
Artifacts and Natural Disasters in Nigeria: The Riverine Experiences

Eluozo Collins

Department of curriculum and Instructional Technology (Science Education Option)
Faculty of Education
Ignatius Ajuru University of Education,
Port Harcourt, Nigeria
eluozo13@gmail.com, princecollins58@gmail.com

Abstract

Nigeria is a country endowed with enormous natural resources located in the Western Sub-Sahara of Africa. The country is conceived to have existed before 1100 years before Christ. The country Nigeria and its environs is characterized by multiethnic diversity and diverse history of religious beliefs. The country was cohered by the British missionaries and it was granted independence in 1960 and a republic in 1963. Nigeria's land mass is featured by dry, costal and swampy ecosystem. According to the holy bible, God used disasters to punish and cleanse the planet earth due to man's disobedience and till date mankind has not found solutions to various types of artifact and natural disasters that have besieged the planet. How these disasters erupts, unleash mayhems and devastate the earth was the focal point of the study. The paper discussed lithosphere disasters, artifacts, atmospheric and hydrosphere disasters, there various impacts on the riverine communities and disasters benefits as well losses. The paper concluded with recommendations that could foster purposive solutions that can help in containing these catastrophes against mankind.

Keywords: Nigeria, Disasters, Bible. Planet, NEMA, Artifact, Natural, Flood, Fire, Lithosphere, Hydrosphere, Atmosphere, Earthquake, Sinkholes, Terrorism, Volcanic, Eruption. Cataclysmic, Storms, Temperature.

Introduction

Nigeria is a country located in the sub-Saharan of the West Africa, endowed with all natural resources for human existence. The country has been existing several years back as early as 1100 BC. It has remained an integral society that harbors numerous ethnic groups such as the Kingdom of Nri, the Benin Empire, and the Oyo Empire. The country was invaded with a lot of religion influence as the Islam got to the country through the Borno Empire in the year 1068 AD and Hausa territory in 1385 AD of the 11th century while Christian missionaries besieged the southern territory of the country in the 15th century by Augustinian and Capuchin monks of Portugal. Songhai Empire was also part of the region as Lagos was invaded by British forces in the year 1851 and formally seized power in 1861, since then Nigeria became a British protectorate as formally announced in 1901. The country remained under colonial rule until 1st October 1960, when it was granted independence and a republic in 1963.

Since the existence of man on planet earth, mankind has been witnessing series of environmental challenges among most severe are natural disasters. According to the holy bible, God gave warnings in various chapters and verses concerning disasters due to his anger on human disobedience and some of the verses quote;

"And when you hear of wars and rumors of wars, do not be alarmed. This must take place, but the end is not yet.

For nation will rise against nation, and kingdom against kingdom. There will be earthquakes in various places; there will be famines. These are but the beginning of the birth pains” (Mark 13:17-9).

“But be on your guard. For they will deliver you over to councils, and you will be beaten in synagogues, and you will stand before governors and kings for my sake, to bear witness before them.

For nation will rise against nation, and kingdom against kingdom, and there will be famines and earthquakes in various places” (Mathew 24:7).

“The seventh angel poured out his bowl into the air, and a loud voice came out of the temple, from the throne, saying, “It is done! There will occur during these years neither dew nor rain, except at the order of God’ word!” (1 Kings17:1).

“And there were flashes of lightning, rumblings, peals of thunder, and a great earthquake such as there had never been since man was on the earth, so great was that earthquake. The great city was split into three parts, and the cities of the nations fell, and God remembered Babylon the great, to make her drain the cup of the wine of the fury of his wrath. And every island fled away, and no mountains were to be found. And great hailstones, about one hundred pounds each, fell from heaven on people; and they cursed God for the plague of the hail, because the plague was so severe” (Rev 16:17-21).

“As for me, I am going to bring floodwaters upon the earth to destroy from under the heavens all flesh that has the breath of life. Everything on the earth will perish” (Gen 6:17).

Based on the quotes from the bible, it is clear that right from the creation of man, planet earth suffereth violence and in the violent mankind continues to strive, (Unquote).

Since the discovery of Nigeria, Nigerians have been suffering from various mayhems both natural and artifact disasters. These disasters ravage the Nigerian environment almost on daily basis. According to Reuters’ report of September 17, 2018, the national emergency management agency (NEMA) lamented on the magnitude of damages caused by flood at various part of the country. NEMA reported that the presence of floods was much at the central area of Abuja and southern part of Nigeria. According to the report, about 100 people were killed across 10 states of the country. NEMA further presumed that such flooding tends to occur every year during rainy season, exacerbated by poor infrastructure and lack of futuristic planning to protect against deluge.

National Emergency Management Agency (NEMA), maintained that a national disaster has been declared in four states of the country namely; Kogi, Niger, Anambra and Delta. Delta

state is one among oil-producing states of the Niger Delta region, abode the Africa's biggest energy industry, where the rivers Niger forks into creeks before emptying into the Atlantic Ocean.

Kogi, Niger and Benue are states located in the north central with the Africa's third-longest river, making it particularly vulnerable, while Rivers, Akwaibom and Bayelsa of the southern region suffers both natural and artifact disasters. In the 19th century, the highest flood ever witnessed was the 1969 floods during the Nigerian civil war, followed by that of 2012, 1996 and the recent one of 2018.

As if natural disasters were not enough, humans have added their own quotas of calamitous misfortune. Due to novel technologies, imperceptible risks and reprehensible precautions results in tragedy. Even if adequate safety measures are in place, acute weather conditions remain a devastating fine. Medieval and modern technologies of trains leads to train derailments, separation of atoms leads to nuclear catastrophes, oil exploration leads to oil spills etc, and man remains vulnerable to these occurrences. How theses disasters have affected the riverine communities in Nigeria is the focal point of this study.



Artifact Disasters

Artifacts disasters are the destructions caused by human actions either through technological activities, recreational, farming, hunting, or negligence.

Mining and other industrial factories have been reported having some volatile substances capable of explosions or collapses, leading to loss of life and potential environmental damages.

Some other forms of artifact disasters includes but not limited to; transportation accidents where flammables engulf into fire accidents and pollution of the environment, nuclear and chemical disasters irrespective of nuclear fission in the 1930s, issues of nuclear explosions and nuclear weapons still threatens the world.

Terrorism

A deliberate action of human and environmental mass destructions motivated by political aggression and religious violence has caused a lot of social and physical damages on planet earth. Issues have also been reported about sports disaster although considerably more alcove than the other categories, sporting events can be regrettably ripe for catastrophe. With many people crammed into tight areas, with mammoth of movement and commotions, debacle has befallen a non-trivial number of races, games, and gatherings.

Negligence Disasters

Negligence could be as a result of ignorance, timidity, un-mindfulness and sometimes willful act. Nigeria has witnessed several fire disasters due to smokers that throw remains of cigarettes into the bush during dry season. Some other forms of negligent disasters comprises of building on water channels, oil spill, use of chemicals for fishing, explosions during war, incessant falling of trees, repeated farming, overgrazing, violence, ozone layer depletion, factory fires and dams construction among others.



Natural and Environmental Disasters

A natural disaster is a major incident/accident or an adverse event resulting from natural processes of the Earth. These disasters vary in types, severity and geographical location. Some of it are; floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, tsunamis, and other geologic occurrences. Natural disasters, if not properly managed results in colossal loss of life and assets damage. Majority of it leads to economic damage in its stir, however the sternness of which depends on the affected populations pliant and knack to convalesce as well the infrastructures available.

Lithosphere Disasters

Landslide

A landslide is depicted as an ascending or descending slant movement of a profusion of slope-forming resources inform of; rock, soil, artificial, or even a mixture of these that causes shift in normal state.

According to Bankoff, Frerks, & Hilhorst (2003) and Wikipedia reports, during the First World War that originated in Europe on the 28 July 1914 and lasted to 11 November 1918, which over 70 million military personnel, including 60 million Europeans were involved.

It is estimated that about nine million combatants and seven million civilians died as direct resultant of the war, while genocides of influenza pandemic of 1918 caused between 60 to 110 million additional deaths worldwide and Revolutions of 1917–1923, that lead to the World War II that took place twenty years after, within this period it was estimated that about 50,000 to 90,000 soldiers died as a result of avalanches during the mountain campaign in the Alps at the Austrian-Italian front due to artillery fire and landslides.

Trembling

An earthquake otherwise known as tremor or temblor is the quivering of the Earth surface, consequential of sudden discharge of energy in the Earth's lithosphere that forms seismic waves. Earthquakes are in magnitudes from weak to sadistic capable of pitching people and destruction of the affected land mass.

Earthquake is conspicuous by vibration, and displacement of the ground surface, it is usually caused by slippage within geological faults.

Highland & Lynn (2017), explained that the underground point of origin of the earthquake is called the **seismic focus**, while the point higher than the focus surface is called **epicenter**. The duo maintained that earthquakes doesn't kill rather its associated occurrences in form of building collapse, fires, tsunamis, sea waves and volcanoes that kills.

Sinkholes

Natural or artifact erosion, underground mining or excavation of pits that concentrates water pressure on a particular spot can weaken the soil to the extent it could no longer support the structures built on it, leading to land collapse and sinkholes. Sinkholes can cause building collapse or structural fall heading to heavy accident of injuries and death.

Volcanic eruptions

Volcano is an eruption that emanate in the crust of a planet objects especially the earth, it paves way for hot lava, volcanic ash, and gases to escape from a magma chamber underground.

Lee (2008), asserts that erupting volcanoes are dangerous as it can pose a lot of hazards beyond the area of eruption, noting that some of it is a threat to aircrafts and jet engines which usually causes increase in temperatures and other forms of disasters.

Hydrological disasters

Hydrological disasters are brutalities, impulsive and vicious alteration either in the eminence of Earth's water or in the circulation and flow of surface water or rain water.

Floods

Flood could be explained as the appearance of water over a dry land within a certain period of time, through overflow, stagnation, rainfall, flow or infiltration. According to European Union (EU) Floods Directive, flood is a covering by water of land not usually covered by water.

Flooding may occur as a result of water overflow from water banks, like ocean, sea, river, lake, or ocean and ponds in which the water climbs above breaks levees, evading usual precincts, it could also occur due to heavy downpour inundating the ground as a real flood.

Floods of various magnitudes have often caused damages to homes, businesses, farms and infrastructures of the riverine occupants.

Tsunami

A tsunami is the quake of the sea, it is usually inform of dangerous wave or tidal wave. These waves displace outsized volume of water from the ocean or a lengthy and deep lake.

Limnic eruptions

A limnic eruption is the out brake of marine gas like CO₂ which usually erupts from lagoon water posing the hazard of de-oxidation to wildlife, livestock, humans and aquatic lives. Recent research indicates that limnic eruption is directly associated to tsunamis in the lake thus

rising gas is capable of displacing water volume. Scientists suppose that limnic has an association with escaped gases during landslides and volcanic disasters.

Principal Types of Floods

Areal

The infiltration of water or overflow settling on a plane land over a long period of time growing above the flat low-lying areas by rainfall or snowmelt can cause an Areal flooding. However, this type of flood is negligible hence it is usually shallow and slow in velocity.

River Channel

Chanel floods can be said as the most common among peers. This type of flood usually emanate from the smallest streams in temperate climates to larger waterways. When it is growing, it usually float sedimentary particles, this kind of flood is normally aggravated by sewage barriers. River flooding could be slow type or flash.

Estuaries and coastal

Estuaries and coastal flooding is as a result of winds and low barometric pressure combined to cause tidal upsurges resulting to river overflow, while coastal flooding is the effects from area sea, storm and waves pushing beyond river banks.



Urban flooding

Urban flooding is usually artifact prone where the cities are inundated due to heavy downpour characterized by poor drainage system, building on water ways and triggered by over population. This type of flood is very destructive in terms of property and sometimes resulting in death of smaller children.

Siphon Floods

Siphon flooding is characterized by underground water seeping out of the ground to cover a dry plane land during floods. This type of flooding is recently seen in Omoku of the Niger Delta of Nigeria. Siphon flooding is slow at initial but increases over night to form circled

ponds and lake shape. It has been reported that this kind of flood is destructive to properties and sometimes claim lives. It is believed that its cause is due to porous lands that were initially creeks, pits and sometimes grave yards some years back.

Cataclysmic

Flooding is so destructive in nature. Flood sends riverine communities packing, destroys farmlands including young and harvestable crops, falling of electrical poles and electrocution, destruction of tiled roads, collapsing of bridges and houses, creates economic imbalance and thwarts school programs. Floods kill both young and old, cause's unplanned individual and governmental expenses, displacement of indigenous species and introduction of foreign species of fauna and floras. Flooding exacerbates landslide, and earthquakes and breeds bacteria, viruses, mosquitoes, and exposes dangerous reptiles that attack humans among others.

Probable causes of Floods

Floods are normally associated to divine occurrence by layman understanding. This belief is because the source of the water's coming and going remains a mirage to them, while other schools of thought attributes its cause to the opening of dams at Cameron and other nearby countries. However, the science of floods goes beyond mere exaggerations, below is some accounts of flooding.

Upslope factors

The quantity, setting, and timing of water getting into a sap conduit from natural rainfall and restricted or unrestrained basin discharged, determines the current at downstream settings. Some of the rain waters evaporate, some slowly infiltrate through top soil, some may be momentarily appropriate as blizzard or hoarfrost, and some may form speedy surfeit from façade like astound, concrete, crowns, and drenched or icy earth. Therefore, if the timing required for the surfeit dampens is delayed it could result into flooding.

Down slope factors

Irrigate sinuous downward eventually stumble upon downstream circumstances dawdling progression. The closing restriction in coastal inundation lands is repeatedly the ocean or some coastline deluge tavern which structures a normal lake. Tsunamis and storm surges exacerbates inundation coupled with bridges and restriction.

Iceberg Melts

Due to global warming, the ozone layer which is meant to restrict the full force and harshness of the sun is been destroyed as a result of industrial activities. Icebergs are formed beside the ocean sides, and they melt in direct proposition to the amount of heat dissipated on the water as well the bergs itself. As the increase in temperatures affect the bergs so the bergs melt, causing overflow of the ocean banks. When the ocean banks overflows into the seas, the seas overflows into rivers and creeks to plane lands where people occuppies, and yearly flooding is noticed coupled with increase in rainfalls as a result of global warming.

Shallow Banks

Water banks are the reservoirs of incoming waters from upward sources. When most of the banks are shallow due to mud hills, the waters climb into lower planes to settle. Getting to the planes, currents are formed and the water pushes farther than expected and inundation remains the case.

Metrological disasters

Tropical storms

Tropical storms, hurricane, typhoon and cyclones are diverse family names of windstorm. This storms affects the marines, causing delude and sand particles to destroy the environment. Hurricane falls structures, vehicles and throws human into hazardous areas. It equally collapses infrastructures, like electric poles and other social amenities.

Snowstorm

Snowstorms are brutal winter storms typified by weighty snowfall and brawny winds. This kind of storm is common in the United States of America; it is sometimes referred to as blizzards.

Hailstones

These are rainfalls with bulky ice un-melted before hitting down the earth, this kind of storm disaster once hit the city of Germany in 1984.

High Temperature

Heat waves are an artifact disaster that results from global warming, through the emission of greenhouse gases and other related factors. This form of disaster is currently ravaging the Niger Delta people of Nigeria due to gas flaring activities of the multinational oil companies in the area. The cases of mutation of gene and pandemic and epidemic diseases out brakes have been reported likening increase of atmospheric temperatures as causative agent.

Dearth

Scarcity of water over a long period of time is known as drought. Drought causes dryness of soils, famine, and increase in temperature, wildfire outbreak and food hunger.

Twister

Twister is a form of wind characterized by cyclic air covering a wide range with high pressures. Twisters have been reported of falling tall structures and killing of humans across a distance.

Untamed fire

Untamed fires are unplanned or unexpected fire outbreaks; it could be natural or human errors. Wildfires engulf useful vegetations; buildings, animals, infrastructures and humans. Untamed fires are caused by wind storms and thunder storm, crude oils and refined petroleum products as well other combustible fuels and chemicals.



Cosmological flicker

Cosmological flame is related to sudden release of sun or solar radiation higher than usual. Solar flares causes cosmological mutation, sun burn, and release of gamma rays.

Disaster Management Laws

There are several efforts to contain the effects of disasters on earth. There are international bodies that have propounded some international laws to assist victims of disasters. The Geneva conventions established International Red Cross and Red Crescent Movement. The Convention also established laws on the Rights of Persons with Disabilities during disasters. Nigerian government in accordance also established the National Emergency Management Agency to help the affected people by establishing Internally Displaced Camp (IDP).

United Nations Office for the Coordination of Humanitarian Affairs established by General Assembly Resolution laws of 44/182 and the international law for Guiding Principles of International Displacement, Campala Convention of 2009, is few among other laws of disaster management globally.

Conclusion

Having discussed extensively on the natures of natural and artifact disasters, its causes and types, it is imperative to highlight the experience of the riverine communities in Nigeria. Flood and other disasters primarily claim lives, damage infrastructures like; houses, collapse of bridges, underground sewage system, roads and power transmission poles. Winds and floods usually destroy crops and farmlands, causes ecological imbalance, introduction of foreign and dangerous faunas and floras and displacement of occupants.

Its secondary effects on the riverine communities include; economic hardship, homelessness, force majeure, destabilization of schools programs and waste of time and money on relief materials. However, some disasters like floods equally have some benefits that cannot be equated to its losses. Floods help in recharging the underground waters and improving nutrients for fertility of the soil. Floods also help in distribution of water to dry lands and flushing out of endemic pests. Floods maintain a good ecosystem and sustaining biodiversities.

Floods supply a lot of fish which are killed to regain some economic losses and equally cleanse the land against harmful spirits and deities.



Presupposition

Based on the increase on stratospheric damages on the ozone layers depletion, leading to increase in high temperatures, regular heavy downpour and constant melting of the ice bergs including shallow water banks, it is expected that severe flooding will be ravaging the riverine communities on yearly basis.

The influx of crude oil miners in the Niger Delta without international best practice measures in containing oil spills and gas flares, the Niger Delta communities will continue experiencing oil spill disasters, wild oil and petroleum fire and truck commuters accidents regularly.



Recommendations

Based on the forgoing, the following recommendations are made to help in containing natural and artifact disasters.

1. There should be long term plan on disasters management.
2. There should be a specific allocation for disasters management from the federation accounts.
3. Structures and infrastructures should be solidly built to avert collapse.
4. Institutions of disaster management should be instituted all over the states.
5. Dredging of the shallow rivers and its tributaries is essential to deepen the banks.
6. Structures on water channels, should be demolished and proper town planning be established.
7. Internally displaced camps should be built across the flood prone areas with good shore protections before time.
8. Fire vans and inhibitors should be located at all streets of mega metropolis.
9. Good drainage system should be built across the flooding areas.
10. Disaster management should be part of the school's curriculum.

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