

Combating the menace of flood disaster in Nigeria

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Abstract

Background: Flood, which is the surge of large volume of water beyond the open soil capacity to absorb, can be caused by heavy rainfall, hurricanes or lack of proper drainage system in affected areas. It is a recurring phenomenon that causes devastating impacts on human life, animals and infrastructures of the affected nation. How to mitigate the menace of floods in Nigeria will be the focus of this review.

Method/Result: The paper identified that floods have cause menace such as maiming and/or deaths of humans and livestock, homelessness, and destruction of infrastructures and of farm lands etc., to so many societies in Nigeria. Some of the pictures of past floods occurrence in Nigeria were shown to illustrate the impacts of the flood menaces. These menaces of flood disaster can be prevented with effective measures like planning and adoption of effective mitigation measures in flood prone areas. Such measure include relocating villages and the people leaving in floods prone areas to up land areas.

Conclusion: The author concluded that preventing flood is a necessary and urgent need in Nigeria, particularly in prone areas. Achieving this will go a long way in preserving human life, livestock and social infrastructures.

Key Words: Flood, Menace, Disaster, Nigeria.

Introduction

Flood is the surge of large volume of water beyond the open soil capacity to absorb it.^[1]

It is responsible for about half of disasters worldwide and 84% of deaths due to disasters.^[2] Hence, it is a devastating natural or man-made disaster with the potential to

destroy human life, animals, properties and food crops. In addition, many hectares of farm land have been destroyed by flood in almost all parts of Nigeria. When it comes to flood, no one is spared as the flood doesn't know the difference between the haves and the have nots.

Causes of flood

Among the natural causes of floods are heavy rainfall, overflowing rivers, storm surges like hurricanes etc. Man-influenced causes of floods through non-construction of poor construction of drainages, deforestations, poor maintenance of dams/levees, human habit of pouring garbage in drainages and dams etc. Broadly, the causes of flooding are grouped into 3 :

- global warming leading to melting of polar ices ;
- environmental abuse from human activities related to poor physical environmental planning like building in water ways, or low side of human habits of heaping garbage in draining paths etc.; and
- combination of the above two factors.

The human activities aspect of factors contributing to flooding is often adjudged as

an accelerant in to the spread of communicable diseases. All these causes and related issues often lead to loss of thousands of lives from various parts of the country and properties worth billions of naira, in addition to reducing the quality of living.

Causes of flood in Nigeria

The common and recurrent phenomenon of flooding in Nigeria occurs on a regular perennial basis in some parts of the nation. Some of the cause of flood in Nigeria is as a result of poor drainage facilities, deforestation, decaying infrastructures and poor governance. Other reasons for flood in Nigeria also include lack of proper environmental planning and management strategies to meet the needs of dense population cohort in some areas, practice of dumping waste or domestic refuse in drainages, and poor preparedness for climate change. Non-compliance with flood warning

alerts from the Nigerian Meteorological Agency (NIMET) and the Nigeria Hydrological Agency on probability of would be rainfall to be above normal in strategic parts of the country. That the warning alerts might not occur on few occasion has made some Nigerians living in the flood prone areas not to comply with all warnings altogether. The reason for the contrary outcome of the NIMET announcement sometime is not the faulty of the agency, but rather the decision of the Almighty Allah. Allah command whatever He wants to be and that thing will be, by His command. This goes in line with the Verse of the Holy Qur'an Suratul 36 (Ya Seen) Verses 82 which states that: *"His command, when He intends anything, is only to say to it; Be, so it is."*^[3]

According to the National Environmental Study Team, the following geographical areas suffer from the hazard of floods more than others in Nigeria:^[4]

1. Low-lying areas in the southern parts of the nation where annual rainfall is very heavy.
2. The Niger Delta zone.
3. The floodplains of the larger rivers of the Niger, Benue, Taraba, Sokoto, Hadeja, Cross River, Imo, Anambra, Ogun, Kaduna, Kogi etc.
4. Flat low-lying areas around and the south of Lake Chad which may be flooded during and for a few weeks after the rain.

The forms in which flooding occurs in Nigeria are: urban flooding (in major cities like Sokoto, Maiduguri, Lagos, Ibadan, Warri, Aba, Benin), river flooding (as in 3 above), dam spills or burst (as sometime seen with Kainji dam), flash flooding (especially in 1 above) and coastal flooding (in mangroves and fresh water swamps areas of Nigeria.).

Ways of Preventing flood in Nigeria

Due to multiple dangers of flood such as maiming or killing of people, economic damages from destroyed humans, livestock, natural terrains and infrastructures, it is important to prevent floods. [2] Some of the prior efforts by the government and individuals to construct canals, gutters and clearing existing ones to allow free flow of water when there is rainfall does not solve the problem of flood completely. In line with this, people were asked to relocate to up land and safer areas. However, due to lack of fund for proper relocation, some individuals also refused to relocate. Others refused to leave the flood prone areas due to their attachment to what they referred to as their fore-father's land, where their fore-fathers were buried and one day hopefully they shall also be laid to rest there. All these point to the paramount need to prevent flooding now and that such should be on recurrent basis. Floods can be prevented

with proper planning and adoption of effective mitigation measures, particularly in areas prone to flooding. The following ways of preventing flood in Nigeria was outlined by National Emergency Management Agency.^[5]

Improving Water Drainage

Improving water drainage helps control floods by facilitating easy flow of excess water, especially in urban areas during flash floods. Drainage efficacy can be improved by rehabilitating and cleaning water drainage systems, including removing debris and solid waste from drainage systems like storm drains and French drains, de-silting trenches and underground water channels and building galleys. Effective drainage systems can ensure flood waters find a clear waterway, leading to non-risk areas.

Building Dikes and Levees

Dikes and levees are flood-control structures built to fight river flooding and water surges.

Dikes and levees restrain rivers during floods by providing artificial water channels that prevent runoffs from bursting floodplains. Floodplains are natural waterways that carry excess river water during heavy rainfall. Dike engineers/constructors alter and develop floodplains by building dikes and levees to boost flood-prevention when floodplains well up.

Building Canals

Canals are artificial water channels that can be crucial to flood prevention. Canals facilitate control of water levels passing through and form linear reservoirs and water locks. During flooding, excess water is channeled through canals to non-risk areas further downstream or to other areas with high demand for water, such as arid and semi-arid areas. Canals can also be used to lock excess flood waters in its linear

reservoirs to prevent flooding and store water for future use.

Harvesting Rain Water

Harvesting rainwater involves collecting and storing rainwater and this can not only prevent floods, but it can also curb urban water scarcity. Harvested rain water can be cleaned for human consumption and distributed to people in rural areas, as well as urban areas in times of water scarcity. Rain water harvesting is carried out in different ways, including building ponds, storm drains, water retention basins and flood-control dams.

Pictures Showing Different Flood Occurrences in Nigeria

The different pictures below show various occurrences of flood in Nigeria. In the pictures, it shows that many houses, cars, food crops, animals and so on have been destroyed as a result of flood.

The followings are pictures of previous floods in Nigeria.



Picture 1



Picture 2



Picture 3



Picture 4



Picture 5



Picture 6



Picture 7



Picture 8



Picture 9

Source for all pictures: Online images of flooding in Nigeria. www.floodinginnigeria.com

Conclusion

Flood has caused a lot of disaster in Nigeria and it is no longer news that flood occurred almost every year in our nation. The paper highlighted that floods can be prevented with proper planning and adoption of effective mitigation measures, particularly in areas prone to flooding. It also shows some of the pictures of past floods occurrences in Nigeria. The people leaving in villages and floods prone areas should always adhere to NIMET and Hydrological Agency warning and move to up land areas to avoid flood disaster.

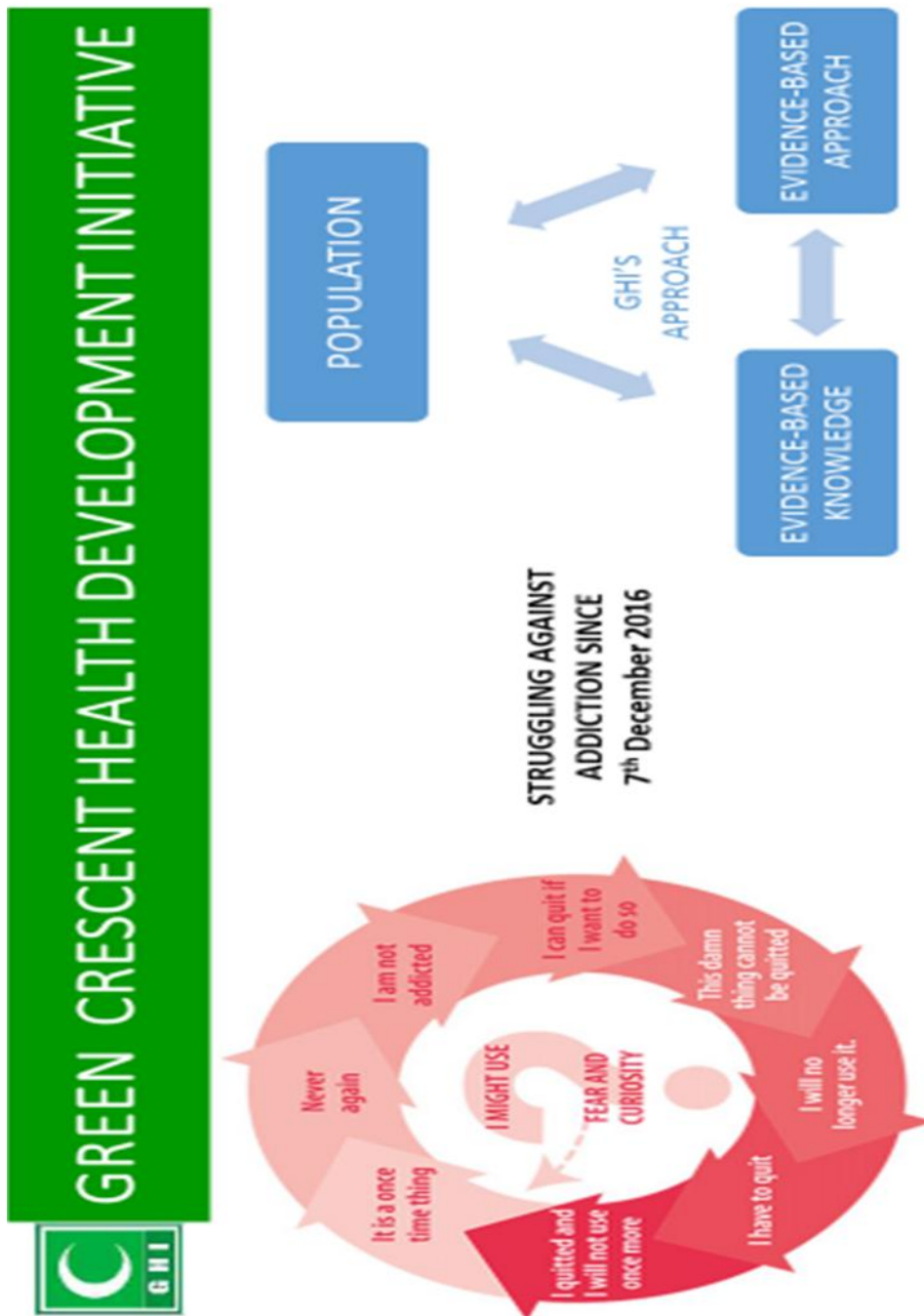
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Conflict of interest: Nil



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