INTRODUCTION

- Nigeria is the most populous country in Africa with about 140 million people (2006 census figure).

- 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-economy. The country has 36 states with 774 LGAs.
Map of Nigeria
Showing the 36 States including the Federal Capital Territory.

INTRODUCTION 2

- Nigeria's climate is characterized by strong latitudinal zones which become progressively drier as one moves northwards from the coast. Rainfall is the key climatic variable and there is a marked difference between wet and dry seasons in most areas. The annual rainfall total decreases from over 3,800 mm at Forcados on the coast to under 650 mm at Maiduguri in the extreme north-east of the country. The length of the rainy season also shows decrease from nearly 12 months in the south to less than 5 months in the north.

- Across the globe, floods have posed tremendous danger to people's lives and properties. Floods cause about one third of all deaths, one third of all injuries and one third of all damage from natural disasters (Askew, 1999).

- In Nigeria, the pattern is similar with the rest of world. Flooding in various parts of Nigeria have forced millions of people from their homes, destroyed businesses, polluted water resources and increased the risk of diseases.
MAJOR HAZARDS IN NIGERIA

- Flooding
- Erosion
- Land Degradation
- Deforestation
- Desertation
- Climatic Drought

FLOODING IN NIGERIA

- Flooding occurs throughout Nigeria in following forms:
  - Coastal flooding
  - River flooding
  - Flash floods
  - Urban flooding
  - Dam burst levee failures
  - Dam spills.
FLOODING IN NIGERIA

- Coastal Flooding: occurs in the low-lying belt of mangrove and fresh water swamps along the coast.
- River flooding: occurs in the flood plains of the larger rivers.
- Flash floods are associated with rivers in the inland areas where sudden heavy rains can change them into destructive torrents within a short period.
- Urban flooding occur in towns located on flat or low lying terrain especially where
  - little or no provision has been made for surface drainage
  - existing drainage has been blocked with municipal waste, refuse and eroded soil sediments.
  Extensive urban flooding is a phenomenon of every rainy season in some part of the country e.g. Lagos, Maiduguri, Aba, Warri, Benin and Ibadan.

AREAS AFFECTED BY FLOODS

- KAGARA (SOKOTO STATE, NORTHERN NIGERIA)
  This is a small village near Goronyo town in Sokoto State. The inhabitants of the village had had their village, all their homes, all their crops and all their storage of food completely destroyed. The reason for the flood was that people had opened the gates on the dam to release the pressure so that the dam didn’t fail, but the spillway from the dam had completely failed and so the consequences of was that;
  - Tens of thousands of people were displaced
  - Roads, trees, buildings etc were submerged
  - Farmland in 11 local Government areas of the State were affected.
  - Reports put the death toll at 49, while about 50 villages were submerged and more than 130,000 people displaced.
A flood of displacement is spreading swiftly across other parts of the country.

In what seems like wildfire, Kogi State became the next casualty. About 90 communities were affected, and about 500,000 people were displaced. In some areas, only farmlands were affected while in others, both homes and farmlands were all swept away.
Kogi flood
Flood in Panda

Kogi flood
Houses submerged
For residents of Lagos and most Nigerian towns and villages, the rainy season is undoubtedly not the best time of the year.

This period comes with the perennial problems of flooding which leaves many homes swamped with the resultant loss of property and sometimes human lives. Property estimated at several millions of Naira was destroyed in many communities in the Ikorodu axis of the State.
Lagos Floods

Ajegunle –Ikorodu Express Road at Ajegunle

Lagos flood

Ajegunle-Ikorodu flood in Lagos.
**Floods**

Even the chickens were not spared

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**THE DEVASTATING EFFECTS OF FLOODS IN NIGERIA**

<table>
<thead>
<tr>
<th>S/NO</th>
<th>STATE</th>
<th>DISASTER</th>
<th>ASSOCIATED HAZARD</th>
<th>NO OF PEOPLE AFFECTED</th>
<th>DATE &amp; YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abia</td>
<td>Rainstorm</td>
<td>Houses</td>
<td>500</td>
<td>July 2001</td>
</tr>
<tr>
<td>2</td>
<td>Adamawa</td>
<td>Flood</td>
<td>Houses &amp; Farmlands destroyed</td>
<td>500</td>
<td>April 2001</td>
</tr>
<tr>
<td>3</td>
<td>Akwa - Bom</td>
<td>Flood &amp; Rainstorm</td>
<td>367 houses washed away</td>
<td>4000</td>
<td>March 2001</td>
</tr>
<tr>
<td>4</td>
<td>Bauchi</td>
<td>Flood</td>
<td>750 Houses washed away, Farmlands destroyed</td>
<td>Not available</td>
<td>August 1988</td>
</tr>
<tr>
<td>5</td>
<td>Bayelsa</td>
<td>Flood</td>
<td>Houses, Schools, Markets &amp; Farmlands submerged</td>
<td>2/3 of the population</td>
<td>1999 &amp; March 2001</td>
</tr>
<tr>
<td>6</td>
<td>Borno</td>
<td>Flood</td>
<td>Houses &amp; Farmlands destroyed</td>
<td>Not available</td>
<td>August 1988, June/July 2001</td>
</tr>
<tr>
<td>8</td>
<td>Edo</td>
<td>Flood &amp; Rainstorm</td>
<td>560 Houses destroyed</td>
<td>820</td>
<td>March 2001</td>
</tr>
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<tbody>
<tr>
<td>9</td>
<td>Ekiti</td>
<td>Flood &amp; Rainstorm</td>
<td>Public Schools &amp; 890 houses destroyed</td>
<td>2100</td>
<td>April 2001</td>
</tr>
<tr>
<td>10</td>
<td>Imo</td>
<td>Rain &amp; Windstorm</td>
<td>1000 houses, 150 electric poles &amp; 40,000 oil palm destroyed</td>
<td>Over 10,000 displaced</td>
<td>April 2001</td>
</tr>
<tr>
<td>14</td>
<td>Lagos</td>
<td>Flood</td>
<td>Buildings collapsed, markets submerged, properties destroyed.</td>
<td>Over 1,000,000 affected</td>
<td>Early 1970's Till Date</td>
</tr>
<tr>
<td>15</td>
<td>Niger</td>
<td>Flood &amp; Rainstorm</td>
<td>Houses, Schools, animals &amp; farmland</td>
<td>200,000 displaced</td>
<td>1999 &amp; 2000</td>
</tr>
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<tr>
<td>16</td>
<td>Ondo</td>
<td>Rainstorm</td>
<td>Houses &amp; schools destroyed</td>
<td>800 affected</td>
<td>April 2001</td>
</tr>
<tr>
<td>17</td>
<td>Osun</td>
<td>Rainstorm</td>
<td>Houses &amp; schools destroyed</td>
<td>1700 affected</td>
<td>April 2001</td>
</tr>
<tr>
<td>19</td>
<td>Taraba</td>
<td>Flood</td>
<td>80 Houses totally swept off, 410 houses extensively destroyed</td>
<td>More than 50,000 displaced</td>
<td>August 2005</td>
</tr>
<tr>
<td>20</td>
<td>Sokoto</td>
<td>Flood, Fire, Windstorm</td>
<td>Houses &amp; Farmlands destroyed</td>
<td>16,000 were affected in 2001, 130,000 in 2010</td>
<td>July 2001 / Sept. 2010</td>
</tr>
<tr>
<td>21</td>
<td>Yobe</td>
<td>Flood, Fire &amp; Drought</td>
<td>Houses &amp; Farmlands submerged, Houses razed, animals affected</td>
<td>100,000 affected</td>
<td>April &amp; September, 2001</td>
</tr>
<tr>
<td>22</td>
<td>Zamfara</td>
<td>Flood</td>
<td>Building submerged, Farmlands destroyed, properties damaged</td>
<td>12,398 affected</td>
<td>July 2001</td>
</tr>
</tbody>
</table>
**BENEFITS OF FLOOD**

- From the above table, it is obvious that irreparable havocs have been sustained by the citizen of Nigeria due to what has become perennial natural disasters in our cities.
- As many residents in Nigeria are displaced as a result of flooding, hunters, fishermen and hawkers are cashing in on the disaster to make money. The flood had a positive effect on their business.
- Hunters: they claim that their traps caught more animals than it used to. Reason was that animals chased by the floods, were relocating to dry land, all they need to do is to relocate their traps, and concentrate on the limited areas that had not been affected by the floods.
- Fishermen: they claim that they do not need to paddle their canoes to the far end of the river before cashing fishes. According to them, when the water level of a river increased more fishes tried to swim ashore. They said this natural phenomenon explained why fishes were always abundant during the rainy season.

**PREVENTIVE AND MITIGATING MEASURES**

- As a responsible citizen,
  - Help in every way to construct drains and ditches or embankments, to protect buildings, constructions, utilities etc.
  - Never put refuse or solid materials in drains, and discourage others from doing so.
  - Always help to desilt or clean gutters or drains and encourage others to do the same.
  - Know that no amount of sympathy and relief can make up for the pain, grief and the losses you will suffer from flood disaster.
  - Educate yourself and others about floods, know the signals and behave as you are directed.
  - Don’t remove plants or trees unnecessarily, help to replant burnt or cleared forests.
PREVENTIVE AND MITIGATING MEASURES 2

- Measures to be taken by the State and Federal Government

  Constantly monitor the risk of flooding; or find a means of measuring or checking water levels of rivers, streams and dams.
  Set up effective information or warning systems and centers for the population, especially against dam burst.
  Issue and strictly enforce regulations banning building and residing in flood prone zones or areas
  Build and develop infrastructure which will prevent or limit floods and protect the population.

Systematically spill off water (after due warnings) to control the level of water in dams.
Identify cause and plan to prevent its recurrence
Check for related water – borne diseases and immunize residents or offer preventive and curative treatments if need be.
Desilt drains; or construct drains where needed.
Remove or demolish all structures obstructing drainage
Enact or enforce regulations, laws or bye laws to prevent/mitigate flooding in the area.
CONCLUSION / RECOMMENDATION

- It is evident in the study that floods had forced millions of people from their homes while thousands of people lost their lives to flooding at different time and locations of the Federation.

- In conclusion, there is an urgent need for a collaborative effort of both government and stakeholders to support town planning, engineering and other professional agencies to combat flooding in Nigeria to avoid its long-range consequences. For every individual, develop your plot with deep or wide drainage system, and don’t dump wastes in the waterways (it’s perilous to you in your living domain. The media should also assist in educating the public on flood consequences.

“The environment remains our most valued possession and legacy which we must all strive to protect. Let us all join hands in protecting our common interest,”
Thank you