a decree of the Governor after the August 2011 floods considered as the worst registered floods in the state's history. That Committee is composed of technical level representatives of all relevant state ministries, as well as scientists and professors from state universities. The Committee has issued a report directed to Oyo's governor outlining activities to be taken to mitigate flood risks. As a result, 280 million Naira have been allocated to clear 43 wash streams in the state. The State Task Force on Flood Management was also established after the floods of August 2011 as an inter-agency body to support and monitor implementation of the Flood Committee recommendations.

At the state ministry level, some risk reduction efforts are underway without being labeled as DRR. The Lagos Ministry of Environment's drainage department's mandate includes a policy of flood prevention through improved and maintained drainage, and public awareness campaigns. They have more than 40 engineers who liaise with NIMET and the Ogun-Oshun River Basin Development Authority.

2. Identified Gaps and Challenges

2.1 National level

- The DRR legislation framework experiences some weaknesses 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 does not mention once DRR or disaster prevention. A lot of effort is being done at the federal level through NEMA, but DRR is yet to be seen as national priority and decision makers lack or have limited knowledge on 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 oriented for disaster response than towards prevention and mitigation of hazards and risks.

- The Disaster Risk Reduction national Platform established in 2008 is not functioning properly. The National Platform has not been active, as it met the last time in 2010. NEMA does not seem to have any regular contact with the federal ministries and during the visits we were not able to identify any focal point for DRR issues or NEMA related issues in the federal ministries that were visited. It is foreseen that in 2012 a meeting of the National Platform should take place. Part of the challenge the National Platform has faced is that it is a technical body on DRR and DRR is a new subject for many stakeholders. 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 representatives recognized the importance of DRR 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 formally they pass DRR issues on to SEMA.

- There is no budget dedicated to disaster prevention and reduction at the state level. The Oyo Ministry of Economic Planning and Budgeting reports that there are no DRR related budget allocations during the planning process. The Ministry of Economic Planning of the 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 on one side to unavailable resources and on the other to lack of understanding of disaster risk reduction. 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. Staff both in SEMA and the state ministries has not undergone any sensitization training on DRR.

- The states are still not able to establish DRR Platforms as a coordination mechanism between stakeholders engaging in activities and programmes related to disaster reduction at the state level. There is no formal coordination mechanism for DRR issues at the state level. There is no evidence of horizontal interaction between ministries, as most issues are addressed at general meetings with participation of all ministries. DRR is not on the agenda at these meetings, and all disaster related issues are focused on response. Organizations external to the state governments indicate that the state government bureaucracy is one of the main challenges for successful implementation of disaster risk reduction measures. Moreover, the lack of guidance, clear mandates, and disaster risk reduction related methodologies and tools are 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 the each SEMA and often belongs to the planning department.

- The relations between local government authorities 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 neighboring ones from which water is coming. More technical support and expertise is requested 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. It shall be said that in some cases activities described by the chairman qualify as DRR, but are not called and perceived as DRR.

3. Recommendations

- Regularly sensitize national, zonal, state and 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 build ownership and further engagement 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 ToR to include climate risk management and consider upgrading it to the level of 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 and 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 the 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 commissions and state ministries to ensure all new legislation is DRR sensitive. Review existing legislation in each state with a view of encouraging ministries to work together more closely.

- Ensure that federal legislation, policies and strategies relating to reducing the risk of disasters are properly disseminated to the State and Local Government levels and that clear guidelines are given on how to appropriately incorporate this into state and local government structures, legislation and policies.

- Provide adequate and direct funding for all DRR activities and Climate Change at all levels, and ensure that greater percentage of funds is allocated for direct DRR activities.

- Within NEMA, make a pledge to 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.

- Establish DRR working groups for each state under the respective Stakeholders Coordination bodies 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 a 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 the 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 municipalities. Work towards expediting cases with potentially disastrous outcomes.

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

1. 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 can 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 providing for 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 the following: 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 Remote Sensing *(NCRS)* is located in Jos, Plateau State. The center has several training programs, seminars and periodic conferences in all areas of Remote Sensing. We aim 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 on 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 Organization (NIMET)** provides weather forecasts and seasonal rainfall predictions. This informs early warning alerts for climate related disaster threats across the country. NIMET information is shared free of charge. NIMET has long historical climate data, some of which span over 100 year coupled with its unlimited access to the WMO's enormous global database constitute an invaluable tool.

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, which 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 activities and missions 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 studies on the impacts of floods, dam collapse surveys, monitoring of sedimentation of dam reservoirs in collaboration with NEMA and NASRDA, monitoring of surface and ground water quality, etc. The institute is also engaged in a country wide research programme on ground water pollution and contamination mainly is three States: Bayelsa, Rivers and Delta.

The NOSDRA (National Oil Spill Detection and Response Agency) plays a key role in oil producing regions.

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 as well as other influenza 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 interpreting early warning information and taking appropriate and timely action to minimize mortality and

morbidity. Efforts in building these capacities complements 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 given 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, 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.

2. 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 a resident engineer 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 made several recommendations 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 some 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 for public use and drinking.

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 Southwest socio-economic zone based on satellite images. Unfortunately these maps and existing information developed by the University of Ibadan are yet to be properly used by Oyo States 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 the 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 the 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.

3. Identified Gaps and Challenges

- The early warning system is not systematic and a lot of problems have been raised during the assessment in relation the diffusion 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 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 gages, 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 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 are done. Many more stated that no risk identification or assessment has been done within their domain at state level.

- The 2009 VCA is a good first step, but the findings are not widely known among stakeholders, and indeed the document could not be located and shared with the assessment team. Although the Lagos SEMA indicated that a comprehensive risk assessment was undertaken for Lagos State in 2009, with support from NEMA, UNICEF and WHO, 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 city 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 info (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, however a systematic structure for conducting post disaster damage and needs assessments is not in place, and the capacity to conduct such assessments in limited.

4. 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

1. 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 city 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 Development Council established by NEMA. DRR awareness and risk reduction activities are being included in the lesson plans, though much remains to be done to integrate these curricula at the local level and to train teachers.

NEMA has been providing substantive support to the university system in Nigeria since 2009. Six universities from the different political zones of the country have been identified and supported by NEMA to develop and deliver Master degree programs on Disaster Risk Reduction. These universities are the following: University of Maiduguri, Maiduguri North - East zone; Ahmadu Bello University, Zaria - North West zone; University of Nigeria, Nnsuka – South East zone; Federal University of Technology, Minna - North Central zone; University of Port-Harcourt - South South zone; 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 master programs 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 degrees train 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, agencies, organization and communities in Nigeria.

In Zaria the centre has a Master degree (12 months) and also a post-diploma in Disaster Risk Management. The first batch of students from both courses 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 established with the aim of developing the curriculum and in the future promoting student / professor exchanges. The Centre will organise with the support of the World Bank an international disaster management conference in May 2012. At the practical levels, the Centre in Zaria is planning to start to conduct vulnerability and capacity assessments of communities in the North West and then expand to the rest of the geopolitical zone. It also conducts some awareness

raising (in fire and they are willing to expand to cover other natural hazards, such as floods and drought). The University of Zaria is also looking at the possibility of building a specific block for the Centre, however funds do not allow it for now.

NEMA has put in place a monitoring mechanism: a first 10 million Naira has been provided and the second envelop of 5 million Naira will be released on the basis of the University's performance. The funds will be used to produce the teaching material, access the internet or send students abroad (upon their return they will need to provide a study paper) while the university will have to contribute 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.

Within NEMA a Training Department exists, training within the organization itself and outside. NEMA has managed to get Disaster Risk Reduction mainstreamed into professional programmes in high level administration training schools such as the Police Training College, Arm Forces Command and College, Nigeria Institute for Policy and Strategic Study, the in-Service Trainings for Civil Servants and National Security, the 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 effort 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 and local levels and among communities. Internally, NEMA is attentive to increasing its staff's familiarity with DRR and it has sponsored some of its officers to attend 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, so there is some awareness. 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 big 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 every year the International Disaster Reduction Campaign by organizing sensitization and advocacy activities at the federal level. This is an opportunity for NEMA to bring many stakeholders (UN Agencies, NGOs, Civil Society, government institutions, bilateral partners, etc.) to discuss issues related to risk reduction in the country. In the same line, the National Platform developed some years back 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 on 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 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 surrounding the issue 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 for these campaigns are planting 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 somewhat 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. Moreover, 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 Lagos 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 are undertaking annual risk assessments of all schools in Lagos state, with a final report coming out in July/August each year. Based on the recommendations made in the report, and depending on the level of available funding, they engage in retrofitting and rehabilitation activities. The Ministry has also developed school construction guidelines, as to ensure that any newly erected schools are built according to defined safety standards.

The Lagos Ministry of Physical Planning & Urban Development runs a campaign to build awareness to the dangers of collapsing buildings and the requirements to get building permits. The signs mention specific relevant laws and are targeted to both building owners and builders.

The Kaduna State Ministry of Water Resources carries out some awareness raising campaigns on prevention, such as on the importance to clean drainage and gutters. 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 awareness and market fire awareness campaigns in many Communities 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 municipality 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 were not participating, though NEMA pledged to start GEVC programs in both municipalities during these interviews.

The National Youth Service Corps is another resource, which is beginning 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 (NRC) is traditionally strong in public awareness. It conducts campaigns on protecting living environments of communities by going to the communities. NRC works closely with Youth Union Forum by meeting with them twice a month where NRC disaster officers talk to the representatives of Youth and informally teach them on practices to protect their livelihoods before the rainy season and floods, as well as from other hazards (cleaning canals, drainage systems, etc.). The NRC also organizes environmental awareness days for youth 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) NRC trained volunteers organize weekly meetings with over 700 schools across the country. Among other issues of discussion, climate change and desertification are addressed. The NRC conducts regular training of volunteers on disaster awareness with a certification program. NRC 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. NRC works with Maiduguri University 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.

2. Identified Gaps and Challenges

- The mission could not meet with the Nigerian Educational Research Development Council (NERDC), which is in charge of developing the 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 in the climate change adaptation side. Despite the materials existing, DRR has not been mainstreamed yet and the teachers have not been trained. The interviewed person from the Federal Ministry of Education was not aware of NERDC DRR curriculum development.

- The mission met with both the universities in Zaria (Kaduna State) and Ibadan (Oyo State). From the interviews conducted with the two centres, it seems the centres are not collaborating among each other and if any they have very sporadic relations.

- The assessment team was repeatedly told that DRR is a new concept and there is much still to learn. SEMA engineers in Lagos, for example, reported that they were first oriented to DRR in training in 2011 and only 3 of 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 role 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 work and DRR.

- In the southwest region, there is not 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 in isolation from each other. The Lagos SEMA developed curriculum was approved by Nigeria Educational and Research Council in Lagos state. They are indicating that the national efforts will be welcomed at the state level, however they are waiting for the formalization of these instructions to reach them before they will 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 responsible body or strategy. Unofficially, there is a wide

understanding that more needs to be done to improve public awareness of disaster risk, especially related to floods and building collapses, and many ministries are engaging the public to play their individual parts in risk reduction. However the messages are general and not targeted to specific at-risk communities. The Lagos Ministry of Environment commented that with the population expanding rapidly, “Development is faster than planning”, which results in new building often starting before risks can be investigated.

- Local government authorities need more improvement with DRR capacity building than 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.

3. Recommendations

- Continue to integrate DRR into the elementary 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 (Ministry 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 municipal 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 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 targeting tailored messages in local languages to 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 the 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.

- Deliberate effort should be made to include the media in DRR activities.

D. HFA Priority 4: Reduce underlying risk factors

1. Existing Capacity at Federal and State levels

Environment management and sustainability: Towards meeting the challenges of 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, coastal surges, floods and erosion, the Nigerian government elaborated a **National Environmental Policy in 1989. The policy was revised in 1999 to accommodate new and emerging environmental concerns.**

The House and Senate Committees on the Environment of the National Assembly are given 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 subcommittees 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 in deterring 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 an attempt to implement the Environmental Policy, Nigeria has enacted specific policies and action plans that, 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 we have reviewed. Towards combating desertification and mitigating drought, 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, 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 established recently under the Ministry of Environment a new Department for Climate Change. A Centre for Climate Change and Freshwater Resources is 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, Obafemi Awolowo University Ile-Ife; and Abubakar Tafawa Balewa 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, 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.

The Senate has a standing committee on ecology (Senate Committee on Ecology) while the National House of Assembly has a standing Committee on Climate Change. Representative members of these Committees have in the past participated in regional and international forums on issues of climate change. Members of these Committees have facilitated the passing of a Climate Change Commission (CCC) Bill in both the House and Senate. In addition to the Committees, there is a National Council

on the Environment, made up of representatives of governments at the federal and state levels. The Council meets at irregular intervals to take stock of the state of the environment in Nigeria.

There is a growing awareness of the need to act on climate change adaptation in Nigeria and some extremely promising developments with respect to political commitment and championing. These include the 2008 formation of the House Committee on Climate Change, which is acting to step-up advocacy broadly across the media, civil society, private sector and government, and the proactive stance adopted by a number of the states.

Lagos State has set in place a Climate Change department and taken a number of actions for awareness raising as well as concrete actions through the Lagos State Public Schools Climate Change Clubs. Lagos State has recognized that climate change is real and has put in place measures to tackle the problem. 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. As said earlier, Lagos State has undertaken a number of awareness raising initiatives, the most prominent being the school advocacy programme whereby 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.

Niger State has convened a Climate Change Dialogue. With support from the UNDP, Niger State was the first State in Nigeria to convene a Climate Change Dialogue in 2009, and has harmonised legislation and restructured institutions to promote sustainable development responding to climate change. It is expected that more states (e.g. Sokoto, Anambra and Cross Rivers) will follow Niger State‘s example. The question of course is whether interest shown by these states is as a result of genuine state priority development interest or because of UNDP support.

In preparation for the country‘s participation in the series of Climate Change negotiations all the way 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 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 and the Inter-Ministerial Committee on Climate Change. It has 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 is 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, series of legal and policy provisions that gave credence to physical planning activities have been evolved and implemented. These include 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 like manner, physical planning control measures have been introduced to improve urban land use planning and urban development.

The Federal Ministry of Physical Planning has elaborated a new Building Legislation, which is currently in the process for approval by the Senate.

2. 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 urbanisation and continuing growth of the Nigerian population create some challenges in the urban environment. The urban plans were developed several decades ago and never updated. The growing population has been building houses without permission in risk areas (such as river banks), but there seems to be no measure taken about this partly because there is a risk of riots.

- Irrespective of existing physical planning robust 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 and excess of water are 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 point rises. This phenomenon is also worsened by the increase of the population and therefore the need for more arable land. Drinking water is also an issue: despite investments in the last years, the number with access to drinking water is shrinking.

- The country does not have a comprehensive mapping of its hydrological resources. The country has over 200 dams, mainly built for agricultural purposes. The dams are often poorly maintained due to lack of resources and face a serious problem of sedimentation. Most of the dams were constructed following the 1972-73 drought to establish an irrigation system for farmers. In reality, currently the use of water for agricultural purposes is limited and when the raining season starts the dams are open as otherwise they would break. This creates floods downstream. Another problem is caused by drainage blocked by sewage and local governments are leading 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 due to 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, means there are different interpretations of what should be done to mitigate floods. Further, the issues of compensation and relocation of the people living in these buildings remains 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

3. Recommendations

- Focus on HFA 1-2 in the near-term for capacity building and institutional strengthening to tackle 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 levels.

- Provide technical capacity training for DRR mainstreaming for all members of state and 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 2020, 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 Physical Planning 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 a 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 the currently discrete 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 consistent 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 building back safer 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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I. Acknowledgment

The assessment team would like to express its gratitude to the Director General of NEM, Muhammad Sani Sidi and his team. In particular, special thanks to the Deputy Director of Planning, Research and Forecasting, Mr. Alhassan Nuhu, and his team in Abuja and in the States who provided an excellent support during the scoping mission, preparing for the assessment mission and during the conduct of the mission itself. The team was particularly impressed by the positive attitude of Ms. Funmi Oyinsan in ensuring that the mission ran smoothly.

Moreover, we would like to thank all the NEMA stakeholders who participated in the scoping mission, provided insight during the assessment mission and assisted in identifying the key areas of focus for the mission.

The team appreciated the support of the UN Resident Coordinator, Mr. Doauda Toure and the UN country team who participated in the mission and the commitment to follow-up on the mission recommendations. Finally, the team would like to give special thanks for the staff of the OCHA HSU in Nigeria for their great support throughout the different stages of the mission.

We also wish to thank all the other stakeholders who availed essential staff for the various meetings/discussions during the mission. This has enabled the mission members to better understand the key issues and gaps in the States visited.

II. List of EPR Acronyms

BCP	Business Continuity Plan
BMPIU	Budget 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 disaster on the country, could have far reaching impact on the situation in 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 responsibilities of other first responder agencies and other structures of Government legislated to take the lead in some critical disaster management but who lack the 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 tasks still fall back upon NEMA.

Naturally, despite all the effort 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 new commitment by the authorities 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 conducted a scoping mission was carried during which consultations were held with NEMA and key stakeholders, UN system in Nigeria, ICRC, NGOs

amongst others, identify priority areas, agree on the geographical scope, identify key government institutions and 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 including 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 lead the emergency preparedness and response component of the mission.

At the end of the mission, an initial debriefing was organised on 29 March 2012 with 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 errosion, 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 and action oriented joint-mission report with analysis, recommendations, and conclusions, which will form the basis of 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 of 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):

6.1. 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 19 March to 30 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). They split into three teams to cover different geographic areas.

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

Most of the SEMA have legislative backing or are in the process of passing their legislations. The National Emergency Management 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 (LEMC), 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 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 government 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 Nat 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 special unit for vulnerable groups 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 on 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 trained

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 responsible body for providing coordination on federal level and in addition to the NEMA headquarters in Abuja, NEMA zonal offices have been established in the six geo-political zones. On state level, State Emergency Management Agencies are either established or in the process of being established. In the Local Governmental Areas, Local Emergency Management Councils are anticipated 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 on state level, including the military and the Red Cross. Furthermore, some states had involved 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 this was a capacity they did not have themselves. However, coordination is predominantly based on interpersonal relationships and ad-hoc arrangements rather than formalised, pre-established coordination structures and standard operating procedures, which makes the system very vulnerable.

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

Challenges

There is a general weak awareness of existing SOPs for emergency response in states visited with the exception of Lagos and the F.C.T. What is lacking is 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 Common 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 happen every month for debriefing the state agencies emergency stakeholders in the state.

On 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 are often either not taking place at all or not attended by stakeholders, which underlines the need for formal structures and procedures as well as mutual commitment from all involved stakeholders to participate in coordination activities.

Other hampering factors for a 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 shared 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 ensure a higher level of predictability in terms of emergency response it is recommended to develop Memorandum of Understanding 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 thus appealing to other actors such as faith-based organisations and NGOs.
- A monitoring and evaluation mechanism should be established within 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 is further developed. The on-going NEMA 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 healthcare shall include among other things:

- Education concerning prevailing health problems and the methods of preventing and controlling

- Promotion of food supply and proper nutrition

- Material 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

and 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 Governments 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 of hospitals 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 in advantage 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, governments of the Federation 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.

Concerning major emergencies and disaster response, there is up till now 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 concerning the prevention on vital impact of basic needs are established on some vulnerable locations
- Joint assessment missions of stakeholders, guided by SEMAS are started
- The integrated disaster surveillance and response structure provides an overall functioning information management system between federal and local level.
- The existing net of healthcare covers the country very well
- The National Centre for Disease Control is being expanded and present in the 6 geo-political zones
- Manpower is still on the ground

Challenges

- On 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 prepositioned and trained
- There is general lack of medical staff trained in trauma care and emergency health care including equipment
- The maintenance of provided equipment has to be secured
- Need for increased prepositioning of emergency facilities and drugs on state level
- Multiplication of “ambulance services” on state level but a general lack of professional ambulance services as well as a lack of ambulance services outside cities
- Providence of already built up central emergency call centers
- There is incomplete and/or delayed reporting in home states.
- There are only two laboratories in Nigeria which are able to conduct higher level sampling

Recommendations

- Improve already existing and establish additional level 3 trauma care hospital
- Plan a long term strategy implementing trauma surgery with responsibility on 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 on each level of health system should be prepared for each - PHCs and governmental hospitals- , as at least simple, basic SOPs. These SOP should concern doctors and medical personal as well.
- A training system for BLS, ALS and extended first aid should be established and defined for all agencies, who are involved in emergencies(according to the NEMP, NRCS, NRSC, NPC, Fire services) as well as the definition of a minimum standard agreed upon all agencies
- The leading agency for each headline (SAR, advanced aid, triage etc.) should be defined
- Establish SOPs according to “triage principles”
- Define the stakeholders responsible for disaster preparedness and emergency response in health care system , consider the preposition of responsible persons
- Preposition of 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 prevent ion 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 expert is to "take stock of situation and on how existing structures in fire department and identify actions to take."

There was not enough time to go into all the usual elements of an audit and detail. Furthermore the situation of Nigerian fire service is so worrying and degraded that a comprehensive study on some fine theoretical and technical aspects would have appeared out of order and totally unnecessary. Therefore 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 response of the population needs. In 2011, the Nigerian fire-fighters have done 11 284 operations with 7 129 fires.

Observations

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

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

There is currently no training program in the 3 states visited. The standard operational procedures, the texts of prevention and preparedness are insufficient. The Continuing professional education normally intended to develop reflexes and make operational the firefighter 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 firefighter is too poor to develop a good quality of service.

The technical level of basic equipment for Nigerians firefighters is dramatically low: lack of vehicles, equipment and materials; major difficulties of servicing and maintenance, lack of water supply system for the urban fire defense... Beyond the current risks, it remains clear that the Nigerians firefighters have not enough specialized equipment as breathing apparatus, bunker gear, rescue materials… Also to respond to the specific risks they need appropriate vehicles and special materials as aerial ladders, foam tender, water supply trucks… These significant deficiencies have a real impact on the success of relief operations. This situation becomes unbearable for the fire services and led to strong tensions and the risk of demobilization staff.

Nigerians have been known for their fire service approach to things, but unfortunately their fire service is not working well. For it to function, the federal and states fires services need general overhauling, re-engineering and re-packaging for the confidence of the public to which they are responsible to. Moreover, the tasks performed by the fire services are not sufficiently known, understood and integrated by other partners services or the highest administrative authorities or political. 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 for local firefighting capacity are undertaken in several states (Katsina, Kaduna, 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 on all levels should be prioritized and strengthened in terms of equipment, manpower, training, management and procedures, and expanded to areas outside the cities. The roles and responsibilities of rescue services providers should be further clarified and an incident command structure put into place. The legislation should provide the fire service with provisions for legal enforcement of fire safety and fire prevention.

- *An institutional development program should be elaborated by each state to ensure they have the capacity, and importantly, the budget to support and to perform the fire service.*
- *The roles and responsibilities need to be clarified between all the emergency services, in each state*.
- *Cross-boundary arrangements between states should be developed so that resources and information can be shared.*
- *As a matter of priority, state with responsibility for infrastructures, supplies and equipment for fire service, must reserve funds for essential supplies and maintenance of 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 le state and local level.*

- *Coordination with the state fire service and all the others emergency services should be strengthened.*

- *Provide good vehicles, materials and equipments to the fire service* at each LGA and state levels.

- *Use a news firefighting technical with appropriate materials (GIMAEX one seven 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. Reunification with the civil defense personnel could be a solution?*

- *In each state, the fire service must have a greater role inside of the emergency management disaster system.*

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 capacity and provide the necessary manpower.

Challenges

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

Recommendations

The roles and responsibilities need to be clarified between 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 services should be provided with the necessary logistics and training to be able to provide search and rescue services.

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

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

J. Geographical Information Systems (GIS)

Context

The joint capacity assessment was mandated to look at disaster response preparedness specifically. However, 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 cycle.

This analysis draws also on 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.

Since the recruitment of the current Head of GIS in 2010, the unit's staff has been expanded to nine GIS professionals. All have good and relevant educational backgrounds (to at least master's degree level in GIS) although not all are technically current in what is inevitably a fast-changing field. Although the team has gained valuable experience in field data collection methods through its DRR projects, 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 as it stands 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 in part from gaps in Nigeria's overall spatial data assets, however much of the relevant and operationally crucial data that exists is not available to the NEMA GIS unit due to institutional barriers between NEMA and the main data owner, the national mapping agency (Office of the Surveyor General of the Federation – OSGOF).

The national centre for remote sensing provides 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. Several of the team have been trained in the activation of the International Charter mechanism 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.

In the NEMA headquarters, the GIS unit is constrained by limited internet connectivity. This 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 hold back the development of GIS services.

For support to disaster response, the GIS unit currently lacks an established capacity to deploy GIS services forward into the field at an appropriately early stage of an emergency, to support search and rescue, assessment and relief actions and coordination.

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 a need for national-level risk mapping to assist in disaster preparedness resource planning, the GIS 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. At present this can display data on past disaster events across the country but 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 response coordination, 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,

Assuming that NEMA wishes to exploit the potential for utilising GIS in disaster preparedness and response, the following key recommendations are offered. It should be noted however that most of these recommendations will also boosting its 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 of 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 if possible to be followed up as WFP has considerable experience in this field.

- **State/zonal level capacity.** The team reports from the states visits identified that there is limited or no GIS capacity exists at 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 deployed GIS support by the 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 team (one in Kaduna and on in Ebonyi) could assess to some extent the internal displacement response capacity.

Strengths

The National Commission on Refugees and IDPs has been mandated to cover the policy and legislative part of the internal displacement issue. Although its role is not fully understood by all stakeholders, it serves as an important starting point to strengthen the institutional framework for IDP response and protection.

Civil society organizations are active in providing mid-term support and confidence building initiatives in favour of internally displaced persons. Traditional coping mechanisms and solidarity links reduce the concentration of IDP in camps or sites.

There also existing on-going joint programs for the return of migrants (Government and IOM).

Challenges

There is need to clarify the roles and mandates between stakeholders involved in internal displacement issues. It is important 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.

[end of report]