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What Implications does 2012 Flood Disaster have on the Nigerian Economy?

By

Nzeribe-George, G.
Department of Budget, planning, Research and Statistics, Anaocha LGA Neni, Anambra Nigeria
ejigeraldine@yahoo.com

Nwokoye, E. S.
Department of Economics Nnamdi Azikiwe University Awka Anambra Nigeria
es.nwokoye@unizik.edu.ng

Uwajumogu, N. R
Department of Economics, Renaissance University, Ugbawka, Enugu Nigeria
ketchyus@yahoo.com

&

Ezenekwe, U. R
Department of Economics Nnamdi Azikiwe University Awka Anambra Nigeria
ur.ezenekwe@unizik.edu.ng

Abstract

Human life has no duplicate; all living things need nutrition in order to get on with life. Flooding, just like any other unexpected natural disasters, rid us of both lives and nutrition; it rids us of our purchasing power, our heritage and our future. This paper takes a look at the effects of the 2012 flood disaster in Nigeria and pays particular attention to the implications for the agricultural sector. Findings herein show that this disaster swept away so many sources of livelihood and destroyed both social and farming infrastructures. The study therefore recommends that policy makers and people residing in flood prone areas must make sustainable efforts geared towards prevent future occurrences and cushioning the effects of flood disasters in Nigeria.

Key Words: agriculture, disaster, flooding, human lives, Nigeria

1. Introduction

The United Nations International Strategy for Disaster Reduction (UNISDR) (2004) defines a disaster as a sudden, calamitous event that causes serious disruption of the functioning of a community or a society causing widespread human, material, economic and/or environmental losses which exceed the ability of the affected community or society to cope using its own level of resources. A disaster is a situation or event, which overwhelms local capacity sometimes necessitating a request for international assistance(s). It can also be seen as an unforeseen and often sudden event that causes great damage, destruction and human suffering which are often caused by nature or and anthropogenic forces.

Every year many countries fall victim to various natural calamities. These include natural wild fires, droughts, desertification, climate changes, floods, earthquakes, volcanic eruptions, erosions, landslides, tsunamis, hailstorms and heat waves, among others. The effects of these natural calamities beggar description. They leave a vast trail of devastation and the affected people suffer untold hardships. These disasters cause heavy damages to lives & properties; houses are destroyed, farm lands/residential quarters are washed away, crops are greatly damaged and trees are uprooted. Thousands of people and other animals remain without food for many days. The after effects of some of these natural calamities are more serious. Famine breaks out, many people & animals die for want of food, the prices of all necessities go up. In addition to these, many dangerous diseases like cholera, typhoid and dysentery etc. break out in an epidemic form.

A flood disaster can either be anticipatory or otherwise depending on how lenient the forces of nature are in allowing humans understand its vital signs; hence, the issue of flooding and its effects on the Nigerian economy is a very vital phenomenon which should not be treated with levity. The essence of this paper is to analyze the effects of the 2012 flooding on the Nigerian economy and in particular on the agricultural activities in Nigeria with a view to exposing its threats and then encouraging timely intervention as well as precautionary measures which are apt for reducing these effects on the economy. To this end the rest of the paper is structured as follows: section two contains the some conceptual issues, section three looks at the Nigerian scenario, section four takes a specific look at the 2012 Flood Incident in Nigeria, section five contains some policy implications while section six concludes the study.

2. Some Conceptual Issues

The European Union (EU) Floods Directive defines a flood as a covering by water of land not normally covered by water. In the sense of *flowing water*, the word may also be applied to the inflow of the tide. Wikipedia (2009) also describes a flood as an overflow of water that submerges or *drowns* land. Flooding may result from the volume of water within a body of water, such as a river or lake, which overflows or breaks levees, with the result that some of the water escapes its usual boundaries, or may be due to accumulation of rainwater on saturated ground in an areal flood. A flood is also defined as a large amount of water covering an area that is usually dry. It is an overflowing of a great body of water over land not usually submerged. In the views of Nwafor (2006), a flood is a natural hazard, like drought and desertification, which occurs as an extreme hydrological (run off) event. On the other hand, Abam (2006) is of the opinion that a flood is a large volume of water which arrives at and occupies the stream channel and its flood plain in a time too short to prevent damage to economic activities including homes.

Whereas flooding itself is a situation that results when land that is usually dry is covered with water of a river overflowing or heavy rain, flooding occurs naturally on the flood plains which are prone to disaster. It occurs when water in the river overflows its banks, or sometimes results from a constructed dam. It happens without warning but with a surprise package that is always delivered to the unprepared community. If the size of a lake or other body of water varies with seasonal changes in precipitation and snow melt, it is not a significant flood unless such escapes of water endanger land areas used by man either for residential or for business purposes.

Floods can also occur in rivers, when flows exceed the capacity of the river channel, particularly at bends or meanders. Floods often cause damages to homes and industrial estates if they are placed on natural flood plains of rivers. While flood damage can be virtually eliminated by moving away from rivers and other bodies of water, since time out of mind, people have lived and worked by the water to seek sustenance and capitalize on the gains of cheap and easy travel and commerce by being near water. That human continue to inhabit areas threatened by flood damages provide evidences that the perceived value of living near the water exceeds the cost of repeated periodic flooding (see Figure 2.1).

Although a flood is a natural occurrence, it often leads to disasters as a result of human-created vulnerability, which is a consequence of human-environment interactions. Floods are the most recurring, widespread, disastrous and frequent natural hazards of the world. It is worthy to note that all floods are not alike; while some floods develop slowly and last for a period of days; flash floods can develop quickly, sometimes in just a few minutes and without any visible signs of rain. Additionally, floods can be local, impacting a neighborhood or community, or very large, affecting entire river basins. Urban flooding has resulted in major loss of human lives; destruction of economic and social infrastructure such as water supply, electricity, roads and railway lines (means of livelihood). Flooding is an important factor responsible for the spread of diseases such as diarrhea, typhoid, scabies, cholera and malaria.

Figure 2.1: What does a flood look like?

Source: http://www.naharnet.com retrieved on 01/02/14

Worldwide, there has been rapid growth in the number of people killed or seriously impacted by flood disasters (UN-Water, 2011). Indeed, the amount of economic damages affects a large proportion of people in low-lying coastal zones or other areas at risk of flooding and extreme weather condition. According to UN-Water (2011) floods, including urban flood is seen to have caused about half of

disasters worldwide, and 84% disaster deaths in the world is attributable to flooding. Askew (1999) reiterated that floods cause about one third of all deaths, one third of all injuries and one third of all damage from natural disaster.

In the views of WHO (2001), climate change is projected to increase threats to human health; it can affect human health directly (e.g. impacts of thermal stress, death/injury in floods and storms) and indirectly through changes in the ranges of disease vectors (e.g. mosquitoes), water-borne pathogens, water quality, air quality, and food availability and quality. The WHO also asserts that social impacts vary dependent on age, socioeconomic class, occupations and *gender*, and the world's poorest people are the most affected. The risks to health from climate change arise from: (1) direct stresses (e.g. heat waves, weather disasters, workplace dehydration); (2) ecological disturbance (e.g. altered infectious disease patterns); (3) disruptions of ecosystems on which humanity depends (e.g. health consequences of reduced food yields); and (4) population displacement and conflict over depleted resources (e.g. water, fertile land, fisheries).

3. Flooding: The Nigerian Scenario

Flooding occurs throughout Nigeria in three main forms: coastal flooding, river flooding, and urban flooding, Coastal flooding occurs in the low-lying belt of mangrove and fresh water swamps along the coasts. River flooding occurs in the flood plains of the larger rivers, while sudden, short-lived 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, or where existing drainage has been blocked with municipal waste, refuse and eroded soil sediments. Extensive urban flooding is a phenomenon of every rainy session in Lagos, Maiduguri, Aba, Warri, Benin and Ibadan.

Virtually every Nigerian is vulnerable to disasters, natural or man-made. Every rainy season, wind gusts arising from tropical storms claim lives and property worth millions of Naira across the country. Flash floods from torrential rains wash away thousands of hectares of farmland. Dam bursts are common following such flood. In August 1988 for instance, 142 people died, 18,000 houses were

destroyed and 14,000 farms were swept away when the Bagauda Dam collapsed following a flash flood. Urban flooding such as the Ogunpa disaster which claimed over 200 lives and damaged property worth millions of Naira in Ibadan, are common occurrence (Edward-Adebiyi, 1997).

In Nigeria, though not leading in terms of claiming lives, flood affects and displaces more people than any other disaster; it also causes more damage to properties. At least 20 per cent of the population is at risk of one form of flooding or another. In Nigeria, flood disasters have been perilous to people, communities and institutions. 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 (Baiye, 1988; Akinyemi, 1990; Nwaubani, 1991; Edward-Adebiyi, 1997).

Table 3.1 Reports of Some Flood disasters in Nigeria

Date	Total Number of People Affected
August 1988	300,000
11 September 1994	580,000
10 October 1998	100,000
27 August 2001	84,065
5 September 2003	210,000
10 September 2009	150,000
13 September 2010	1,500,200

Source: ***http://www.emdat.be/result-country-profile retrieved on 09/02.13***

Table 3.1 exposes the various flood incidences in Nigeria prior 2012. It reveals the great havoc caused by flood disaster in various years and the total number of people affected by the disaster. All the major floods that led to the displacement of people in Nigeria occurred between the years 1980 and 2000. This period coincided with the period when rainfalls become more erratic with higher intensity due to intensifying impacts of climate change (Odjugo, 2009). Table 3.2 x-rays the cost of economic damages caused by flood disaster from 1985 to 2011.

Table 2 Reports on Econ4omic Damages Cost of Flood disaster in Nigeria

Date	Cost (US$'000)
23 September 1985	8,000
11 September 1994	66,500
15 August 2000	1,900
20 September 2000	4,805
27 August 2001	3,000
5 September 2003	2,570
7 August 2005	147
28 August 2011	30,000
13 September 2011	1,500

Source: *http://www.emdat.be/result-country-profile retrieved on 09/02.13*

4. The 2012 Flood Incidence in Nigeria

The 2012 rainy season in Nigeria has been worse than those of the earlier years, and heavy rains at the end of August and the beginning of September led to serious floods in most parts of the country. The Nigerian authority contained the initial excess run-off through contingency measures, but during the last week of September water reservoirs had over flown and the system was obliged to open up the dams in a bid to relive pressure in both Nigeria and neighboring Cameroon and Niger Republic. This led to the destruction of river banks and social infrastructure, as well as loss of property and livestock and flash floods in many areas. By 29 Sep, the floods had affected 134,371 people, displaced 64,473, injured 202 and killed 148. (UN Office for Coordination of Humanitarian Affairs, Nov 2012).

Figure 4.1: Map showing the extent of flood in Nigeria (the darker areas) are the states affected in September 2012 as reported by source:

Source: http://www.naharnet.com retrieved on 03/10.12

By the end of October, more than 7.7 million people had been affected by the floods, and more than 2.1 had registered as Internally Displaced Persons (IDPs). 363 people were reported dead; more than 618,000 houses had been damaged or destroyed.

Fig 4.2: Photo of 2012 flood

Source: NEMA 2012

Fig 4.3 A woman wadding in the flood

Source: http://www.vanguardnews.com 28/09/12

Figure 4.4: Photos of displaced persons in camp


a


b

a. A woman who gave birth in the IDP camp b. Children with their belonging seeking shelter from floods

Source: ***http://www.vanguardnews.com*** ***retrieved on 28/09/12***

Figures 4.2 and 4.3 capture the impact of the 2012 flooding on the socio-economic lives of the people of Nigeria. Figure 4.4 shows some of the flood victims who sought refuge in the different IDP camps set up by government and non-governmental organizations.

What Caused the Flooding?

The 2012 flooding is attributable to several factors including the overtopped rivers which had inundated vast areas of the country. While the flood saga allegedly assumed a disastrous dimension because of the release of water from Lagdo dam in neighboring Cameroon, the torrential rainfall recorded in Nigeria for 2012 also propped it up. More so, the large cities in Nigeria are overcrowded, with many residents living in haphazardly constructed slums. Drainage system is also often poorly maintained and is a contributory factor to the disaster.

Effects of the Flood Disaster on Households

Available data reveals that out of the 35 states affected by the 2012 flooding, 14 states were critically affected. A total of 395,631 households were affected representing 12 percent of the total population in the LGAs affected. Table 3 reveals that three hundred and ninety five thousand, six hundred and thirty one (395,631) households were affected and two million, seven hundred and sixty nine thousand, four hundred and fifteen (2,769,415) persons were affected by the flood. It is worth noting that this number of persons and household is drawn from 14 states that were severely affected by the flood. Out of this number, some were killed; some were injured, while some others were affected by one disease or the other.

Effects of the Flood Disaster on Agriculture

The 2012 flood disaster destroyed large tracts of agricultural land most still with crops on the field. The losses and damages also include swept away fish ponds bothering the rivers, destroyed rice farms, lost of livestock (cattle, sheep, goats, pigs and poultry), destroyed irrigation infrastructure and equipment, lost fish from the ponds, inputs washed away (feeds and seeds).

Table 4.1 contains the total population and households affected in the 15 flood affected states of Nigeria in the 2012 flood disaster while Table 4.2 summarizes the losses in the main crops in the affected areas. The report states that the impact of the loss in the yield associated with the flood will be felt most at the household level and in the LGAs affected but maintains that the impact will not affect total availability of food at the national level.

Losses in the fisheries sub sector included loss of fishes in the ponds, washing away of ponds, loss of fishing gear and lost income due to inability to fish for as many days as the floods went on. The estimated loss in 2 months for the 14 states severely affected by flood is 82,491.82 MT, while the estimated value of the loss at ₦8000/MT is ₦245, 244, 960.

Table 4.1: Number of Household Affected by Floods

States	Total Population Estimates (2012)	Total Number of Local Government Areas (LGAs)	Total pop in affected LGAs	No of LGAs affected	Total affected pop in LGAs	Number of Households affected
Adamawa	3,764,021	21	1,470,990	9	189,706	27,101

Anambra	4,932,272	21	1,177,199	8	89,909	12,844
Bayelsa	2,023,760	8	1,770,790	7	387,360	55,337
Benue	5,040,516	23	1,497,707	5	62,303	8,900
Delta	4,950,041	25	2,359,262	13	483,517	69,074
Edo	3,774,746	18	838,832	4	20,505	2,929
Imo	4,752,575	27	388,343	2	1,587	227
Jigawa	5,166,630	36	3,564,528	18	491,843	70,263
Kebbi	3,890,292	21	2,654,871	14	362,355	51,765
Kogi	3,916,641	21	1,641,503	9	199,511	28,502
Kwara	2,832,619	15	521,215	3	12,468	1,781
Niger	4,832,087	25	2,452,419	15	248,934	35,562
Plateau	3,728,276	17	1,304,916	8	123,316	17,617
Taraba	2,733,504	16	1,025.064	6	96,100	13,729
Total	**56,337,979**	**291**	**22,667,640**	**116**	**2,769,415**	**395,631**

Source: Joint assessment report on flood damage and loss for agriculture by UNDP, WFP and FAO (2012).

Table 4.2: Estimated Losses in Main Crops of the Affected Areas

Crop	**National Production in Tonnes (2010)**	**Area Harvested in Tonnes in 2010**	**Lost Hectares 2012 Floods**	**Estimated Yield Loss in Tonnes**	**% of Yield Lost**
Rice	3,200,000	1,800,000	446,000	981,200	31
Sorghum	4,800,000	4,700,000	264,365	237,928	5
Cassava	37,500,000	3,125,000	380,000	5,320,000	14
Yams	29,200,000	2,800,000	514,270	4,970,640	17
Maize	7,300,000	3,336,000	325,100	585,180	8

Source: Joint assessment report on flood damage and loss for agriculture by UNDP, WFP and FAO (2012).

Table 4.3 summarizes the losses in the livestock sub-sector and the data show that poultry was worse hit by the flooding and shows that the affected households are basically livestock farmers.

Table 4.3: Estimated Losses in the Livestock Sub-sector

States	Cattle	Small Ruminants	Poultry	Pigs	Households affected
Adamawa	20,368	45,828	45,828	0	5,092
Anambra	0	33,967	65,103	36,797	5,897
Bayelsa	0	343,703	2,749,626	412,444	50,919
Benue	939	12,204	12,207	7,510	4,267
Delta	0	301,950	301,950	0	60,390
Edo	0	52,360	52,360	0	20,944
Imo	0	125,616	96,628	169,099	3,451
Jigawa	0	0	0	0	0
Kebbi	43,115	137,967	129,344	0	12,870
Kogi	1,834	22,012	23,847	0	4,266
Kwara	1,102	14,882	8,268	0	2,901
Niger	3,263	12,021	126,769	4,410	14,854
Plateau	1,854	4,946	11,129	1,237	1,508
Taraba	64,497	145,117	145,117	0	21,216
TOTAL	**136,972**	**1,252,573**	**3,768,176**	**631,497**	**208,575**

Source: Joint Assessment Report on Flood Damage and Loss for Agriculture by UNDP, WFP and FAO (2012).

In summary, according to the Joint Draft Assessment Report on Flood Damage and Loss for Agriculture and Food Security Response and Rehabilitation (2012), out of the 37 States in Nigeria, 35 states were affected by the 2012 flood disaster. This affected 2,389 communities in 231 Local Governments and killing about 431 persons, injuring about 29,680 persons and displacing about 141,179 people. In addition, large hectares of agricultural lands, most of them still with crops on the field, were destroyed and a large number of livestock were also destroyed.

5. Policy Implications for Individuals and the Economy

The flash or river floods affected a great number of people and generated mass displacement. The challenges involved are among others, the spread of communicable diseases and an increase in the

prevalence of psychological problems due to stress associated with relocation. Families were displaced and had to live in emergency or transitional housing known as Internally Displaced Person's Camps. These camps were characterized by overcrowding, lack of privacy, insecurity, lack of social amenities, and the collapse of regular routines and livelihood patterns. These contributed to anger, frustration, and violence with children and women most vulnerable.

There were losses of purchasing power for those whose source of livelihood is in poultry, livestock, and crop farming in the affected areas. This led to increased poverty, hunger and even death.

Schools in the affected areas were submerged in the flood water. Children were thrown out of school as long as the flood lasted. This was an additional burden on their parents and the society.

For those who lost their lives, it is expected that the death of economically active persons will have a negative effect on the economy. Since their contributions matter for economic output and growth, these deaths are expected to directly and indirectly have negative impacts on the growth of the Nigerian economy.

For those who were injured or affected by one disease or the other; health they say is wealth, and a healthy nation is also a wealthy nation. The flood disaster inflicted a lot of diseases on some persons and also injured some others; these incidences are expected to affect the productivity of these persons and will in turn affect the growth of the economy negatively.

This severe flood disaster temporarily cut crude oil output by around 500,000 barrels per day, or some 20 percent of total production in Africa's largest crude oil producer. This is expected to affect the economy negatively since greater percentage of Nigeria's budget depends on revenue from oil sector.

6. Policy Recommendations and Conclusion

This paper makes the following policy recommendations in a bid to mitigate the negative impacts of natural and man-made flood disasters on the lives of the people**.**

a**.** policy makers should demand enforcement of compliance with planning and urban laws/edicts.

b. there should be construction of embankments and levies along flood-prone rivers and coastline areas.

c. government agencies should establish rainstorm early warning system
d. and these agencies should establish and monitor weather stations, rivers and tidal gauges
e. government agencies should ensure appropriate management of dams
f. government agencies should also ensure proper maintenance of existing urban drainage channels
g. government agencies should enforce environmental sanitation laws in towns and cities.

It is evident from this study that the impacts of flooding in Nigeria have increasingly transcend significant proportions and are now in threatening proportions, resulting in loss of lives and properties. Apart from houses that collapsed, market places, schools, hospitals and farmlands were submerged for weeks and months and some were completely washed away. The 2012 flooding is the worst in more than 40 years; it had forced millions of people from their homes, killed thousands of people, destroyed crops, animals and farmlands.

There is therefore an urgent need for collaborative effort of both government and stakeholders to strengthen our emergency preparedness to reduce people's vulnerability and cushion the impact of flooding and other disasters (both natural and man made) on our settlements, economy and environment.

From the forgoing, it is obvious that flood prevention and control is a public service and as such, falls within the responsibility of the government and its agencies. Government must therefore make sustainable efforts geared towards prevent future occurrences and cushioning the effects of flood disasters in Nigeria.

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