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Flooding and Underdevelopment in Bayelsa State

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Abstract

This study investigates flood and its attendant underdevelopment in Bayelsa State of Nigeria. It adopted descriptive survey design. A sample of 190 was drawn from ten communities in Yenagoa local government Area, using simple random sampling technique. 14 item structured questionnaire titled as 'Flood and underdevelopment in Bayelsa State Questionnaire' (FUBSQ) was use for data collection. The instrument was based on positive and negative response of (Agree or Disagree). The data collected were analyzed using simple percentage statistics for research questions. Findings revealed that flooding in Bayelsa State has led to loss of lives and properties, migration, decline economic activities, irregular school curriculum etc. Thus, the followings were recommended; Government should design her academic calendar to overcome flooding effect on school curriculum, effective implementation of environmental legislation and control on waste disposal in water log zones such as streams, rivers, creeks, lakes etc., building of a dam that will control water movement in our country after Lagdo Dam has been close in Cameroun, and government partnership with various agencies to take necessary steps to provide aid to the victims during flood.

Keywords: Flooding, Underdevelopment, Bayelsa State, Environmental, Nigeria

Introduction

It has become a culture for all persons living in Bayelsa state to run helter-skelter every physical year as individuals, firms, organization and government institutions properties and activities will be destroyed and halt by flood.

Properties worth millions will be vandalized, agricultural crops were heavily destroyed, schools will be completely shut down, individuals will be forced to relocate, companies and industrial activities will be stopped, and homes often times were broken, sicknesses and disease such as malaria and typhoid fever were always on the increase causing untimely death, and religious activities equally were brought to standstill. This described the debilitating situation caused by flood in Bayelsa State leading to high level of underdevelopment.

Flooding and underdevelopment are two social problems that have existed, and coexisted within Bayelsa State. Whilst these two social evils have severely affected development programs in the state, they have also manifested themselves into permanent features through lowering the standard of living in the communities. At times flooding has been found to exacerbate underdevelopment levels and vice versa. However, community resilience and capacity to deal with both flooding and underdevelopment have been found to be lacking in most human societies.

Literature Review

The frequency of natural disasters has been on the rise for years resulting in loss of life, damage to properties and destruction of the environment. Flooding is one of the most devastating environmental disasters that threaten the world. It has claimed more lives than any other single natural disaster (Ajumobi, Womboh, and Ezem, 2023). Many definitions of flood have been presented over time. An account by Bradshaw (2007) defined flood as an overflow of water bodies such as rivers and lakes from its natural boundaries submerging the land. Flooding is excess water flowing unto dry land. According to Umar and Gray (2022), the European Union (EU) floods directive defined flood as a large volume of water covering land. Flood is a natural occurrence that passes through its usual channels but it becomes a problem when humans occupy the space required by the floodwaters to move (Sarah, 2007).

Many factors are responsible for flooding which include; (Wizor & Week 2014 and Ajumobi, Womboh, & Ezem, 2023) listed dumping of refuse in water bodies, constructing buildings on flood plains and poor maintenance of drainage facilities .Removal of vegetation, increase in the size of water channel and increase in erosion also contribute to flooding. Flooding can also be caused by excess rainfall when the absorption capacity of the soil is exceeded. Other causes of flooding include; climate change, excessive precipitation, rise in sea level and increase in population.

Plethora of scholars have discussed on underdevelopment. The concept of underdevelopment and development is a contrast between poverty and wealth, between sickness and health, literacy and illiteracy, suffering and enjoyment, comfort and disease. It is a choice between life and death; heaven and hell: nobody opts for underdevelopment.

On the production scape of material existence, (Chang 2003) posits that the economic front reveals low productivity in all sectors, be it agriculture, industrial manufacture, banking or commerce. This is due to inefficiency and crude technology, and partly to poor knowledge of science and technology which itself is traceable to the character of education foisted on Nigeria by the West: *symbolic education.* Sicknesses and diseases are more prevalent and crippling in Nigeria than anywhere else, mainly because of inadequate ability to deal with their causal agents such as mosquitoes, germs and vermin and to secure habitable environment through the application of rudimentary principles of sanitation and hygiene. Basic facilities such as hospitals, maternities, and dispensaries are few and far between, especially in the rural areas. Doctors and paramedical staff are few, and their services overstretched. The disparity between urban and rural health services is amazing and even where they exists in the cities, the fee is so exorbitant. Often beyond reach of the majority who can hardly afford one square meal a day. Electricity and pipe-borne water are still a luxury, especially in the rural areas, and their supply in the urban centers most erratic. Polluted rivers and streams and even ponds still remain source of drinking water for most people. In these radios are few and television a luxury.

The concept of underdevelopment does not necessarily mean absence of development. It is also not a state of being, but a process, one that is characterized by untransformed economic, political, and social structures. It is more or less a condition of relatively very low level of development; a situation in which the necessary qualitative social transformation has not yet taken place. One in which the productive forces (the quality of techniques and technology of production) are poorly developed and inadequate for harnessing for the resources of their milieu and so the people's standard of living and social milieu have not been transformed qualitatively. As a result of the quality of life of the people has not been improved over historic time, improving t a very low rate, or may, in fact have stagnated or even deteriorated, (Jaja, 2007).

Socio-Economic Impacts of Flooding

Flooding of areas used for socio-economic activities produces a variety of negative impacts. The magnitude of adverse impacts depends on the vulnerability of the

activities and population and the frequency, intensity as well as extent of flooding. Some of these factors are shown below;

Loss of lives and property: Immediate impacts of flooding include loss of human life, damage to property, destruction of crops, loss of livestock, non-functioning of infrastructure facilities and deterioration of health condition owing to waterborne diseases (Scott, 2007. Flash floods, with little or no warning time, cause more deaths than slow-rising riverine floods.

Loss of livelihoods: As communication links and infrastructure such as power plants, roads and bridges are damaged and disrupted, economic activities come to a standstill, resulting in dislocation and the dysfunction of normal life for a period much beyond the duration of the flooding. Similarly, the direct effect on production assets, be it in agriculture or industry, can inhibit regularly activity and lead to loss of livelihoods. The spillover effects of the loss of livelihoods can be felt in business and commercial activities even in adjacent non-flooded areas.

Decreased purchasing and production power: According to UNICEF (2023), damage to infrastructure also causes long-term impacts, such as disruptions to clean water and electricity, transport, communication, education and health care. Loss of livelihoods, reduction in purchasing power and loss of land value in the flood plains lead to increased vulnerabilities of communities living in the area. The additional cost of rehabilitation, relocation of people and removal of property from flood-affected areas can divert the capital required for maintaining production.

Mass migration: According to (Abolade, Muili .& Ikotun (2013) asserts that frequent flooding, resulting in loss of livelihoods, production and other prolonged economic impacts and types of suffering can trigger mass migration or population displacement. Migration to developed urban areas contributes to the overcrowding in the cities. These migrants swell the ranks of the urban poor and end up living in marginal lands in cities that are prone to floods or other risks. Selective out-migration of the workforce sometimes creates complex social problems.

Psychosocial effects: The huge psycho-social effects on flood victims and their families can traumatize them for long periods of time. The loss of loved ones can generate deep impacts, especially on children. Displacement from one's home, loss of property and livelihoods and disruption to business and social affairs can cause continuing stress. The stress of overcoming these losses can be overwhelming and produce lasting psychological impacts.

Hindering economic growth and development: The high cost of relief and recovery may adversely impact investment in infrastructure and other development activities in the area and in certain cases may cripple the frail economy of the region. Recurrent flooding in a region may discourage long-term investments by the government and private sector alike. Lack of livelihoods, combined with migration of skilled labour and inflation may have a negative impact on a region's economic growth. Loss of resources can lead to high costs of goods and services, delaying its development programmes. Related to this low economic growth and development is massive unemployment. During flooding, there is high level of lay-off especially in the private sector and small, medium and scale enterprises.

Impacts on the environment: Detrimental environmental effects of flooding can include soil and bank erosion, bed erosion, siltation or landslides. It can damage vegetation and pollutants carried by flood water can impact on water quality, habitats and flora and fauna. Flooding can however play a beneficial role in natural habitats. Many wetland habitats are dependent on occasional flooding for their sustainability and can contribute to the storage of flood waters to reduce flood risk elsewhere.

Damage to our cultural heritage: In the same way as flooding can damage properties, flood events can damage or destroy assets or sites of cultural heritage value. Particularly vulnerable are monuments, structures or assets (including building contents) made of wood or other soft materials, such as works of art and old paper-based items such as archive records, manuscripts or books. Soil erosion during flood events can also destroy buried heritage and archaeological sites.

Political implications: Ineffective response to relief operations during major flood events may lead to public discontent or loss of trust in the authorities or the state and national governments. Lack of development in flood-prone areas may cause social inequity and even social unrest posing threat to peace and stability in the region.

The effects of flood on man cannot be overemphasized because it cut across all spheres of man's life. According to Abolade, Muili, & Ikotun (2013), this includes man's physical environment, man's health and agriculture products. Flood, depending on its volume and velocity can damage any type of structure, including bridges, cars, buildings, sewerage systems, roadways, and canals. It can also result into contamination of water. The consequence of this is unhygienic condition in the affected areas making the victims vulnerable to water-borne diseases such as; cholera, dysentery, typhoid. Crops and food supplies are often affected and consequently resulting to shortage of food crops resulting from loss of entire harvest. Its effect is

also obvious on trees thereby causing non-tolerant species to die from suffocation. It also affects transportation system by destroying transport links. Conversely, lowlands near rivers depend upon river silt deposited by floods to improve the nutritional value to the local soil.

Statement of problem

Bayelsa State has been experiencing a spate of flooding events since its aboriginal settlement. However, it becomes worrisome from 2012 –date. The floods have been a threat to development and humanity, affecting human lives, destroying property and damaging the environment. Whilst flooding has been impacting the communities, a high level of development has also been negatively affecting households in the region. Most people in the environment are poor and lack basic necessities and needs that include decent shelter, food and clean water. However, flooding has worsened their poverty situation through affecting their livelihoods. Floods have damaged already unsuitable shelters, affected food stocks and also contaminated water sources.

Thus, this menace have therefore negatively affected development programs and initiatives in the state. Proper and meaningful measures are therefore needed in order to contain the impact of floods and engender development in the state. If nothing meaningful is done to avert the negative effects of flooding and high levels of underdevelopment, the people of Bayelsa State would continue to suffer the lack of sustainable development.

Objectives of the Study

The main objective of this study is to investigate some causes and social impacts of flood in Bayelsa State. Specifically the study seeks to achieve the following objectives:

1. To examine the possible causes of flooding in Bayelsa State.
2. To examine the socio-economic impacts of flooding in Bayelsa State.

Research Questions

1. What are the possible cause of flooding in Bayelsa State?
2. Does flooding have socio-economic impacts in Bayelsa State?

Methodology

This study investigates flood and its attendant underdevelopment in Bayelsa State of Nigeria. It adopted descriptive survey design. A sample of 190 was drawn from ten

communities in Yenagoa local government Area, using simple random sampling technique. 14 item structured questionnaire titled as 'Flood and underdevelopment in Bayelsa State Questionnaire' (FUBSQ) was use for data collection. The instrument was based on positive and negative response of (Agree or Disagree). The data collected were analyzed using simple percentage statistics for research questions.

Causes of flood in Bayelsa State

Table 1: Simple Percentage analysis on the causes of flooding in Bayelsa State.

S/No	Items	Yes	No
1	excessive precipitation and rise in sea level and increase in population	**125 (65.8%)**	**65 (34.2%)**
2	constructing buildings on flood plains and poor maintenance of drainage facilities	**151, (79.5%)**	**39 (20.5%)**
3	dumping of refuse in water bodies	**137 (72.1%)**	**53 (27.9%)**
4	excess rainfall when the absorption capacity of the soil is exceeded	**102 (53.7%)**	**88 (46.3%)**
5	climate change and opening of dams	**160 (84.2%)**	**30 (15.8%)**

Source: Field Survey, 2024

From the data presented in table 1.1, item 1, 125 (65.85%) respondents agree that excessive precipitation and rise in sea level and increase in population causes flood in Bayelsa State as against 65 (34.2%) respondents which respond no. Item 2, 151, (79.5%) respondents agrees that constructing buildings on flood plains and poor maintenance of drainage facilities causes flooding in Bayelsa State while 39 (20.5%) respondents says no. Item 3, 137 (72.1%) respondents support that dumping of refuse in water bodies causes flood in Bayelsa State. On the contrary 53 (27.9%) respondents says no. Item 4, 102 (53.7%) respondents subscribed that excess rainfall when the absorption capacity of the soil is exceeded whereas 88 (46.3%) respondents says no. Finally, item 5, 160 (84.2%) respondents agrees that climate change and opening of dams causes flooding in Bayelsa State while 30 (15.8%) respondents says no. This implies that all the above factors cause flood in Bayelsa State.

Socio-economic Impacts of flood in Bayelsa State.

Table 2: Simple Percentage analysis on the socio-economic impacts of flooding in Bayelsa State.

S/No	Item	Agree	Disagree
6	Flood leads to loss of lives and properties	**138, (72.6%)**	**52 (27.4%)**
7	Flood causes diseases and sicknesses	**120 (63.2%)**	**70 (36.8%)**
8	It causes mass migration	**132 (69.5%)**	**58 (30.5%)**
9	Floods leads to unemployment	**98, (51.6%)**	**92, (48.4%)**
10	Flood affected economic activities negatively	**145, (76.3%)**	**45 (23.7%)**
11	Flood leads to teenage pregnancy	**110, (57.9%)**	**80 (42.1%)**
12	Flood distort school academic activities	**157, (82.6%)**	**23 (17.4%)**
13	Flood destroyed crops and livestock	**178, (93.7%)**	**12 (6.3%)**
14	damage to roads, bridges, and power plants	**149, (78.4%)**	**41 (21.6%)**

Source: Field Survey, 2024

From the data available in table 1.2, item 6, 138, (72.6%) respondents agree that flood leads to loss of lives and properties in Bayelsa State while 52 (27.4%) respondents says no. Item 7, 120 (63.2%) respondents says flood causes diseases and sicknesses in Bayelsa State. On the contrary, 70 (36.8%) respondents says no. Item 8, 132 (69.5%) respondents agrees that flooding causes mass migration in Bayelsa State, 58 (30.5%) opt negative. Item 9, 98, (51.6%) respondents decline that flooding does not causes unemployment in Bayelsa State while 92, (48.4%) says it does. Item 10, 145, (76.3%) respondents agree that flood affected economic activities negatively in Bayelsa State whereas, 45 (23.7%) respondents says no. Item 11, 110, (57.9%) respondents agrees that flood leads to teenage pregnancy in Bayelsa State. On the against 80 (42.1%)

respondents disagree. Item 12, 157, (82.6%) respondents agree that flood distort school academic activities in Bayelsa State while 23 (17.4%) disagree. Item 13, 178, (93.7%) respondents agree that flood destroyed crops and livestock in Bayelsa State whereas 12 (6.3%). Finally, item 14, 149, (78.4%) respondents agree that flooding damage to roads, bridges, and power plants in Bayelsa State. On the contrary, 41 (21.6%) of respondents disagree. This implies that apart from unemployment, flooding has impacted the socio-economic activities and lives of Bayelsans negatively.

Results and Discussion

It is imperative to discuss on flooding and its impact on the socio-economic situation in Bayelsa State. The Bayelsa state Emergency Management Agency BYSEMA (2022) reported that 96 deaths recorded as at November, 4, 2022 flood alone. The flooding affected at least 1.3 million people and displaced about 1.2 million persons. It affected 300 communities across the eight local government areas with Yenagoa being the worst.

UNICEF (2023) stated that the devastating flood in Bayelsa State in 2022 left a trail of destruction, and over a million people were displaced. The ecological catastrophe destroyed homes, farmlands, fishing ponds, schools, markets, and hospitals. Many lives were lost, and communities were left without access to food, shelter, social support, and healthcare. The flood severely affected vulnerable groups, especially children, making them more vulnerable and in need of assistance.

In an oral interview documented by UNICEF (2023), 70-year-old Peter Beredugo from Yeni Ebelebiri community, one of the severely affected communities, was one of those affected. He recalls the flood coming with full force and taking over his home. He and his household had to make do with remnants of their home to create a makeshift shelter. They slept in fear all through the period of the flood because they had nowhere else to run. The flood also left them with health issues, as they all went down with catarrh, serious cold, and fever. Beredugo lost some very important documents that were destroyed by the contaminated water, rendering them useless. Their labor of 2022 was lost, as they could not save their cassava, plantains, yams, potatoes, and many crops that perished under the heavy torrents, (UNICEF, 2023).

According to Daily Trust (2022) report that severe flooding has displaced thousands of residents in Biseni Kingdom of Yenagoa local government area, Bayelsa State, submerging homes, schools, healthcare facilities, places of worship, roads and farmlands. So many roads were damaged by the flood which inhibit economic

activities. Some of the project sites include the Onuebum-Otuoke road, which connects Bayelsa East senatorial district; Imiringi road; Elebele road diversion where two iron bridges are being replaced with concrete culverts; Opokuma-Sabagreia road; Amassoma road (with three large culverts); Igbedi road extension; and the Outer Ring road.

Educationally, overall flooding has a devastating impact on academic activities in Bayelsa state, affecting not only the education system but also the well-being and livelihoods of students, teachers, and the broader community. It displacement and relocates students and teachers. Flooding forces students and teachers to relocate, disrupting the academic calendar and causing emotional distress. It also damages schools infrastructure. Floodwaters damage school buildings, furniture, and equipment, leading to significant financial losses and disruption of academic activities. During flooding, Students and teachers often lose their learning materials, including books, notes, and other essential resources, making it challenging to continue academic activities. Flooding increases the risk of waterborne diseases, which can lead to student and teacher absenteeism, further disrupting academic activities. Flooding can cause significant psychological trauma, affecting students' and teachers' mental health and well-being, and ultimately impacting academic performance. Finally, it delayed exams and academic calendar. Flooding often leads to delayed exams and disruptions to the academic calendar, causing uncertainty and anxiety among students and teachers. These factors are in tandem with the works of Odunnuga, Oyebande, and Omojola (2012) who posits that the socio economic indicators of the flood are too glaring as man's life becomes miserable and indecision during flooding. Economically, Floods have had a devastating impact on economic activities in Bayelsa state. The perennial flooding in the area has been a major problem for inhabitants and the government, affecting life, property, and socio-economic existence. The floods have disrupted farming activities, with 73% in (Adeaga 2008; Adedeji, 2010; & Olajuyigbe, Rotiwa and Durojaye, 2012), agreeing that flooding is a destructive hazard to farming. This has led to food shortages and increased prices, affecting the livelihoods of farmers and the broader community. Furthermore, the floods have damaged infrastructure, including roads, bridges, and buildings, making it difficult for businesses to operate and for people to access essential services. This has resulted in significant economic losses, as businesses have been forced to close temporarily or permanently.

Conclusion and Recommendations

The impacts of flooding on property, drinking water sources, buildings, farm produce, and health amongst others were enormous in Bayelsa State. Many people left their homes and properties were destroyed. Damage to crops led to astronomical increase in food prices, thus causing high level of underdevelopment in the state. Therefore, the following recommendations were made;

1. Government should design her academic calendar to overcome flooding effect on school curriculum.
2. There should be effective implementation of environmental legislation and control on waste disposal in water log zones such as streams, rivers, creeks, lakes etc.
3. The federal government of Nigeria through relevant agencies should speed up building of a dam that will control water movement in our country after Lagdo Dam has been close in Cameroun.
4. The State government should partners with various agencies and took necessary steps to provide aid to the victims during flood.
5. That government should implement flood preventive measures so as to reduce its impact on the residents of Yenagoa, Bayelsa State, Nigeria.

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