



GOVERNANCE RESPONSE TO FLOOD DISASTERS IN NIGERIA: A CONCEPTUAL REVIEW

RASHEED A. KURANGA AND EMMANUEL T. UMARU

Department of Urban and Regional Planning, Federal University of Technology Minna, Niger State, Nigeria

ABSTRACT

Nigeria, like many other countries, faces recurring incidents of flooding annually. However, effective governance response to the flood disaster remains a challenge, especially at the local level. This concern persists despite Nigeria being a member and signatory to global frameworks for good governance response to flood disaster. Government response to flood disaster is limited to the provision of relief materials to affected communities in the face of poor coordination of the NEMA which is responsible for such activities. This study seeks to assess the flood disaster governance system in Nigeria through literature reviews, with a particular focus on disaster risk reduction at the local level. The findings of the study show that despite the recurring nature of flood disaster annually, there is no locally effective program or sensitization on disaster preparedness, prevention and mitigation, resilience and recovery even when there are international templates for national, regional and local levels. Hence, the study recommends that Disaster Risk Governance should wake up to its call of disaster risk reduction especially in the emergence of the Ministry for Humanitarian Affairs, Disaster Management and Social Development.

Keywords: *Flood disaster, flood management, disaster framework, disaster risk reduction, governance response*

INTRODUCTION: RECURRING FLOOD DISASTER IN NIGERIA

Flooding has remained a major environmental challenge in many parts of the world. According to Kron (2005), flooding accounts for about half of the global natural disaster fatalities and one-third of its economic losses. Flooding has since been designated as a major disaster in Nigeria (Amangabra and Obenade, 2015). The 2012 flooding event, for example, caused an estimated loss of \$16.9b worth

of properties and investments and many deaths were recorded (Amangabra and Obenade 2015).

The International actors, civil societies and governments in 2005 came together under the umbrella of the United Nations International Strategy for Disaster Reduction (UNISDR) and developed a disaster risk reduction framework known as Hyogo Framework for Action (HFA) and later the African Regional Strategy for Disaster Risk Reduction and its Plan of Action (ARSDRR) 2010 which makes it practice easy for many African states in the governance of disasters and their risks. By the year 2015, The Sendai Framework (2015-2030) was developed as an instrument to succeed the Hyogo Framework for Action (HFA) 2005-2015. Nigeria has been a member of the conferences that brought about these frameworks and is also a signatory to many of them, however, the effectiveness of her disaster risk reduction is unsatisfactory thereby calls for the assessment of the system.

Governance is a fundamental factor in disaster management endeavours (UNISDR, 2004). Good governance is expected to embrace disaster risk reduction through policy development, allocation of resources needed to achieve the set policy, ensure policy implementation and give an account of failures as well as ensure the participation of relevant stakeholders (UNISDR, 2004). In other words, for a nation to have attained a desired disaster risk reduction situation should disaster strike, therefore, require strong national governance on disaster management with an establishment dedicated to local governance (Williams, 2011). In the Nigerian context, Oladokun and Proverbs (2016) argue that although the recent increase in flood incidence has increased levels of awareness on flood risk governance activities in Nigeria coordination and integration of governance systems and processes are still crude.

UNDERSTANDING THE RAMIFICATION OF FLOOD DISASTER

This section of the research highlights the ongoing debates regarding the concepts of flood disasters, disaster risk governance, policies of the international communities and the Nigerian government.

Flooding according to Kron (2005) cited in Munich Re, (1997) is defined as the occupation of land by water which originally flows in their confine basin but temporarily escapes due to heavy rainfall. He identifies three main types of the flood namely: (1) Storm surge which is the type of flooding that happens along the coasts of seas and big lakes. It can be related to tsunamis which are the highest loss potential for both lives and properties in water-related events; (2) River floods are the consequence of heavy and continuous rain for several days or even weeks over

large areas, sometimes combined with snow-melt. The soil is saturated and can no longer accommodate infiltration and water find its way into the rivers and creeks, build up gradually mostly in a short time and the floodplains become inundated; and (3) Flash floods which usually the beginning of a river flood, happen in smaller areas as a result of serious precipitation without inflow from other areas. When the ground is saturated and infiltration is no longer allowed the water may rush down a valley that does not even have a creek at its bottom. The term "flash" denotes the speed at which they happen in steep terrain, while some flat terrain can also be affected in a situation where the slope is too small to allow quick runoff of water. Storm-water will then accumulate on depressions which are not obvious and even the obvious depressed areas.

Vulnerability to flooding is the degree of susceptibility to flooding damage, the socio-economic and ecological systems of an area in a given flood event (Frank and Volker 2005 cited Cutter 1996, Mitchell 1989). Adger 2000, stressed that the more exposed an element is to hazards the more it is susceptible to their impacts and forces.

Flood risk management's goal is to reduce the likelihood and/or the impact of floods. It is a complex phenomenon although its concept is widely accepted and embraced by decision-makers to be more efficient and effective in achieving a lot of goals, against the conventional engineering approach, but the decision making practice changes from one place to another (Sayer *et.al*, 2013). Advanced flood risk management includes high-tech measures and also low-tech economical, achievable measures. There are 3 main steps in the undertaking of flood risk management and they are:

- Flood planning mitigation measures (preparedness before the disaster).
- Response measures (during a disaster)
- Recovery (after a disaster) (Nasiri, *et.al*. 2016 cited Tingsanchali 2012).

Flood risk management over the years has been executed through engineering controls and non-engineering control (López-Marrero and Tschakert, 2011). The engineering control includes river channel modifications, canals, dykes, levees and flood-walls complemented by warning systems and response plans to safeguard lives and properties before, during and after floods (López-Marrero and Tschakert, 2011). The basic principles here to follow are to store, divert and confine floods (Nasiri, *et.al*. 2016). However, this method has been criticized for harming riverine ecosystems and even makes flood risk worse in the long-run (Smit and Wandel, 2006). Flood control though has earlier reduced fatality but has also allowed and

even promoted intensive occupation of flood-prone areas for industrial, commercial and residential development and tourism (López-Marrero and Tschakert, 2011). Hence, the emergence of the non-engineering control which involves several mitigation measures with limited modification of the river flow (Nasiri, *et.al.* 2016). These are strategies which are supported by the national policies of the nation and they include proactive flood management measures such as the development and redevelopment of policies, floodplain regulations (including land-use planning), information dissemination and public awareness, and flood forecasts and warnings, communities' involvement in strategic planning and impact reduction (López-Marrero and Tschakert, 2011).

In Nigeria, flooding occurs annually and the trend increases every year. It has been a cause for the death and displacement of people and property destruction (Dalil, *et. al.* 2014). The flood event of 2012 is tagged the worst since 1936 given the resultant devastation (Adeleye and Ayangbile, 2015). This has charged the government on the proper management of the environment and its monitoring by making sure the hands of relevant government agencies are on deck ahead of future flooding event (Ikusemoran, *et. al.* 2014). Addressing flooding which is a consequence of Climate Change issues in Nigeria has been resting mainly on the shoulders of the aid program of International organizations (Ashley *et.al.*2011). Nigeria is one of the highest beneficiary countries in Africa which enjoys adaptation development projects (e.g. flood-walls, dykes and drought-resistant crops initiatives etc.) donated by the international organization (Ashley *et.al.*2011). Despite the interventions very little has been achieved in reducing flood impact and this has been pointed as the reason Nigerian case studies on flooding are very few or completely not available in documents of relevant flooding studies of the world with her status as the largest economy and the most populous black African Nation (Oladokun and Proverb, 2016).

GLOBAL DISCOURSE ON GOVERNANCE RESPONSE TO DISASTER

Governance, according to Lassa (2011), emerged from the development concept that initially viewed government as the only decision-making power but later added other actors to solving development problems. As a comprehensive document in the United Nations Commission on Global Governance report (1995) governance is a system by which people and institutions, public and private, manage their common affairs. It is further explained to be formal institutions defined by regimes that are empowered to enforce compliance, as well as established informal

arrangements that people and institutions have either agreed to or perceived to be in their interests.

Lassa, (2011) considers disaster risk governance as the way society as a whole manages the full array of its disaster risks as related to a range of different types of hazards. He promotes the notion that there are many overlapping areas or centres of authority for decision-making and responsibility for disaster risk reduction and the arenas may emerge as networks. Disaster risk governance ensures that sufficient levels of capacity are built, resources are made available to prevent, prepare for, manage and recover from disasters.

GOVERNANCE RESPONSE TO DISASTER IN NIGERIA

The development of governance response to disasters by the Nigerian government has been given a high consideration having acknowledged its importance (Building Nigeria's Response to Climate Change (BNRCC), (2011). Nigeria has contributed immensely to regional initiatives to tackle climate change among which African Ministerial Conference on the Environment (AMCEN) (2009) adopted agenda for a regional corporation and national commitments to mainstream adaptation guide in regional and national development policy which is a declaration by Nairobi. Also, Nigeria with seven other countries created The Committee of African Heads of State on Climate Change (CAHOSCC) (2009), and Nigeria has played a very crucial role in creating a common position to tackle disaster risk among African states (Ashley, *et.al.* 2011). It hosted a study group in 2010 among African legislators who came up with concrete guidelines for lawmakers to address the effects of a disaster. It also adopted the Framework of Strategic Guidelines on the Reduction of Vulnerability and Adaptability to disaster in West Africa and the second year, Nigeria assumes the Chairmanship of ECOWAS (Ashley, *et.al.* 2011).

Among the many other efforts of government was the creation of Special Climate Change Unit (SCCU) under the Ministry of Environment, inter-ministerial coordinating committee on Climate change and the National Climate Change Bill which was passed by the National Assembly in 2010 to coordinate and support multi-level and cross-sector governance response to disaster risk (BNCC, 2011).

First National Communication (FNC): In 2003 the FNC was developed and it identified the natural ecosystems, agricultural ecosystem, water resources, health and well-being, land-use change and forestry and energy as the national resources within the environment which are highly susceptible to disaster. Governance response, on the other hand, is seen as quick responses to actual or expected

hazards in order to reduce their effects. Hence, conducting a vulnerability assessment in flood management study would help identify the types of problems the victims face.

Second National Communication (SNC): This was published in February 2014 to ensure progress in the activities of cushioning the effects of disasters which was started through the establishment of the FNC. It was put together in line with the United Nations Framework Convention on Climate Change (UNFCCC). The Vulnerability assessment relied upon was the framework for socioeconomic analyses and planning recommended by IPCC in the year 2007.

The National Government created National Emergency Management Agency (NEMA) to oversee a well-defined framework that will be answerable for facilitating the setting up of enabling legislation and monitoring the activities of the State Emergency Management Agency (SEMA) as well as the Local Emergency Management Authority (LEMA).

The National Emergency Management Agency (NEMA) launched the National Disaster Management Framework (NDMF) to fulfil its mandate of disaster preparedness, mitigation, and recovery. The framework is structured into the following eight sections;

- 1) **Institutional Capacity:** The agency employed the principle of shared responsibilities in the establishment of necessary institutional arrangements for implementing disaster management. It pronounces the National Emergency Management Agency (NEMA) as the coordinating body at the Federal level, State Emergency Management Agency (SEMA) at the state level, and Local Emergency Management Authority (LEMA) at the local government level. The three tiers of government, Ministries, Department, and Agencies (MDAs); military, police, para-military and Civil Society Organizations (CSOs) are charged to build the capacity of their emergency management institution to prepare for, prevent against, respond to and recover from disaster events.
- 2) **Coordination:** The Framework specifies how disaster management will be coordinated by stakeholders involved. The coordination is grouped into Strategic and Operational; The strategic type of coordination is that which support the unity of efforts in implementation and it is further grouped into;
 - i. **Vertical Coordination:** This suggests that NEMA, through the NEMA Zonal Offices coordinating the activities and operations of SEMA, LEMA and community structures. It shall also refer to SEMA coordinating the activities and operations of LEMA and community structures and reporting to NEMA.

- ii. **Horizontal Coordination:** This category implies that NEMA, SEMA and LEMA will respectively mobilize and collaborate with relevant Ministries, Departments and Agencies (MDAs), Disasters Response Units (DRUs), Military, Police, Paramilitary, International and Local NGOs, and development partners.
 - iii. **Operational** coordination involves the procedure for translating disaster management plans to field level operations and activities. Relevant approaches such as; risk assessment, risk reduction, preparedness, prevention and mitigation, response and recovery would be adopted based on the sections of the disaster management framework by the coordinating bodies.
- 3) **Disaster Risk Assessment** This is the first step in planning an effective disaster risk management. It involves monitoring hazards, vulnerabilities and measuring coping/adaptation capacities to set priorities for risk reduction and effectiveness of stakeholders' efforts.
 - 4) **Disaster Risk Reduction:** This will minimize the potential impacts of disaster on humans, their socio-economic activities and the environment.
 - 5) **Disaster Preparedness, Prevention and Mitigation:** This has to do with strategies to prevent the occurrence of such disasters from having a devastating impact on people, infrastructures and the economy; curtail the occurrence of disaster events; and reduce the impact of disasters, if they do occur.
 - 6) **Disaster Response:** This is the immediate actions to be taken after the event of a disaster. It will focus on the requirements for an integrated, coordinated policy that address rapid and effective response to disasters.
 - 7) **Disaster Recovery:** This include program, activities and interventions embarked upon to help disaster survivors and affected communities to return to normal life and minimize the risk of future disaster.
 - 8) **Facilitators and Enablers:** This has to do with the provision of sufficient conditions for, integrating roles of emergency management agencies; information management and communication; monitoring and evaluation; education and training; and public awareness and research. Matters such as funding arrangement for disaster management are also covered in this section.

However, the existing situation shows that the nation does not currently have a governance response strategy or cross-cutting institution saddled with the responsibility of guiding national response in disaster management though both are in development (Ashley, *et.al* 2011).

In July 2019, a pioneer Ministry of Humanitarian Affairs, Disaster Management and Social Development were established. The mandate has been given to this ministry to address severe humanitarian crises and complex threats by extreme climatic events in the county (Edino, 2019). National Emergency Management Agency (NEMA) now being supervised by the new ministry launched its National Emergency Management Policy document to follow suit on the United Nations Sendai Framework 2015-2030 for disaster risk reduction which was adopted by member states of the UN four years ago (Edino, 2019). This is expected to provide the required Governance Response to the vulnerable communities, groups, and persons required to be protected against disaster risk.

GOVERNANCE RESPONSE: A PARADIGM SHIFT TO DISASTER RISK REDUCTION

Since the beginning of the millennium record has shown that the fatality and economic loss as a result of the disasters are frightening, the incidences of disaster occurrence continue to increase and the trend is likely to continue that way (UNISDR, 2004).

There is, therefore, a need for the development of a disaster risk reduction theory that is capable of guiding actors in disaster risk reduction endeavours (Reddy, 2010). This led to the adoption of the Hyogo Framework for Action (HFA) at the World Conference on Disaster Reduction held in Kobe, Hyogo city of Japan in 2005. The HFA was adopted by 168 countries from 2005-2015 with the theme: Building the Resilience of Nations and Communities to disasters (UNISDR, 2013). The document further describes the framework as a tool that has broadly considered risk reduction, integrates it into the activities of government and non-government and made to be multi-disciplinary in responding to the identification and implementation of disaster risk reduction (DRR) measures. The HFA identifies the following five set of priorities to guide countries' activities given the general objectives:

1. Ensuring that Disaster Risk Reduction is a national and local priority, with a strong institutional basis;
2. Identifying, assessing and monitoring disaster risks and enhancing early warning systems;
3. Using knowledge and education to build a culture of safety and resilience at all levels;
4. Reducing underlying disaster risk factors, whether social, economic, environmental or land use; and

5. Strengthening disaster preparedness to promote effective response at all levels.

In the year 2013, UNISDR was tasked by the World Conference on Disaster Reduction (WCDR) to create a review system to monitor the success of HFA in Countries and Regions, noting issues to its full implementation since 2005 (UNISDR, 2013). The idea was to communicate new ways in disaster risk reduction and in addition to formulating a post-2015 disaster reduction framework (UNISDR, 2013). Reports by Nations and Regional organizations were now guided specifically in the following three goals as outlined in the HFA;

- i. The effective integration of disaster risk consideration within the policies and programs of sustainable development at all levels of government, giving special attention to disaster mitigation, prevention, preparedness and reducing vulnerability;
- ii. The creation of institution and strengthening the existing ones through capacity building and system, especially at the local level, to systematically assist in the improvement of community resilience to hazards;

Program designing and implementation such as emergency preparedness, response, and recovery, should include the approaches of risk reduction, as well as building back better of affected communities.

Another Framework was agreed upon at the United Nations World Conference in Sendai, Japan in 2015 called Sendai Framework for Disaster Risk Reduction 2015-2030 (UNISDR, 2015b). Although, HFA was found to have been incorporated globally, however, African countries have only been able to make progress on institutional and legislative arrangements for disaster risk but are yet to harmonize it with existing disaster risk frameworks in other ministries (e.g. agriculture, water resources, power and energy etc.) (Madu, *et. al* 2019). The existing institutional structures are also not getting the required resources to champion a broad-based engagement in DRR (Madu, *et. al* 2019). The Sendai Framework succeeded the (HFA) 2005-2015 and was built on the essential parts of HFA to ensure continuity in its achievements by Countries and other actors as well as the development of new ideas as advised by experts (UNISDR, 2015b). Disaster risk management was strongly emphasized as against disaster management, issues of disaster risk reduction as an expected outcome; working to achieve the aim of stopping new risk occurrence; reducing the risk existing, fortifying resilience using guiding principles; making prevention and disaster risk reduction the primary responsibility of state and government agencies (UNISDR, 2015a). The scope has promoted

health resilience throughout the document and also covered man-made and natural hazards which comprises environmental, technological and biological hazards and their risks (UNISDR, 2015b). There are four important priorities outlined and seven global targets of responding to disasters for the fifteen years after its adoption. The four priorities include:

1. Understanding disaster risk from all angles and apply the awareness of all its fact to conduct a risk assessment, prevention, mitigation, preparedness, and response;
2. Strengthening disaster risk governance to manage disaster risk and encourage cooperation at national, regional, and global levels;
3. Investing in DRR to improve the resilience of communities and people in the area of their economic, social, health, culture, assets and their environment.
4. Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction (UNISDR, 2015b).

THREAT TO GOVERNANCE RESPONSE IN DISASTER RISK REDUCTION

Making public policy under unusual stressful situations such as disaster is indeed a big deal but the real deal are the activities of public officials and the non-government actors involved in the response process who may lack response capacity in a disaster situation (Schneider, 1992). The lack of understanding of key Governance functions such as people's participation (Inclusiveness) and accountability before disaster explains the poor performance during and after a disaster (UNDP, 2017). No recovery processes will be successful without providing absolute opportunities for inclusive participation and public scrutiny, they will eventually generate instability (UNDP, 2017). There are identified four dimensions of governance that ought to enhance the quality of policy-making in the endeavour of governance response to disaster risk they comprise predictability, participation, transparency, and accountability (Ahrens and Rudolph, 2006).

RIGHTS OF VULNERABLE INDIVIDUALS AND COMMUNITIES TO DISASTER RISK GOVERNANCE

Mizutori, (2019) at the Human Rights Council (HRC) identified that disaster risk reduction begins with the protection and promotion of human rights (UNDRR, 2019). Although there are little shreds of evidence of programs that linked human rights and disaster risk reduction, however, a key theme in the Sendai agreement is accountability, buttressing the relevance of disaster risk reduction should be

mainstreamed into public policy, further refining how human rights can be protected alongside the prevention of disaster. (UNDRR, 2019). The declaration of inclusiveness in the agreement at the implementation stage also presents the promotion of human rights and allows for the breaking of the poorly networked development and work on an organized inter-sectional development (Verma, 2017). Although, disaster risk reduction has extended its broader hands of help in areas of public anxiety: climate change and variability, unplanned and rapid urbanization, poor land management, demographic change, weak institutional and non-risk-informed policies, unsustainable uses of natural resources, and so on (Sommario and Venier, 2018). It is of high importance to note that the activities of disaster risk reduction as regards these areas are properly informed by human rights considerations and that the potential of international human right law (IHRL) in promoting Disaster Risk Reduction is more fully taken into account (Sommario and Venier, 2018).

SUMMARY, RECOMMENDATION AND CONCLUSION

SUMMARY

The emanating argument from the above chapter makes it clear that flood hazards and their destructive impact have received reasonable attention from the engineering to the non-engineering approach. A stronger emphasis is, however, concentrated more on the non-engineering approach which has to do with strategies that support policy development and redevelopment on flood management such as land-use planning, public awareness and warnings and community inclusiveness in planning and implementation of the flood management plan.

Disaster risk reduction can only be successful in countries where good governance is attained. Component of good governance for DRR comprises of planning and implementation of the program; provision of legal backing for enforcement laws; coordination through institutions of government agencies; civil society participation; private sector collaboration and all other stakeholders.

Nigeria is a signatory to many international frameworks through which the national disaster management framework (NDMF) was developed in the year 2010. Sendai framework was launched in agreement with the existing frameworks but advanced in itemizing four priority areas like having a good understanding of all ramifications of disaster, strengthening disaster risk governance, investing in individual and community resilience and improve disaster preparedness and "Build Back Better" after a disaster.

Governance response to disaster is an act of policymaking and implementation to reduce disaster risk. Its dimensions are to be able to predict and guide future hazard events, ensure participation of all and sundry, transparency, accountability and must be seen as a right to be successful.

RECOMMENDATION

Good governance will create an enabling platform for operatives of disaster risk reduction utilizing political will, inclusiveness and partnerships to ensure that political, social and economic priorities are concluded through the input of the voices of the poorest and most vulnerable people. Therefore, the importance of government coordination in disaster risk reduction endeavours of the private sector, NGOs and other stakeholders can never be over-emphasized. The activities of the Nigerian government in disaster risk reduction through NEMA in the past is characterized with inadequate funding, inadequate facilities, political factors, lack of awareness and advocacy, and weak policy especially at the local level confronting disaster risk reduction. The study recommends that working more on sustainable development will go a long way addressing disaster risk in the country. This study also suggests that disaster is a widespread indicator of unsustainable development and concluded that if the right development choices are made, the force of natural hazards will have little or no impact on our acquired development. Inclusiveness is a basic principle of governance, it must be properly sought-after to achieve the desired governance response especially at the local level through the mobilization of support for social organizations, encouraging social integration and political participation of communities and vulnerable group (women, physically challenged, the old, etc), and experiences and knowledge of the communities should be developed into risk profiles.

CONCLUSION

The climate change issue has since made it obvious to the world that disasters are unavoidable, we just have to live safely with them. The global manuals of disaster risk reduction are practices expected to be replicated at the national, regional and local levels. There is also a need for the establishment of functional programs or sensitization on disaster preparedness, prevention, and mitigation, resilience, and recovery which is up to the accepted global standard in the face of the recurring nature of the disaster.

REFERENCE:

Adeleye, B. M. & Ayangbile, O. A. (2015) Flood vulnerability: Impending danger in Sabon Gari, Minna, Niger State, Nigeria. *Ethiopian Journal of*

Environmental Studies & Management 9 (1): 35-44, 2015. ISSN: 1998-0507
DOI: <http://dx.doi.org/10.4314/ejesm.v9i1.4>

- Adger W.N. (2000) Social and ecological resilience: are they related? *Progress in Human Geography* 24 (3):347-364.
- Ahrens, J. and Rudolph M. P. (2006). "The Importance of Governance in Risk Reduction and Disaster Management." *Journal of Contingencies and Crisis Management* 14 (4) (December):207–220. DOI: 10.1111/j.1468-5973.2006.00497.x
- Amangabra, G.T. & Obenade, M. (2015). Flood vulnerability assessment of Niger Delta States relative to the 2012 flood disaster in Nigeria. *American Journal of Environmental Protection*, 3(3), pp. 76-83, 2015.
- Ashley M. et.al (2011) Climate Change Adaptation in Nigeria: Key Considerations for Decision Makers March 8, 2011
- BNRCC, (2011) National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN). ISBN 978-0-9878656-4-9
- Dalil, M. et. al. (2014) An assessment of flood vulnerability on physical development along drainage channels in Minna, Niger State, Nigeria. *African Journal of Environmental Science and Technology*. DOI:10.5897/AJEST2014.1815
- Edino, M. (2019) The first 100 days of the Ministry of Humanitarian Affairs. Punch News of 29th November 2019
- First National Communication (FNC, 2003) Under the United Nations Framework Convention on Climate Change. The Ministry of Environment of the Federal Republic of Nigeria. Abuja 2003.
- Frank M., Volker M. (2005) Flood damage, vulnerability and risk perception – challenges for flood damage research UFZ–Umweltforschungszentrum Leipzig–Halle Department Ökonomie Permoserstr. 15 D–04318 Leipzig Tel: +49 341 235–2204 bzw. –3263 Fax: +49 341 235–2825
- Ikusemoran, M. Kolawole M. S., Adegoke K. M. (2014) Terrain Analysis for Flood Disaster Vulnerability Assessment: A Case Study of Niger State, Nigeria
- IPCC (2007) IPCC, M.L. Parry, et al. (Eds.), *Climate Change 2007: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press (2007), p. 976
- Kron, W. (2005). *Flood Risk = Hazard • Values • Vulnerability*. Munich Reinsurance Company, Munich, Germany. *International Water Resources*

Association Water International, Volume 30, Number 1, Pages 58–68, March 2005.

Lassa, J. (2010) Institutional Vulnerability and Governance of Disaster Risk Reduction: Macro, Meso and Micro Scale Assessment (with case-studies from Indonesia). Dissertation from Hohen Landwirtschaftlichen Fakultät der Rheinischen Friedrich-Wilhelms-Universität Zu Bonn.

López-Marrero, T. and Tschakert, T. (2011) From theory to practice: building more resilient communities in flood-prone areas; *Environment & Urbanization* Copyright © 2011 International Institute for Environment and Development (IIED). Vol 23(1): 229–249. DOI: 10.1177/0956247810396055 www.sagepublications.com.

Nabegu, A.B. (2012). Analysis of Vulnerability to Flood Disaster in Kano State, Nigeria. *Greener Journal of Physical Sciences*, ISSN: 2276- 7851 ICV 2012:5.88

NEMA, (2010) National Disaster Management Framework (NDMF)

Oladokun, V. and Proverbs, D. (2016). Flood Risk Management in Nigeria: A Review of The Challenges And Opportunities <https://www.researchgate.net/publication/312636471>

Reddy, M. (2017) An Integrated Disaster Risk Assessment Model for Local Government in South Africa. A thesis submitted for the degree Doctor of Philosophy in Public Management and Governance at North-West University.

Sayers, Y. L.i, Galloway, G., Penning-Rowse, E., Shen, F., Wen, K., Chen, Y., & Quesne, T. L. (2013) Flood Risk Management: A Strategic Approach. Paris, UNESCO.

Second National Communication (SNC, 2014) Under the United Nations Framework Convention on Climate Change. The Ministry of Environment of the Federal Republic of Nigeria.

Schneider, S.K. (1992) Governmental Response to Disasters: The Conflict between Bureaucratic Procedures and Emergent Norms. *Public Administration Review*, Vol. 52, No. 2 (Mar. - Apr. 1992), pp. 135-145. American Society for Public Administration

Smit, B., and J. Wandel. 2006. Adaptation, adaptive capacity and vulnerability. *Global Environmental Change* 6:282-292. <http://dx.doi.org/10.1016/j.gloenvcha>.

Sommario, E. and Venier, S. (2018) Disaster Risk Reduction: An International Law Perspective Human Rights Law and disaster risk reduction

- UN, (1995) United Nations Commission on Global Governance report Our Global Neighborhood. <http://www.gdrc.org/u-gov/global-neighborhood/chap1.htm>
- UNDRR, (2019) Disasters Are a Threat to Human Rights. Advocacy & Media. Geneva 2019.
- UNDP, (2004) Reducing Disaster Risk: A Challenge for Development <http://www.undp.org/bcpr/disred/rdr.htm>
- UNDP, (2013) Issue Brief: Disaster Risk Governance UNDP's Bureau for Crisis Prevention and Recovery One United Nations Plaza New York, NY, 10017 USA www.undp.org/cpr www.preventionweb.net January 2013
- UNDP, (2017) Strengthening Disaster Risk Governance. Support during the HFA Implementation Period 2005-2015.
- UNISDR, (2004) Disaster Risk Reduction, Governance & Development. *UNISDR Africa Educational Series Volume 2, Issue 4, December 2004.*
- UNISDR, (2013) Implementation of the Hyogo Framework for Action. Summary of Reports 2007–2013
- UNISDR, (2015a) Global Assessment Report on Disaster Risk Reduction 2015.
- UNISDR, (2015b) Sendai Framework for Disaster Risk Reduction 2015 - 2030.
- Varma, A. (2017) Sexual and Reproductive Health and Rights: Key to Building Disaster Resilience. *The Asian-Pacific Resource & Research Centre for Women. ISBN 978-967-0339-35-1 201 7*
- Williams, G. (2011). Study on Disaster Risk Reduction, Decentralization and Political