

**FLOODING IN NIGERIA AND SOME OTHER JURISDICTIONS:
FINDING A SOLUTION TO THE LEGAL QUESTIONS***

Abstract:

Flood is a natural hazard but can be prevented or checked from graduating into a natural disaster. It may also arise by global warning, but the disaster is caused more by the people's activities and dearth of adequate environmental policy by the government. The government of Nigeria has suffered the debilitating effect of flood, while some states in Nigeria have shown some positive concern that is long term, placed to ameliorate it; some other states adopt temporary and panicking measures. Flood has also ravaged many countries of the world and has caused economic and social losses. The Federal Government has not done enough in tackling floods in spite of the efforts of the Ministry of Information and National Orientation Agency. This paper examines all the vexed issues and shall attempt a remedy.

Keywords: Flooding, Legal Questions, Solution, Nigeria, Some Other Jurisdictions

1. Introduction

It is a truism that flooding is a bad index and negatively impacts on development and good town planning in every country. Its devastating effect has quadrupled and has given a big concern to mankind. It has negatively affected all facets of growth and development and the world is not resting towards finding a solution or to at least ameliorate the ugly effects of flooding. 'Flood flood flood everywhere', were the words of a child in Kogi State, Lokoja, Nigeria after watching how flood caused collapsed of buildings. In Nigeria, it has become a yearly recurring decimal in other jurisdictions. There are many enactments and Agencies, both international and local on flooding and environmental management. We have in Nigeria, the National Emergency Management Establishment Act¹, The Federal Environmental Protection Agency², State Emergency Management Agency³, Local Emergency Management Agency⁴, National Commission for Refugee, National Environmental Standard⁵ and Regulations Enforcement Agency⁶ which by 2009 Nigerian Acts supersedes the FEPA. The Nigerian Metrological Agency⁷, Nigerian Hydrological Services Agency⁸ etc. N E M A is basically the coordinating body for disaster management in Nigeria. They collaborate with SEMA towards the distribution of relief materials to disaster victims within states and local government areas. There is also the National Orientation Agency⁹ which educates the people on the causes, effect and remedies of flooding.

2. Types, Causes, Examples, and Effects of flood and Flooding

Types

The following are types of flood: Upstream flood, Flash flood¹⁰, Downstream floods, Coastal flooding, Fluvial flooding¹¹ and Pluvial flooding

Causes

- Poor attention to flood modeling and assessment to vulnerability of water flow.
- Weak institutional framework towards addressing the threat of flooding, for example, Nigeria.
- Lack of adequate data on flood history to act as a guide.
- Insufficient research on flooding.
- Governments lackadaisical attitude towards flooding.
- Poor education of the masses on flooding.
- Heavy rains sometimes combined with melting snow which causes rivers to over flow their banks.

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¹ N E M A, LFN, 2004

² F E P A

³ S E M A

⁴ L E M A

⁵ N L R

⁶ N E S R E A, Establishment Act, 2007.

⁷ N M A

⁸ N H S A

⁹ N O A

¹⁰ Bakar, M.H.N (2009) Trans Boundary River Floods; Examining Countries, International River Basin and Continents Water Policy IWA Publishing p. 271 – 272.

¹¹ Bariweni P.A e tal, op.cit, p. 39.

- Many streams are scenic features to live near. The more people settle and build in flood plains, the more damages flooding will do.
- Building in a flood plain can lead to increase in flood height¹².
- Flooding may be caused from building process, less asphalt and concrete covering the ground.
- It can be caused by poorly constructed or mismanaged dam as the size of a dam is a function of the quality of the water to be retained and the usage¹³. The Ogunpa River in Ibadan, Oyo State which was completely flooded and caused the damages of several properties when the Eleyele dam was over flooded and striking workers released water gradually calls to mind.
- It is caused by deforestation of the forest belt near the rivers.
- Flooding may also be caused by climate change.
- Snow melt can also cause flooding because of global warming.
- Flooding also occurs in coastal area because they have high tides or storms. Flooding is also caused by storms¹⁴.
- Lack of planning for the next flooding year can exacerbate flood.

Examples (Scenario) of Flooding

Some residents of Oyo, Ekiti, Adamawa, Gombe, Bayelsa and Osun States in Nigeria also counted their losses after rains pounded their communities and their government started taking panicking measures to prevent such destructions¹⁵. The Director-General of Nigeria Hydrological Services Agency, Mr. Clement Eze had while presenting the 2019 Annual Flood outlook in Abuja on August 7, placed fifteen states in Nigeria on the alert, and asked their residents to get prepared for massive flooding and their government to be ready to save their people from the impending disaster¹⁶. These states are: Niger, Lagos, Edo, Imo, Abia, Jigawa, Adamawa, Cross River, Oyo, Enugu, Kebbi, Nasarawa, Delta, Rivers, Bauchi and Federal Capital Territory. Unfortunately, most of the affected states did not do anything to this effect. In Delta State in 2019, the flooding was serious and affected Ndokwa East towns like Inyi, Ugbolu in Oshimili North, Oko in Oshimili South and other riverine areas like Ijaw, Burutu and other parts of the state¹⁷. In Ekiti State, the government has begun dredging of rivers and marking houses for possible demolition because of flooding, particularly Ado Ekiti¹⁸. In some parts of Oshogbo, Osun State, flooding has worsened as experienced by residents of Gbodofon, Onirodunu, Barhwa, Woleola.Estate¹⁹. In Bayelsa State communities in Ekeremor, Southern Ijaw, Sagbama, Yenogoa and Ogbia local government areas suffered the impact of flood in 2019²⁰. Also, residents in Kolakuma/Opokuma, Nembe and Brass also experienced great flood between June – August, during rain fall. Flood has also washed away the three Adamawa communities and it has wreaked havoc and destroyed farm lands in five local governments’ areas of the state, most especially in the Yola North, and it left six people dead in August 2019²¹. Yolde, Pate, Jambutu and Yola towns are among the areas worst hit. Gombe State is not sensitizing people so 2,200 people lost their farms and over 700 farms were swept away by flood. In Dukkun, 500 in Nafada and 100 in others, in Funakaye as was reported by the Deputy Director, Relief and Rehabilitation Gombe State Emergency Management²². The N E M A boss, D.G. Mustapha Manhaji has reported that a lot has been achieved by N E M A and other agencies and have continued moves to prevent re-occurrence of floods across the country. That the agency was working with the Federal Ministry of Environment²³. That the Agency, in collaboration with the Federal Ministry of Environment made a joint presentation to the National Economic Council in early 2018, and the Council noted and considered the need to set in motion plan and procedure to prevent or mitigate future floods²⁴.

The scenario of flood devastation is not peculiar to Nigeria, but to all other jurisdictions, Asian countries like India, China, Japan, Philippines, Thailand, Korea, Indonesia, Sri-Lanka, Pakistan, Afghanistan, Uzbekistan,

¹² In Nigeria’s Coastal States like Lagos, Ondo, Rivers, Bayelsa, Delta, Akwa Ibom, etc.

¹³Whenever the Cameroun Dam is full and over flows, the Dam is open and the water is released and it causes flood in Nigeria.

¹⁴There was the Hurricane Katrina in the U.S. which caused flooding that destroyed much of New Orleans, Mississippi, Alabama, Louisiana and about 1,300 people died and other devastating ones like Galveston Texas hurricane. in 1900 and Okeechobee hurricane of 1928 in Florida.

¹⁵ Ibid.

¹⁶ Ibid

¹⁷ Ibid

¹⁸ Ibid

¹⁹ Ibid

²⁰ Ibid

²¹ Ibid

²² G O S E M A.

²³ Op.cit

²⁴ Ibid.

Mongolia, Nepal, Bangladesh, and others were hit by deadly flood disaster and are still hit. The one is South East Asia led to the death of 139,580 persons in 2011. Also more than 300 deaths were recorded in Haiti²⁵. That of Pakistan in 2011 affected children²⁶ more. In America, a major rain fall that lasted from 28th -30th March 2010 led to the worst flooding in the history of Phodes Island or Phodes County – Warwick, Cranston Johnston and Massachusetts were declared emergency disaster zones²⁷. The floods in middle Tennessee, West Tennessee, South and Central and Western Kentucky and Mississippi between 1 -2 may affected areas for several days and resulted in number of deaths²⁸. In the Mississippi in 2011 there were floods in Missouri Illinois, Tennessee, Aransas, Mississippi and Louisiana states in America heavy rainfall, several thunderstorms and flash, flooding affected several Midwest States of America in 2010. The state of Colorado experienced flooding in September, 2013²⁹. Flood disaster has the effect of destabilizing and displacing people. The May 2010 flooding in Tennessee, U S A led to a number of deaths and widespread of property damaged. The flash floods of September 2010 in Minnesota and Western U S A put homes under water and forced the evacuation of people³⁰. Back to Nigeria, the flood in some States washed away several kilo meters of the roads across towns. A bridge to the University of Sokoto, connecting seven local government areas was destroyed by flood³¹. Flood destroyed the connecting seven local government areas to Sokoto town.³² Flood destroyed the bridge that linked Kebbi State. In 2012, there was total flooding everywhere in Lokoja and Kogi States.

Effects (Menace) of Flooding

- i. Flooding leads to the individual's death, accident, sickness and health hazards.
- ii. Damage to properties and other valuables, like certificates, gold and diamonds etc.
- iii. Damage and destruction of crops and livestock, as it happened in the northern states of Nigeria and human security.
- iv. Damages to buildings and resurfacing.
- v. Displacement of people from their ancestral homes to become refugees in IDP Camps, amidst it psychological and sociological effects.
- vii. Environmental degradation, climate change and global warning.
- viii. Pollution of water which causes health hazards and death.
- ix. High cost of living.
- x. Damages to peoples psyche e.g. their graves and heritage. This makes them to become sentimental as it affects people, ethos, nuances, beliefs, values and idiosyncrasies.
- xi. It has adverse effect on building and town planning.
- xii. It blocks free flow of water ways and plains.
- xiii. It leads to slums everywhere.
- xiv. It displaces man and his environment.
- xv. It affects a nation's economy adversely as there are great financial losses.
- xvi. Damages to roads, curvets and it disrupt free flow of traffic³³.
- xvii. It renders people jobless, most especially people engaged in agriculture and road construction
- xxiii. Children are principally worse hit as they develop sicknesses and become naturally uncomfortable, more at night.
- xxiv. The Nigerian Metrological Agency³⁴ has posited that the unfavourable weather conditions are largely due to the increasing global greenhouse emission, leading to an increase in the global average air temperature of the earth by ice. and thus, making it hotter than it was at the start of the 20th century, and this will continue beyond 2020.
- xxv. It leads to lack of access to basic health, famine, poverty, unemployment, violence, crime, terrorism, domestic violence, child labour, human right, abuse and national insecurity.
- xxvi. Hurricane Irma damage was caused by flood in the U S.

²⁵ www.haitisupport.gn.apc.org. accessed 10 June, 2020.

²⁶UN office for the Coordinator of Humanitarian Affairs says 5 million people are affected. The UNICEF says children are the most vulnerable up to 2.5 million children have been affected.

²⁷W.A Adebayo. Environmental Law and Flood Disaster in Nigeria. The Imperatives of Legal Control. *International Journal of Education and Research*. Vol. 2. No. 7, July 2014, p. 456.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ *The Nations Newspaper*, Wednesday, 13th October, 2010,p. 24.

³² Ibid.

³³The flood in Sokoto State washed away several kilometers of the access road and a bridge to the University of Sokoto, and also affected seven Local Governments, as reported in the Nations Newspaper, Wednesday, 13th October, 2010.

³⁴ NIMET.

xxvii. Too much flood leads to poor harvest of farm products.

Medical Effects of Flood:

Floods have caused a lot of natural disasters and have medical, social, economic and environmental consequences. Both positive and negative and they consequences vary, depending on the location and extent of flooding, as well as the vulnerability and value of the natural and constructed environment they affect. Flooding has killed many people, with some arising from drowning in rivers and most of the deaths arise from drowning or physical deposits, attacks, electrocution, carbonmonozide, poisoning. Water borne diseases are caused by pathogen micro-organisms that are transmitted into water. Diseases can be spread while bathing, washing, drinking water or by eating food exposed to contaminated water, with diarrhoea and vomiting as the most prominent examples, and they affect children in developing countries. Water-borne diseases, such as dengue, typhoid fever, cholera, laptospirosis and hepatitis. A diarrhea, giardia and cryptosporidium, dysentery, salmonella, Escherichia coli³⁵ Hypothermia may also be a problem, particularly in children if trapped in flood waters for lengthy period. There may also be an increased risk of respiratory tract infections due to exposures (loss of shelter, exposure to flood waters and rain)³⁶.

3. Other Impacts of Flooding in the Globe

In Western iowa, the citizens suffered severe impact. Property worth over 2.9 billion dollars got damaged in 2019. In India, over 2000 people died of cyclone and flood in Bangladesh in 1970's. Another in 2004 and covered 50% of the country at their peak. In the U.S, floods are responsible for 90% of US natural disaster. It killed 95 people a year on the average and has great economic impact. Between 1980 and 2013, it has suffered loss of 260 billion dollar in flood-related damage 2,500 chemical sites located in U.S. In the U.S., repairing and replacing flood drainage roads, bridges and other utilities and other infrastructures cause FEMA about and 48.6 billion between 1998 and 2014³⁷. Wetland in the U S gave more than 30 billion dollars in annual flood damage repair cost³⁸. Flooding killed 116 people in the U S, Pennsylvania in 2019. America has seen 20% increase in the heaviest down pours with a changing climate. The size of the nation's flood plains will grow by 40 – 45 % over the next 90 years, putting more people in harm's way³⁹. Damages from flood loses have increased to an average of ten billion per year deposit of billions of dollar investment in flood control⁴⁰. In 2011 alone, there were 58 Federal Flood Disaster Declarations, costing over 8 billion dollars and caused 113 deaths, both exceeded the 30-year average⁴¹. It is a truism that life can do fail often with catastrophic consequences⁴². Urban flooding poses a distinct kind of flood management problems because early cities were established along rivers and coast facilitated trade and transport, people and goods and commerce and industrialization attracted people to the plain in the mid 19 century. The major impact on marines' environment can be sedimentation and turbidity: human built waste deposited from the land toxins, nutrients and channeled depositions⁴³ or residual pollution may have a negative effect on the reserves wildlife⁴⁴. When a river is drained, water is displaced and surrounding dry areas are flooded. Often, the result is the displacement of local populations and liability to use land previously accessible. Loss of forest land also slows the water of carbon dioxide⁴⁵. In the U S A, there is fatality i.e. loss of many lives, FEMA estimates 48.6 billion dollars spent between 1992 and 2011⁴⁶. Storms and floods prompted emergency declaration in Washington⁴⁷. The loss of lives in the floods of Iowa⁴⁸, Great Mississippi 1927, Johnston flood in 1989, Colorado in 2013 and Australia, still call to mind, with great fatalities and their attendant effects, i.e. social, economic and environmental. It of cause has negative and positive effects. There are long lasting and short term stress and trauma during and after flood. For example, it leads to cancellation of bookings and a significant reduction in tourist number⁴⁹. Still on effect, to decrease rising temperature, humanity must also remove by 30 years worth of carbon dioxide from the atmosphere by 2100 by planting massive quantities of tress. Hurricane Irma damaged 50 billion-

³⁵ 'Medical Consequences of Flood' Rotimi Adesanya, Punch Newspaper, Friday, October 25, 2019, p. 18.

³⁶ Ibid.

³⁷ Ibid.

³⁸ www.americarivers.org. accessed 10 April, 2020.

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ <https://www.ocena-water.org>. accessed 31 March, 2020.

⁴⁴ <https://sciencing.com>

⁴⁵ Ibid.

⁴⁶ <https://www.nrda.org>. accessed on April, 10, 2019.

⁴⁷ Floodlist.com>America>USA. accessed 31 March, 2020.

⁴⁸ <http://en.m.wikipedia.org>. accessed 31 March, 2020.

⁴⁹ Apan A. Keogh D.M King, D Thomas M. Mushtagils and Baddilan, (2010). The 2008 Vulnerability, Resilience and Adaptive Capacity, Report for the National Climate Change Adaptive Research Facility, Gold Coast.

dollar properties. The Tsunamis Japan and in South Western Haiti causes over 3,000 deaths⁵⁰. Flood disrupts the ecosystem. It displaces existing wildlife system. Also, marine life that relies on the unobstructed flow of the river, such as salmon and other migrating fish can be adversely affected.

In Ghana, flood has destroyed lives and properties, including crops. It had led to soil erosion and loss of soil fertility and waterlogged land or soil⁵¹. In India, the impact is devastating and she is one of the most disaster-prone countries of the world with hydrological (water related) disasters. There is great flood in Kerala, known for Banana production, Mumbai and Bangalore (capital of the state of Kanataka) and Chennai. Flood accounts for more than half of climate related disasters in India and have the country over 50 billion US Dollars since 1990. According to research by the Asian Development Bank, India had 278 floods from 1980-2017 affecting 750 million people with 58.7 US Billion Dollars losses⁵². Flood has pushed the poor in India into a death trap and further poverty⁵³. In South Africa, has resulted in unprecedented destruction and disruption of service delivery, displacement of people, and loss of lives and livelihood. Over 200 people were affected by flood and 40 deaths recorded⁵⁴. In Madagascar, there were great flood and landslide across the country leading to loss of lives in 2011. 3000 people were displaced and 47,000 people affected, according to Echo Report of 24th January, 2020⁵⁵.

4. The Effect of Corona Virus on Flooding

Corona Virus, known as Covid-19 has great impact on Urban and Rural Communities. Many people, like in Mississippi river, cities and towns are still waiting for funds from NEMA for last year flooding in the U S. They are basically in the red now. There have been large agricultural losses in the mid-west due to flooding. Covid-19 prevented farmers from assessing their farms and checking flooding. The fields were flooded and planting season delayed as a result of the pandemic and lock down orders by government. Many farmers could not receive input like fertilizer because they could not transport those materials in the riverine. Many small scale farm owners do not have the cash reserve, access to capital or insurance policies to cover these losses. Even people like the elderly who have to be evacuated and those who have special needs have the problem of lack of capacity of Emergency Managers to keep people safe from both the virus and climate impact. Climate extremes have become more severe and frequent, and have great chances of coinciding with covid-19, as can be gleaned in California. Social distancing and covid-19 protocol rules greatly affect peoples' efforts to check flooding⁵⁶. Covid 19 affects over-burdening health care system, budget and supply chain. It is notable that disasters do not stop for a virus. There are flood crises in Yemen, Republic of Congo, Afghanistan, Venezuela. Ethiopia, South Sudan, Syria, Nigeria and Haiti, ravaging as a result of Covid-19⁵⁷. It is remarkable to note that flooding won't stop for corona virus pandemic⁵⁸. The flooding in the globe are not on hold because the world is facing a health crisis, covid 19. Climate change is loading the weather dice against the world⁵⁹.

5. The Positive Impact of Flood

First, when the water spills over into land that does not normally have the normal water intake, it brings along sediments and soils which are good in nutrients for the ground and this helps replenish the soil and encourages flora growth. Though a natural calamity, flood is good to the environment, it can recover and refresh the nature by its own law. Methane has ten times the atmosphere warming capacity of carbon dioxide and it is the most effective green horn gas for global warming, wetland and produces above one-quarter of the earth's atmosphere methane through their anaerobic decomposition of organic matter. Furthermore, hydropower provides 19% of the world's supply of electricity that is clear enough. Floods if properly stored, dams and lakes can reduce water crises. It can also flourish⁶⁰. Flood presents, erase and maintains land mass elevation above sea level⁶¹. Flood water leads to current water which is maximized by hydrodynamic spreading and water movement also helps

⁵⁰ www.haiti.support.gn.apc.org. accessed 19 April, 2020.

⁵¹ <https://www.graphic.com>>accessed 10 July, 2020.

⁵² International Disaster Data Base EMDAT 12018.

⁵³ Unenvironment.org. accessed 10 July, 2020.

⁵⁴ <https://reliefweb.int>>disaster in January 2011. accessed 10 July, 2020.

⁵⁵ <https://www.aljazeera.com.news>. accessed 10 July, 2020.

⁵⁶ <https://www.eesi.org>. accessed May 30, 2020.

⁵⁷ <https://www.bbc.com>>news, accessed 25 April, 2020.

⁵⁸ www.propublics.org., accessed 11 July, 2020.

⁵⁹Says Katharine Hayhoe, a Professor of Public Policy and Law at Texas Tech University, and one of the World's foremost Scientists.

⁶⁰Reports of Geological Society with approximately 3,600 tera watt house generated annually. <https://sciencing.com>. accessed 20 April, 2020.

⁶¹The rapidly receding land of the Mississippi River delta is a direct result of flood dump soil and prevents top soil sediment from being deposited.

replenish axiomatic (absence of oxygen) or hypoxia (low level of oxygen) water with oxygen rich water such as the Nile, the Tigris, flood results in fertile productions. Flood recovers natural fish stuck and provides nutrients to other wetland. Flood deposit river sediments over large areas of land. The river sediments replenish nutrients over large areas of land in top soil and makes agricultural lands more fertile. It plays important roles in maintaining key eco system functions and bio diversity. Flood revives ground water which is free of water. Flood recovers wetland for it balances health of ecology of the wetland⁶². It is a breeding ground for fish nursery and for large fish population. It is no doubt beneficial for the eco-system as well as related bio-diversity of park in many ways. It helps in maintaining of vegetation and soil formation. Annual floods, plus annual burning of the grass lands are two factors which influences, the vegetation of parks. It is responsible for creating different site conditions and soil formations and different type of vegetation. It returns nutrients to the soil. They distribute and deposit river sediment to over large areas of land. These river sediments replenish nutrients in top soil and makes agric land more fertile⁶³.

6. Measures to Tackle the Challenges of Flooding

Floods have been tackled via several actions – including physical intervention, legislation and policy formulation creation of awareness of flooding, urban renewal and development, engineering structures such as dams, bridges and drainage system, re-location of human population during flooding and assisting flood victims with basic humanitarian needs⁶⁴. Institutional Approach: it started in the 60s with Federal Ministry of Works via the establishment of the Federal Environmental Protection Agency⁶⁵ as later Federal Ministry of Environment. In 1999, whose function is to study flood potentials, as well as design, determine, develop and or/either size the development of appropriate flood deduction measures for the country. Later we had the NEMA, SEMA, LEMA, National Orientation Agency (N O A), National Commission for Refugees, NCR, NESREA, NIMET, NIHSA, NIST. NEMA is the coordinating body for disaster control. The protection and development of the environment, a measure that helps keep check flooding is the function of NESREA. This Agency enforces all environmental laws, guidelines, policies, standard and regulation in Nigeria as well as enforcing compliance with provisions of International Agreements, Protocols Convention and Treaties on the environment to which Nigeria is a signatory. NIHSA provides reliable and high quality hydrological data on country basics of the nation's water resources, including time and space extent, dependability and quality. NIMET furnishes the country with weather reports and other metrological information, issues, and alerts and early warnings and forecast on impending flood disaster in the country. There are humanitarian agencies who play very significant roles in checking flooding in Nigeria. They have been very relevant since the 30s in the Ogunpa flood, Sokoto-Rima, Banguade flood disaster⁶⁶. There are also international federation like the Red Cross⁶⁷, United Nations World Bank, Foreign Countries, including U.K, United States, China, Japan, France, and other religious organizations in the Catholic, Anglican, Pentecostal Churches and missionaries⁶⁸. Impact assessments are being carried out, though not comprehensive. Land use, urban development, industrial activities and water management are being coordinated. Buildings put up in flood prone areas, blocking the water ways and plains are demolished. Nigeria has particularly shown some concern for flood prevention.

7. Legal Questions Appurtenant to Flooding

Alan was correct when he opined that flood management demands an institutional and sectorally based problem for legal framework. He concludes that consolidation of this approach and advances in human right approach will be beneficial⁶⁹. The law relating to flooding cuts across many areas e.g. disaster management and emergency response, civil defences, water, urban planning, coastal zone and management and land use. This legislation cuts across institutions. People generally believe that flood is bad and cause loss of lives. The legal issues include hazards. There are different types of flooding. Another is problem of data. Hazard maps do not include inundation of areas in the event of dam failure. The duration, velocity, extent and depth of flood events can be influenced by a number of anthiisopogenic factors, which include land use within the flood zone. Furthermore, while flood hazards may be affected by direct anthropogenic activities, the indirect effect of humanity is also manifested

⁶² Some Positive Effects of Flood: Motundelin Zakarif. The Daily Star Newspaper, August 6, 2011, p. 12.

⁶³ www.thedailystar.net/flood, some positive effects. accessed 21 April, 2020.

⁶⁴ (Federal Ministry of Environment) 2012, Bulletin on Geological Disaster, Abuja, Nigeria.

⁶⁵ Olorunfemi F.B (2011) Managing Flood Disasters Under a Changing Climate, Lessons From Nigeria And South Africa. MSER Research Seminar Series, MISER, Ibadan. 40, op.cit.

⁶⁶ Ani S.C (2004) Effective Survival Measures Against Natural Hazards in Settled Areas in Zambia, Uchegbu and L Muoshelu, Management of Environmental Problems and Hazards in Nigeria. England, Ashgate Publishing Ltd.

⁶⁷ IFR D

⁶⁸ <http://www.unocha.org>. accessed 20 May, 2020.

⁶⁹ Alan A. (2017) Legal Aspects of flood Management in Asrisu – Clarke, A. Alan, & S-Hadry Education Routledge, Handbook of Water Law and Policy (chapter 10) United Kingdom Routledge

through climate change. The toxicity of flood risk is another issue. It is the severity of a particular event, with the probability of its occurrence as mediated by the social vulnerability of the affected population. National flood vulnerability is another question. The problem of prevention of floods, mitigation, preparedness response and rehabilitation/recovery are legal questions which call for critical handling of human right legislation which is increasingly important⁷⁰. Flood causes environmental insecurity. People are not protected during flood; it causes loss of lives, properties and other vices. The constitution of Nigeria provides for security of all the citizens' property, by virtue of section 43. One's fundamental right to life, to own property is guaranteed⁷¹. It's environmental or on security may fall on the impact of human conflicts and international relations on the pronouncement on environmental problems across state borders. Degradation of the environment constitutes national and international security risk, and the impact of the environment, including biological diversity, climate change and desertification, which encompasses global warming, land degradation, deforestation and loss of vital resources like land, agricultural and water, which are very important for our well-being, and this is a threat to national security⁷². Security is a condition or feeling of safety provided by the International Human Right and in the Universal Declaration of Human Right⁷³. International Bill of Human Rights or Covenant, consisting the International Covenant on Civil and Political Rights and International Covenant on Economic, Social and Cultural Rights intended to make human beings Secure freedom in dignity, with equality through the protection of their basic human rights⁷⁴. There are health issues noticeable in the Niger Delta Region of Nigeria because of pollution, degradation of farm lands and water, and this is overtly in breach of section 20 of the 1999 Constitution⁷⁵ which calls upon the States to protect and improve the environment and safeguard the water, air and land, forest and wildlife⁷⁶. Environmental security is part of the national security as the environment is connected to national security⁷⁷.

8. Conclusion and Recommendations

There is a general consensus that flood is a natural phenomenon and cannot be totally stopped but checked. It is an annual event all over the world, but it has become a disaster when not well managed. In fact, to some exponents, it is a nuisance, while others see it as a necessary evil. This article examined the causes and effect of flooding in Nigeria and other jurisdictions, measures taken to check flood and examples of flooding in some selected countries of the globe, including legal consequences of flooding. It concludes with the fact that flooding does not only have negative impact, but positive effects. If the recommendations proffered are adopted, flooding would have been checked and its nightmare would be a thing of the past. The following will serve as palliatives to check flooding in Nigeria and other jurisdictions. Town Planners are advised to do their work by inspecting sites and approving plans for only certified buildings and ensuring that they are approved before the buildings are constructed. The Ministry of lands should not approve buildings on water ways or flood plains. There should be serious sanctions and demolitions of illegal structures blocking the water ways. Adequate provisions should be made in all countries' budget for flood prevention and management. Concrete legislation and national policy on flooding are needed to checkmate menace. Any Protocol, covenants, or Declarations on flooding which Nigeria is a signatory, should be respected. NEMA and SEMA should be overhauled with more powers instilled, with more professionals recruited, with sufficient funds appropriated for result, e.g. NEMA Act deals generally with natural disaster, without any special provision to tackle the menace of flooding. It however scantily refers to the issue of flood in sections 8 (a) and 26 respectively. Nigerian government should domesticate the United Nations, Framework Convention on Climate Change, signed in Paris, on 22 September, 2016, as the Convention made a holistic provision for the environment. More research should be embarked on flooding, its prone areas, occurrence, re-occurrence, with a view to arresting same. Planting of trees should be encouraged by the government as a measure to check flood. The services of experts should be sought in weather assessment for better predictions. More enlightenment by relevant agencies, e.g. the press, and others should be given to the public. Demolition of illegal structures in flood prone areas and stoppage of construction of new ones should be embarked on with vigour.

⁷⁰ *Marcic v. Thomas Wate* (2003) 35 GHRR, 26.

⁷¹ See sections 33, 35 & 43 of CFRN, 1999 (As amended), Chapter II on Fundamental Objectives and Direct Principles of State Policy. All should include flood-related matter.

⁷² Okwy Iroegbu – Chikezie. Environmental Degradation. Threat to Security', (Lagos, the Nation Newspaper, Jan, 22, 2013, <http://thenactiononlineng.net/environmental-degradation-threat-to-security>. accessed in 17 February, 2017.

⁷³ Nigeria and Cameroun have had disagreements whenever the Dam in S/Cameroun over flows and it is opened. It flows into Nigeria and there is flood everywhere. The Universal Declaration of Human Rights, signed 10 December, 1948, GA Res 217A (111) UN Doc A/810 (1948).

⁷⁴ See Article 28 of the Universal Declaration of Human Rights.

⁷⁵ Environmental Consequences to National Security, C.F.R.N 1999 (As amended).

⁷⁶ However, the gap created by S. 6 (6) of the Constitution has been filled by the African Charter on Human and Peoples Right, Article 24 which has been domesticated by Nigeria.

⁷⁷ K. Sanjeev 'From the Environmental & Human Security to Sustainable Security Development'. *Journal of Human Development* 4 (2) 2003, 289-313, 293.

There is need for rigorous environmental impact assessment of project. Flooding, cause, effect and measures should be included in the curricular of tertiary institutions with academics encouraged to pursue doctorate research programmes. There should be adoption of more scientific approach to flooding, as flood modeling can play a role in flood risk reduction in Nigeria. All states in Nigeria must prepare flood hazard risk maps as it will strengthen existing institutional framework, amongst the states and country. Nigeria should train security personnel's on the impact of flood like in the Hurricane Katrina in the U S. Flood insurance will go a long way to rehabilitate and ameliorate the problems of flood victims. There must be good will by the government to see flooding as environmental and national security. There should be adequate training and retraining on flood management. We should discourage deforestation near the rivers to check flooding. We should also be interested and educated on climate change to check flooding, as there could be rise in temperature as a result of global warming. Government and experts should monitor storms as they can cause flooding, as they did in 2015 Hurricane Katrina in the U S, the third deadliest Hurricane in the history of U S. There should be chlorination of water ensuring uninterrupted provision of safe drinking water which is the most important preventive following flooding in order to reduce the risk of outbreak of water-borne diseases, including vaccinations against Hepatitis A are more involved in the management of drinking water, waste water, or sewage. The government should consider water proofing with electric in some homes and businesses where necessary. There should be introduced water storage by introducing flow alleviation scheme. Just like the U S, let the Federal Government of Nigeria Offer to buy out flood-prone properties in order to prevent repeated disaster. Even some rich States can. Let Nigerian government emulate Kyoto, Japan, where the Hate Clan successfully controlled floods in the Ktsurg River in about 500 AD by constructing a sluice on the Kazuno River. London is protected from flooding by a huge barrier in River Thames. The United Nations needs to come out with legal policies towards overcoming disaster associated with floods. It is also pertinent that the climate change convention and the ones relating to the ozone layer depletion should be reviewed to accommodate measures that will affect the issue concerning flooding.