IMPACT OF EBOLA PANDEMIC ON THE SOCIAL AND ECONOMIC DEVELOPMENT OF WEST AFRICA, 1976 – 2016

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ABSTRACT

This paper discusses the Ebola Virus Disease (EVD) which was said to have first appeared in 1976 in two simultaneous outbreaks, one in what is now Nzara, South Sudan, and the other in Yambuku in Zaire (now Democratic Republic of Congo (DRC). The latter occurred in a village near the Ebola River, from which the disease derives its name. Between 1976 and 2012, the disease was said to have killed about 1,600 people. However, the latest Ebola virus epidemic in West Africa began in December 2013 and was contained in 2016. It was recorded to have infected about 28,652 people, and killed more than 11,325 people. The 17,000 Ebola survivors were said to have been facing health problems ranging from possible blindness, joint pains, headache as well as psycho-social challenges including rejection, stigmatization by friends and families, and depression etc. The spread and persistence of EVD epidemic in West Africa for nearly 3 years could be attributed to poor health care systems in the worst-hit countries of Liberia, Sierra Leone and Guinea. These countries lacked the capacity in terms of health care infrastructure as well as equipment and medical personnel to contain the ravaging Ebola pandemic. Liberia, for instance, had only 50-60 medical doctors for its four million people at the onset of the EVD. Besides, the international response to the deadly Ebola epidemic came very slowly, that is, about 8-9 months after the outbreak of the epidemic. Moreover, there was no vaccine readily available for combating the scourge. However, the global community, including the United States, United Nations, World Health Organization, European Union, United Kingdom, Japan and Cuba etc eventually provided funds, equipment as well as medical expertise and troops that ultimately helped to contain the deadly epidemic. This paper finally examines the impact of the Ebola virus epidemic on the social and economic development of West Africa. It established that the Ebola pandemic led to the disorganization of social life, the monumental loss of human lives and the disruption of social relations in the affected countries. It also resulted in the decline of economic productivity, reduction in international trade in the West African sub- region, which consequently increased the rate of inflation, and induced exchange volatility and pervasive poverty in the affected countries.

INTRODUCTION

This paper discusses the Ebola Virus disease (EVD), formerly known as Ebola hemorrhagic fever. It traces its origin in 1976 from Zaire (now known as Democratic Republic of Congo, DRC) from where it took its name from Ebola River. The Ebola origin is also traceable to a place known as Nzara in South Sudan, hence there have been references to Zaire and Sudan strains of the deadly Ebola virus by medical experts (Daily Sun, May 24, 2017). The paper also highlights the concerted efforts made by the West African countries, and the world community at large, towards the containment of the ravaging Ebola epidemic during the latest outbreak which began in December 2013-2016. The paper finally examines the social and

economic impact of Ebola pandemic in West Africa during the latest outbreak which lasted for nearly three years.

The deadly Ebola virus disease (EVD) has been of public health concern since its discovery and most especially since 1990s till date. Ebola was found in some African countries in the Central and West African sub- regions including Democratic Republic of Congo (formerly Zaire), South Sudan, Gabon, Guinea, Sierra Leone, Liberia, and lately in Nigeria and Senegal (Faramade, 2014)

A Survey of the origin and spread of Ebola in West Africa

Recent studies have shown that Ebola virus disease (EVD) originated from Central Africa especially from Zaire (DRC) area from where it took its name from Ebola River, and in Nzara in South Sudan, hence there were two strains of Ebola virus. In recent times, two prominent medical researchers, Pam Belluck and Wilham Broad (2015) stated that Ebola had been considered a threat mostly to Central African nations. However, they observed that a growing body of clues suggests now that the Ebola virus may have lurked in the West African forests for years, or even decades before igniting the epidemic in the region that took more than 10,000 lives in less than three consecutive years (2013-12016).

With references to some researches carried out in both Central and Western African sub-regions, Belluck and Broad (2015) observed that clues that Ebola might have been hiding in forests throughout Africa, did not just emanate from blood tests. They noted that scientists had sequenced the genes of the virus in the latest epidemic of 2013-2016 and compared it to the DRC strain responsible for most Central African Ebola outbreaks. With specific reference to West Africa, Belluck and Broad (2015) stated that researchers identifies hundreds of genetic mutations that, taken together, suggest that the West African Ebola variant diverged from the Central African strain and settled into a distinct ecological niche 25-50 years ago, perhaps even earlier.

The scientific researchers which portray that Ebola virus disease had been lurking in West African forests for sometimes also established that some wild animals such as monkeys and bats were the vectors or reservoirs of the virus. According to researchers at Albert-Einstein College of Medicine, the University of Colorado-Boulder and the United States Army Medical Research Institute of Infectious Diseases, Ebola virus and bat have been waging molecular battle for survival that may have started at least 25 million years ago. (See The Guardian, Science Health, December 31, 2015). The findings were said to have shed more light on the biological factors that determine which bat species that may habour the virus, between outbreaks in humans, and how bats may transmit the virus to people.
The researchers reportedly concluded that:

Outbreaks of Ebola virus disease among humans are thought to begin when a person comes into contact with wild animals that caught Ebola virus (a member of the family of filoviruses), (See The Guardian, Science Health, December 31, 2015).

It was as a result of the connection between the Ebola virus disease and some wild animals believed to be the virus vectors that palpable fears were created in the minds of people in Ebola-affected West African countries. The people became incensed about the dangers of coming in contact or eating meat from such animals. These include monkeys and bats. In Nigeria, for instance, many states government banned the sale of bush meat for consumption

by the public. This was as a result of fears that people who consume such meat would contract Ebola virus. In Ondo State, for example, "the harvesting and sale of bush meat were suspended by the state government as part of the effort to check the spread of Ebola" (The Nation on Sunday, September 7, 2014). Indeed, throughout Nigeria there was reported drop in the sale and consumption of bush meat across the country following the Ebola outbreak and the attendant control campaign warning people to desist from consuming same (Alemma-Ozioruva, 2014).

Despite the vociferous protest by hunters over the campaign against bush meat, and their condemnation of the then Honourable Minister of Health, Prof. Onyebuchi Chukwu for spearheading the ban on bush meat, the Nigerian citizens heeded to the government advice to refrain from consumption of bush meat for months (See Alemma-Ozioruva, 2014). Thus, the palpable fears of EVD which engendered *Ebolaphobia* on the populace altered the consumption pattern of behaviour of the Nigerian populace, especially with regard to bush meat delicacies within few weeks of the emergence of the dreaded disease.

The symptoms of Ebola virus disease (EVD)

Ebola virus disease (EVD) which broke out in West Africa in December 2013 was described as "the most dreaded and deadliest disease in the world". It was said to have taken over from Acquired Immune Deficiency Syndrome (AIDS) as the world's deadliest disease (Okojie and Olayiwola, 2014). The symptoms of the disease, according to medical experts, include the following: (i) fever (ii) headache (iii) chills (iv) diarrhea (v) nausea (vi) backache and joint pains (See Okojie and Olayiwola, 2014). Some other symptoms of EVD include bleeding from the eyes, swelling of the genitals and rashes all over the body that often contain blood. Besides, symptoms from laboratory findings, according to medical experts, include low white blood cell and platelet counts, and elevated liver enzymes. At this stage, according to medical experts, it could lead to coma, shock and death (See Okojie and Olayiwola, 2014; Madike, 2015).

The Spread of Ebola in West Africa

As already stated, Ebola outbreak was first recorded in Central Africa within Zaire area (now Democratic Republic of Congo) and in South Sudan in 1976. The latest outbreak of Ebola was in West Africa in December 2013, in Guekedou, a forest area of Guinea near the border with Liberia and Sierra Leone. It should be noted that these three countries namely Liberia, Sierra Leone and Guinea eventually bore the brunt of the deadly disease in terms of high morbidity and mortality rates, as well as socio-economic devastations of their societies.

Engl et al (2014) reported that by mid September 2014, nine months after the first case occurred, the numbers of reported cases and deaths were still growing from week to week despite multinational and multi-sectoral efforts to control the spread of the infection. From these countries, travelers carried the Ebola virus to some other countries.

Ebola virus disease in Nigeria

Ebola virus disease nightmare in Nigeria was said to have began as a fairy tale from an unknown land (Madike, 2015). On July 20, 2014, one Mr. Patrick Sawyer, a senior diplomat with the Economic Community of West African States (ECOWAS) was said to have flown to Lagos (Nigeria) on his way to attend the ECOWAS convention in Calabar, Cross River state.

By the time Mr. Sawyer arrived in Lagos on July 20, 2014, the federal government had not initiated strict surveillance policy on travelers entering the country in order to checkmate the possible spread of Ebola virus in Nigeria. As a result, Mr. Sawyer appeared to have had unhindered access to Lagos even though he had already contracted the Ebola virus from Liberia before entering Lagos. Thus, Mr. Sawyer became the index case or primary source of the disease in Nigeria (see Madike, 2015).

As a result of his worsening health condition on arrival in Lagos, Mr. Sawyer was said to have been taken to a private hospital in Obalende, Lagos where he was quarantined and later died a few days later. His death caused a great hysteria and panic throughout the country. The implication of his death was that Nigeria had joined the league of countries being ravaged by Ebola virus disease (EVD) in West African sub-region.

On the outbreak of the Ebola epidemic in Nigeria, the Federal Government as well as the Federal Ministry of Health were said to have mobilized both human and material resources to contain the spread of the dreaded disease. The first step said to have been taken by Nigeria was to identity the index (that is, the first case), Mr. Patrick Sawyer and his subsequent isolation at the First Consultant Medical Centre, Obalende, in Lagos where he later died. One of the medical doctors who attended to Mr. Sawyer, Dr. Arneyo Stella Adadevoh contracted the Ebola virus disease and later died too. This incident threw the nation in a state of confusion and panic. The federal government quickly declared the Ebola outbreak as a public health emergency in Nigeria (see Madike, 2015).

The Ebola virus disease soon spread to Port Harcourt, Rivers state in August 2014. According to Onoyume (2014) it was a diplomat who escaped quarantine in Lagos and later travelled to Part Harcourt and was said to have checked into a hotel accommodation. The diplomat was reported to have been one of those who received Mr. Sawyer on his arrival in Lagos. Like others who contracted the Ebola virus from Mr. Sawyer, the diplomat also did (Onoyume, 2014; Yesufu and John, 2014). However, while in Port Harcourt the diplomat was said to have made arrangement for a doctor to attend to him in his hotel room, and one Dr. Iyke Enemuo was consulted to attend to him. The diplomat was said to have left Port Harcourt a week later and returned to Lagos. He was reported to have regained his health and returned to the quarantine centre in Lagos apparently for a certificate of clean health (see Onoyume, 2014; Yesufu and John, 2014). Thereafter, Dr. Iyke Enemuo who treated him while he was in Port Harcourt took ill and later died of Ebola virus disease on August 22, 2014 (Yesufu and John, 2014; Onoyume, 2014).

Dr. Iyke Enemuo's death heightened the fears of Ebola epidemic not only in PortHarcourt, but throughout the country. Consequent upon this, certain measures were taken by both the government and the public to contain the menace of the Ebola epidemic. For example, the Rivers' State Governor, Mr. Rotimi Amaechi in a state radio broadcast announced that there would be no more handshakes. He advised the people to keep their hands in their packets until "we contain the disease" (see Onoyume, 2014). Besides, other measures were initiated by the government, public and private institutions as well as the Nigerian citizens to contain the deadly disease. These include the use of thermometers to gauge body temperatures of people in public institutions, the use of sanitizing gel and encouragement of regular washing of hands in schools and other public institutions. There was also disencouragement of handshakes and hugging during public gatherings, including in holy places. Many Nigerians also decided to deliberately avoid attending social occasions for fears of contracting Ebola virus in crowded social environment. Moreover, many people who had planned for social

engagements such as wedding and burial ceremonies had to momentarily postpone them in recognition of the *Ebolaphobia* that had pervaded the entire country.

On the whole, the World Health Organization (WHO) declared Nigeria Ebola virus disease (EVD) free on October 20, 2014. Earlier, the global health body had given notification of its intention to officially declare Nigeria Ebola-free on October 20, 2014 following the non detection of new Ebola cases in the country after the requisite 42 days of active surveillance (Ogundipe, Obinna and Olawele, 2014). Nigeria was able to achieve that feat of containing the deadly Ebola virus disease as a result of the following reasons:

In the first place, Nigeria had relatively good health facilities, and a large number of health workers, including specialists in various segments of the health sector. Nigeria's tertiary health institutions produce medical doctors in large number, some of whom were employed in other countries.

Secondly, the political leadership under President Goodluck Jonathan viewed the Ebola outbreak as a major threat to the existence of the nation. Thus, the federal government mobilized human and material resources to tackle the Ebola epidemic. In view of the prompt action of the federal government as well as the excellent performance of the Federal Ministry of Health in containment of the Ebola virus disease, many Nigerians were said to have urged the government to extend such zeal and leadership commitment to other areas of national development (see Ogundipe, Obinna and Olawele, 2014).

Thirdly, the assistance from the global community particularly the United States of America, United Kingdom, United Nations, European Union and the World Health Organization etc helped Nigeria immensely in containment of the deadly Ebola disease. The United States Centre for Disease Control was said to have earlier assisted Nigeria to establish very important facilities in the country in anticipation of future health emergency. Such facilities as hand held infrared thermometers were said to have been provided to Nigeria by the United States (Anuforo, 2014).

Fourthly, the initial attitude of fear, panic, bewilderment, helplessness and certain bizarre actions on the part of Nigerian public over the Ebola scare later gave way to rational decisions for survival. For instance, on the outbreak of the Ebola epidemic in the country, some Nigerians began to drink and use salt to bathe as antidote to the virus. Yusuf-Adebola (2014) recounted how on August 8, 2014 messages circulated round urging Nigerian families to bathe with a mixture of hot water and salt. He recounted further that as the day progressed, he got to find out that a lot of families (especially mothers) had received such message from relatives to bathe with salt and water, which he sarcastically described as the latest Ebola "anti virus". Some people in Nigeria were said to have resorted to prayers to be read while mixing warm water and salt (Yesufu-Adebola, 2014).

But the overt display of ignorance, confusion and panic on the part of many Nigerians showed that the people did not have the basic knowledge of the nature of the dreaded Ebola virus. However, as time progressed Nigerian citizens began to adapt to basic scientific methods of its prevention which include refraining from frequent handshakes, the use of sanitizing gel for regular washing of hands and the use of thermometers to gauge body temperatures etc. Several government agencies and institutions embarked on sensitization campaign to provide relevant information to the public about the nature of EVD and how to prevent its transmission. Yesufu-Adebola (2014) stated that sensitization was needed in order

to pass the correct information about the disease to the public via various public and private institutions such as markets, media organizations, school teachers, corporate organizations and transport unions. He argued that "we all need to take preventive measures amongst which is preparing food properly and safely, reducing social gatherings or contacts with persons, consulting medical professionals and reporting to the relevant authorities when necessary". In Liberia, radio and television stations were directed to broadcast Ebola awareness messages (see The Guardian, World Report, November 25, 2015).

Moreover, there was also element of goodluck that attended Nigeria's effort towards the containment of the deadly Ebola virus. Although it broke out in Lagos and PortHarcourt, nevertheless, many people who had contacts with the index case, the diplomat as well as the two doctors who fell victims of the disease later survived the dreaded Ebola virus disease. In many cases those quarantined were found to have tested negative of the virus. In PortHarcourt, Rivers state, for instance, about 100 persons who had contacts with both Dr. Enemuo and the diplomat were later traced and quarantined. Most of them were later found to be negative of the Ebola virus. Some of them who actually contracted the virus (for example, Dr. Enemuo's widow) later survived the Ebola infection (see Yesufu and John, 2015).

Furthermore, the federal government had supported the regulatory agencies in the health sector to adopt tough measures against fraudulent declaration of Ebola disease cure. In a similar regulatory policy decision and rules by the USA's Food and Drug Administration (FDA), the National Agency for Food and Drug Administration in Nigeria (NAFDAC) adopted certain rules and as well threatened to prosecute any person or group that made any fraudulent claim about Ebola virus disease cure. The Director-General of NAFDAC, Dr. Paul Orhii described such claim as "a national embarrassment". He specifically threatened to prosecute a claimant who made an unverified cure claim of the EVD, using Ewedu, a native vegetable (see Ogundipe, 2014). With the tough stance of NAFDAC with regard to the prohibition of unverified claims to the cure of the EVD, Nigerian public was saved the panic and extortion which could have arisen from such false and bogus claims.

On the whole, Nigeria witnessed 20 cases of Ebola virus infection, and 8 deaths were recorded before the country was declared Ebola-free on October 20, 2014 by WHO. Nigeria was lucky to have not witnessed flare-ups of Ebola virus epidemic after the declaration of the country Ebola-free, unlike in some other West African countries especially Sierra Leone and Liberia.

Ebola virus disease epidemic in West Africa

As already stated, the latest Ebola outbreak in West Africa started in December 2013. It was first detected deep in the forests of South-Eastern Guinea, and later spread to Liberia, Sierra Leone, Guinea, Nigeria and Senegal (The Guardian, September 5, 2015). The Ebola virus disease epidemic ravaged some West African countries between December 2013 -2016. By the time the Ebola epidemic was brought under control in 2016, more than 28, 652 people had been infected with the virus, and more than 11, 325 people were dead (Obinna, 2016). In Liberia, for instance, one of the worst-hit countries, there were more than 10,000 Ebola cases, and more than 4000 deaths since the West Africa's outbreak began in December 2013 (The Guardian, World Report, November 25, 2015).

It is, therefore, necessary at this juncture to examine the reasons why the latest Ebola outbreak of 2013-2016 was so devastating in West African sub-region.

1. Impact of Ebola virus flare-ups in West Africa

This has been identified as one of the major reasons why the Ebola epidemic had lasted for 2-3 years, thus devastating the population of some West African countries particularly Liberia, Sierra Leone and Guinea. According to the research report said to have been published in the journal entitled *Science Advances* and cited in Muanya (2016), the Ebola June 2015 flare-up was a re-emergence of a Liberia transmission chain originating from a persistently infected source. It was also said to be the case with the March 2015 Liberian flare-up, which was caused by sexual contact within Liberian community, and neither from an animal reservoir nor from a neighbouring country with active person-to-person transmission (see Muanya, 2016). This presupposes that the Ebola virus lurked within some communities and was transmitted person-to-person through different forms of social contacts. With its high rate of infection, the populace became very vulnerable to the deadly disease. According to *WHO Report* (Article 85, 2015) Ebola virus can persist in the body fluids of survivors during convalescence and this may result in transmission of the virus. (WHO Report, Article 85, 2015).

1. **Existence of poor health facilities**
As developing countries, most West African countries were noted for their poor health facilities and inadequate health personnel. They also lacked well equipped hospitals and medical centers as well as sophisticated diagnostic laboratories prior to the latest outbreak of the Ebola epidemic in 2013. In Liberia, for example, the *Aljazeera* reported that the country had only 60 doctors for its entire populations when the Ebola epidemic broke out in March 2014. (Aljazeera Documentary Report, March 24, 2015).

Similarly, President Ellen Johnson Sirleaf of Liberia acknowledged that her country could have been more aggressive in fighting the Ebola disease at the outset but for lack of adequate resources (The Guardian, Africa News, February 23, 2015). Also, the Liberia's Minister of Foreign Affairs, Augustine Kpehe Ngafian revealed in Washington that Liberia entered the epidemic with only 50 doctors for 4 million people. He also stated that the number of trained doctors and nurses, already in critical short supply after years of civil war, was shrinking as medical workers got infected, quarantined or were afraid to come to work. The Minister concluded that the health care system of his country had collapsed over the Ebola epidemic, and needed global response (Oloke, 2014).

However, at the outbreak of the Ebola epidemic some advanced countries including USA, U.K, Japan, United Nations, European Union and Cuba etc mobilized funds and manpower to help fight the epidemic across West Africa (See The Nation News, October 2, 2014). This is in recognition of the essence of the concept and practice of medical diplomacy whereby the international community would assist in strengthening the health care infrastructure of developing countries so as to cope with health emergences. This is realization that "as long as the Ebola virus disease was prevalent in any country, the entire world stands at risk" (Nwaosu, 2015)

2. **Poverty in West African sub-region**
Generally, there has been high level of poverty in most African states, including West Africa. As a result, both the populace and governments lack the capacity as well as adequate funds to elevate the quality of health services to the people. In view of this situation, during the latest outbreak of Ebola epidemic in West Africa in 2014, the European Union (EU) appointed Ebola Coordinator, Chris Stylianides who insisted that the EU funds should be used to

finance "a vast increase in health staff and hospital beds to treat patients in West Africa". He further insisted that "the number of overall beds in the region needed to increase from 1000 at present to 5,000 as soon as possible", while "some 40,000 staffers needed to be mobilized to set up and keep field hospitals working". The numbers which he stated were said to be in line with the recommendations of the World Health Organization (WHO) (Vanguard, World News, October 22, 2014). It should be noted that Liberia, Sierra Leone and Gambia which constituted the epicenter of the Ebola epidemic lacked adequate health facilities as well as sufficient number of medical personnel at the outbreak of the disease. This could largely be attributed to poor financial resources of these countries.

3. Impact of debt burden

Most African countries, including those of West Africa, had been entangled in debt burden. Consequently, they spend reasonable funds on yearly basis in servicing external debts, thus leaving only meagre funds for capital projects, which include the establishment and maintenance of functional health system. The West African countries – Liberia, Sierra Leone and Gambia – which were worst-hit by the ravages of Ebola epidemic, therefore, lacked the capacity to cope with the health emergency generated by the Ebola virus disease as from December 2013. This was due to paucity of funds and non-availability of relevant health infrastructure.

In January 2015, some professors from three leading British Universities were said to have stated in their report that the policy of International Monetary Fund (IMF) favouring international debt repayment over social spending contributed to the Ebola crisis by hampering health care in the three worst-hit West African countries. The professors were said to have alleged in their report that the conditions for the loans from the IMF prevented an effective response to the outbreak of the Ebola epidemic that had killed nearly 8,000 people by January 2015 (see Komolafe, 2015).

Although the IMF made spirited effort to defend its policy with regard to loan repayments, nevertheless, its reference to increase in health expenditures in the Ebola worst-hit countries of Liberia, Sierra Leone and Gambia appears not very cogent. For instance, the marginal increase in health-care expenditures in those countries were so inconsequential that they neither could have improved health care delivery significantly nor make positive difference towards the containment of the deadly Ebola disease in their respective countries (see Komolafe, 2015).

4. Lack of quick response to the Ebola epidemic

The available information on the latest outbreak of Ebola epidemic in West Africa and the response by the global community, particularly the international agencies suggests that there was lack of quick response to the dreaded Ebola disease. As already stated, the latest Ebola outbreak in West Africa began in Guinea in December 30, 2013 (see WHO Ebola Response Team Report, October 16, 2014). However, the World Health Organization was said to have been officially notified of "the rapidly evolving EVD outbreak on March 23, 2014". It was not until August 8, 2014 that the WHO was said to have declared the epidemic to be "a public health emergency of international concern" (see WHO Ebola Response Team Report, October 16, 2014).

The above account of the latest outbreak of the EVD in West Africa reveals that WHO responded to the situation nine months after the outbreak of the epidemic, and four months after it had been officially notified. The *Aljazeera* Documentary Report on Ebola noted that

"WHO was said to have been very slow in acting against the disease until March 2014" (Aljazeera Documentary Report, March 24, 2015). Similarly, the *Vanguard* World News (September 7, 2014), stated that "there has been criticism of the slow international response to the epidemic". The paper noted that as a result, highly infectious people were forced to return home only to infect others and continued the spread of the deadly disease.

The delay in response to the Ebola epidemic by WHO and other international organizations no doubt, contributed in escalating the problem. The WHO, for instance, is known to have the capacity in terms of human and material resources, including technological skills and equipment with which to help West Africa to contain the deadly disease. It appears that there is no other organization or agency which parades such awesome resources and technological know-how to combat the dreaded Ebola virus disease more than WHO.

Unfortunately, however, the WHO's response appears to have been belated, and thousands of people had been killed by Ebola epidemic by August 2014, when the WHO mobilized for concerted action towards assisting the West African countries being ravaged by the Ebola disease. The EU Ebola Coordinator, Christos Stylianides was reported to have acknowledged in October 2014 that the response [from the EU] was "too late". He was reported to have further added that "we must be ready to admit possible mistakes". He was said to have also frankly admitted that the EU "underestimated the danger and the extent of the threat" (Vanguard, World News, October 28, 2014).

Also, President Ellen Johnson Sirleaf of Liberia was reported to have said that she wished that the United States and other developed countries, with their better resources and expertise would have moved faster. She was reported to have stated emphatically that.
We are slow. The world was slow. Every body was fearful. It was an unknown enemy.
President Sirleaf was also reported to have added that she was no doubt very grateful for the international help, including 2,800 American troops deployed to the West African sub-region to combat the dreaded disease (The Guardian, African News, February 23, 2015).

Moreover, it should be noted that the World Health Organization was said to have recently admitted, not the first time, that it did not act quickly enough in combating the dreaded Ebola disease. The Director-General of WHO, Dr. Margaret Chan, while regretting that the virus had recently emerged near the border of the DRC and the Central African Republic reportedly said that:

> I am personally accountable. WHO was too slow to recognize that the virus, during its first appearance in West Africa, would behave very differently than during past outbreaks in Central Africa, where the virus was rare but familiar and containment measures were well-rehearsed (see New Telegraph Editorial, June 2, 2017).

Thus, by August 2014, the Ebola virus disease epidemic had killed 4,000 people, and by October the same year, more than 5,000 people had died as a result of the rampaging disease in West Africa (see Vanguard, World News, October 28, 2014).

5. Non-availability of Ebola vaccine

Furthermore, there was no available vaccine to combat the highly contagious Ebola virus disease during its outbreak in December 2013 or even in 2014. For example, Nigeria made frantic effort to procure experimental drug, ZMapp but did not succeed. The United States Assistant Secretary of State for African Affairs, Linda Thomas- Greenfield was said to have

explained that Nigeria's request could not be met because "there were only six doses of the drug (Zmapp) and they had all been used" (see Anuforo, 2014).

Indeed, there was no approved Ebola vaccine or treatment as at September, 2014 (see Guardian, September 5, 2014). McNeil (2015) stated that although 1,600 people had died of Ebola during previous outbreaks, that is, 1976-2012 "the grotesque nature of their deaths from copious hemorrhaging from every orifice – had lent the disease a frightening reputation". He revealed in his report that since Ebola was discovered in the former Zaire in 1976, there had been many efforts to create a vaccine. He noted, however, that all the efforts began with "a sense of urgency but petered out for lack of money". He further noted that it was only the huge, explosive 2014 Ebola outbreak that took 11,000 lives in Africa and spread to overseas, reaching a handful of people in Europe and the United States actually provided the political and economic drive to make an effective vaccine (McNeil, 2016).

In the light of this development, in January 2016 it was reported that the *Vaccine Alliance, Gavi* had signed a $5 million deal for an Ebola vaccine. The production of a vaccine was reportedly intended "to protect against future outbreaks of the deadly disease". The deal was said to have committed the pharmaceutical company, Merck to produce and keep 300,000 vaccines ready for emergency use or further clinical trials (The Guardian, African News, January 31, 2016).

It should be recognized, however, that despite non-availability of effective vaccine there were concerted global community efforts to contain the deadly Ebola disease. These efforts were manifested in supply of relevant medical equipment and drugs, and active participation of highly skilled medical personnel from different countries in the fight against the dreaded disease in West Africa. There was also the raising of funds by the United Nations and other donor agencies, as well as corporate organizations to render support for the containment of the Ebola virus disease epidemic in West Africa.

The impact of Ebola pandemic on the Social and Economic Development of West Africa

The latest Ebola virus disease (EVD) epidemic which erupted in Guinea in December 2013 and later spread to other countries in West Africa had tremendous impact on the sub-region. This paper hereby examines its impact on the social and economic development of West Africa.

Impact of Ebola pandemic on social development of West Africa

The impacts of the Ebola virus disease (EVD) on the social development of West Africa include the following:

1. It led to tremendous loss of human lives. The epidemic engendered by the Ebola virus disease resulted in unprecedented high morbidity and mortality rate in West Africa. The World Health Organization was reported to have stated that the Ebola epidemic which became very explosive as from March 2014 had resulted in the deaths of 8,386 people in six countries of West Africa by January 12, 2015 (see Vanguard, January 16, 2015). By March, 2015, the Ebola virus disease had reportedly infected 839 health workers, and 491 of them were said to have died of the dreaded disease in the three intense-transmission countries of Liberia, Sierra Leone and Guinea (Nwaosu, 2015). This largely contributed in depletion of their medical workforce. Also, Obinna (2016) reported that by the end of the Ebola epidemic in 2016, more than 11,325 people were dead. This represents a monumental loss of human lives in West Africa.

2. The EVD engendered serious health debilities amongst its survivors. Its infection in some West African countries was very pervasive and devastating. It was reported that by the end of the Ebola epidemic in 2016, more than 28,652 people had been infected and about 17,000 people were survivors (see Obinna, 2016; The Guardian, African News, January 26 2016). The WHO Report cited in the *Nation* (August 8 2015) has it that thousands of West Africans who were infected with the Ebola virus but survived it were suffering certain chronic conditions such as serious joint pains, and eye inflammation that could lead to blindness. The report further stated that the Ebola survivors who fought off the most severe bouts of infection might most likely to suffer on-going medical problems. The WHO experts in their report concluded that the survivors' health could become "an emergency within an emergency" (see The Nation, August 8, 2015).
3. At the psycho-social level, the survivors of Ebola virus infection were said to suffer memory loss, trauma as well as post-traumatic stress disorder (PTSD). They were also reported to have also had to endure abuse and rejection from friends and families, communities and even health workers (The Guardian, January 26, 2016). The psycho-social condition of Ebola survivors in post-Ebola era in West Africa was reminiscent to the stigmatization which has been the lot of people living with HIV/AIDS, especially during the 1980-1990s.
4. The Ebola survivors, especially men were said to face serious medical challenge with respect to their sexual life. According to medical health report cited in Anuforo (2014), men who recovered from Ebola were expected to abstain from having sex for three months, or risk passing on the disease in their semen. The WHO report stated that the virus which claimed about 7,000 lives in 2014 alone, in West Africa, could remain in a survivor's seminal fluid for 82 days. The WHO report, therefore, cautioned that:

   > Men who have recovered from Ebola virus disease should be aware that seminal fluid may be infectious for as long as three months after onset of symptoms (see Anuforo, 2014; The Guardian, December 9, 2015).

5. Moreover, the Ebola disease in West Africa was said to have threatened communication and social relationships in the affected countries. In Nigeria, for example, Wynner (2014) reported that less than a month after the deaths of the index case, Mr. Patrick Sawyer and Dr. Ameyo Stella Adadevoh who treated him that the dreaded Ebola virus was fast burrowing into the fabric of the society. He lamented that Ebola scare was forbidding intimacies and the gathering of people even in holy places. He also noted that as the *Ebolaphobia* persisted, many Nigerians were scared of shaking hands with or hugging other people especially strangers, for fear of being infected with the virus. However, Wynner (2014) observed that the scare and panic generated by the *Ebolaphobia* did not only induce cold attitude of people towards one another, but it also tended to instill orderliness on bus commuters in Lagos metropolis who had been noted for their penchant for rushing for a seat in a bus.
6. Furthermore, the Ebola virus disease epidemic in West Africa resulted in the cancellations of some important international engagements which could have taken place in the sub-region. For instance, the African Insurance Organization (AIO) was reportedly stated that it had called off the 20th African Reinsurance Forum due to the outbreak of the Ebola virus disease in some parts of the continent. According to the Secretary-General of AIO, Ms. Prisca Scares, "it would be prudent to postpone the forum as a precautionary measure, after the consideration of the facts presented by the Local Organizing committee". She stated that due to the outbreak of Ebola virus disease in some parts of Africa, the mass gatherings of people from different parts of the continent "were being discouraged" (see Idehen, 2014). Thus, the EVD deprived the proposed host country the huge financial resource which could have accrued to its tourism and

entertainment industry. Besides, it deprived it the opportunity to showcase its cultural heritage in form of cultural displays and music entertainment in such gathering of nations.

7. Also, the Ebola epidemic which started in December 2013 dealt a serious blow on the educational system of some countries of West Africa. It disrupted the schools calendar and intensified fears in the minds of both teachers and pupils. In Liberia, for instance, schools were closed for six months as a result of Ebola epidemic. The Guardian (February 17, 2015) reported that students in Liberia started returning to schools on January 16, 2015, after a six month closure. The students were said to have lined up in their uniforms to have their temperatures taken before they could enter school gates.

   In Nigeria, the Ebola epidemic created 'confusion' as to when schools would reopen in the country for the 2014/2015 session. Omokhunu et al (2014) reported that 20 hours to the schools resumption the Nigeria Union of Teachers (NUT) insisted that it was not prepared to expose its members to the Ebola disease. Consequently, some states such as Oyo and Ogun had to reschedule their schools resumption dates. However, most states and federal government (unity) schools eventually resumed on September 22, 2014 (Omokhunu et al, 2014).
8. Besides, the latest Ebola epidemic in West Africa which started in December 2013 gave rise to international apprehension about the possibility of the spread of the Ebola virus to other regions of the world. As a result, many countries hastily initiated travel bans that restricted citizens from West African countries from visiting such countries as the Ebola epidemic lasted. In Dominica, a Caribbean Island state, the Prime Minister, Roosevelt Skerrit cancelled the musical contract awarded to a Nigerian musician, Flavour following fears of deadly Ebola epidemic. According to the Prime Minister:

   > Until a firm grip is secured on this Ebola, the world has to pay a special attention to region of its predominance. West Africa … is one such region (see Egole, 2014).

   By the decision of the Dominican Prime Minster, he had not only cancelled Flavour's musical concert, but had stigmatized West African sub-region.

   In a related development, R&B music star, Akon who held a musical concert in Doma, Democratic Republic of Congo (DRC) in October 2014, went extra lengths to avoid contracting the Ebola virus. Aina (2014) reported that Akon performed his musical show in plastic bubble, ostensibly to avoid catching Ebola virus. According to Aina, the singer climbed inside the airtight plastic bubble and rolled over the crowd, and pushed around by the overstretched hands of 60,000 screaming concert goers. It should be noted that Akon's musical performance in plastic bubble in Goma, DRC eloquently demonstrated how foreigners despised and stigmatized Africans as the Ebola pandemic lasted. This attitude had far-reaching social, economic and diplomatic implications for Africa, more especially West African sub-region.
9. The Ebola virus epidemic tended to overshadow the 30th edition of the Africa Cup of Nations organized by the Confederation of African Football (CAF) in Equatorial Guinea, January 17 – February 8, 2015. Equatorial Guinea courageously accepted to host the tournament after Morocco declined to host it for fear of the spread of Ebola virus (Vanguard, January 16, 2016). However, Guinea, one of the worst-affected Ebola countries, which participated in the tournament faced stigmatization and cajoling by fans and citizens of Equatorial Guinea and other participating nations over Ebola crisis (see Oliver, 2015). The tournament generally was said to have witnessed poor attendances during matches in various stadia due largely to the fear of Ebola virus disease.

10. Finally, the Ebola epidemic gave rise to the adoption of stringent rules by some countries with regard to immigration, which were to the detriment of citizens from West African sub region particularly those affected by the Ebola scourge. Sequel to this development, Nigeria warned its citizens planning to travel abroad to be aware of the measures introduced by various countries to contain the spread of Ebola virus disease (EVD) to avoid embarrassment. The Ministry of Foreign Affairs said the warning became imperative following treatment meted out to Nigerians in some countries. These measures, according to the Ministry, include "closure of borders, screening at entry points, repatriation of passengers from Ebola-infected countries, including Nigeria, and quarantine of passengers for up to 21-40 days" (Nigerian Tribune, September 19, 2014). Thus, the Ebola virus disease tended to create social isolation and stigmatization of West African citizens from the larger international community.

Impact of Ebola pandemic on the economic development of West Africa:

The latest Ebola virus epidemic which began in December 2013 in West Africa had significant impact on the economic development of West Africa. Its economic impact include the following:

1. The Ebola epidemic threatened international trade in West African sub-region. With the ECOWAS protocol, there had been free movement of persons and goods within the West African sub-region. But with the outbreak of Ebola epidemic most countries within West African sub-region and, indeed, sub-Saharan Africa, introduced stringent preventive measures which includes strict immigration checks, case detection as well as closure of borders to restrict movement of people and goods across borders. These measures resulted in decline in trade and increasing scarcity of goods in some West African countries, particularly in Ebola worst-hit countries of Liberia, Sierra Leone and Guinea. Kumar and Osagie (1984) reminded us that West Africa had lagged behind other parts of Africa in matters of economic cooperation. The Ebola virus pandemic tended to worsen the situation.
2. The Ebola epidemic created a serious problem for the shipping and maritime industry in West Africa. By August 2014, many of the multinational shipping lines calling at seaports in West Africa had suspended shore leave as well as crew change in Liberia, Sierra Leone, Guinea and Nigeria. Besides, the International Chamber of Shipping, International Maritime Employers Council and the International Transport Workers Federation also issued "a joint piece of advice to members on Ebola". These measures largely slowed down maritime activities in West Africa, and impeded exportation and importation of goods and services through West African seaports.
3. The Ebola epidemic led to serious economic losses in West Africa in terms of disruption of economic systems and devastation of manpower. For instance, the World Bank Group economic analysis from October 8, 2014 was reported to have found that "the West African sub-region alone could experience a downside scenario of USS 25 billion in economic losses in 2015" (See Komolafe, 2015). The report was said to have stated the Ebola epidemic would continue to cripple the economies of Guinea, Liberia and Sierra Leone even as the transmission rates in these countries showed significant slowing down. The report further added that until there were zero new Ebola cases, the risk of continued severe economic impact on the three countries – Guinea, Liberia and Sierra Leone, and beyond would remain unacceptably high (see Komolafe, 2015). The severe economic impact of the Ebola epidemic remained in these countries and even in some other countries of West Africa as a result of its disruption of the economic systems, disorganization of societal life as well as the depletion of national manpower resource.

4. Moreover, the negative economic impact of the Ebola virus disease epidemic in Sierra Leone necessitated the inauguration of National Stakeholders Consultative Forum in January 2016 aimed towards rebuilding the economy. The Forum was expected to help the country's small and medium enterprises reach new export markets. The Forum was also aimed at reorientating an economy that was still recovering from the Ebola crisis towards sustainable economic growth (Onochie, 2016).
5. Furthermore, the Ebola epidemic in West Africa disrupted the transport systems which constitute the bedrock of national development. For instance, in the aviation sector some air lines suspended flights to Liberia and Sierra Leone, two of the worst-hit countries. Besides, the British Airways and Asky which brought the infected Liberian, Mr. Patrick Sawyer into Nigeria later announced temporary suspension of flights into the two countries (Oloke, 2014). The suspension of flights into West Africa by some reputable air lines had serious economic consequences for such countries. This was because it disrupted their tourism and aviation industries and gave rise to the loss of huge revenue to their governments.
6. Also, the Ebola epidemic dragged some countries of West Africa, particularly the worst-hit Liberia, Sierra Leone and Guinea into the status of poorest countries. These countries were noted for their fragile economies characterized by poor-resource endowments, absence of technological development as well as the lingering impact of brutal civil wars. Oloke (2014) observed that the Ebola epidemic struck at a time these countries had shown signs of leaving behind brutal wars and leaping into Africa's economic boom. Thus, the Ebola epidemic stagnate their economic growth and envisaged prosperity.
7. Besides, the Ebola epidemic worsened the low trade interaction among West African nations. According to EU Ambassador to Nigeria and ECOWAS, Michel Attion, the West Africa's trade interaction within the last 25 years had remained between 11 and 15 percent of their total trade (Musari, 2014). With the outbreak of Ebola epidemic, some West African nations such as Sierra Leone and Liberia declared emergency, closed their borders and imposed lockout on citizens as preventive measures (The Guardian, August 13, 2014). These measures generated serious economic impact on West Africa. They resulted in greater downward trade interactions among West African countries.
8. Also, the Ebola epidemic led to drastic reduction in national productivity of the affected countries particularly Liberia, Sierra Leone and Guinea. In September 2014 a study of African economy showed that the Ebola crisis in West Africa had serious impact on the economies of the affected countries – Liberia, Sierra Leone and Guinea. The study revealed the impact on the economies in terms of forgone output, higher fiscal deficits, rising prices, lower real household incomes and greater poverty. The study also showed that the economic impact of the latest Ebola epidemic in West Africa include the rising costs of health care, and forgone productivity of those directly affected, but more importantly, they arose from the aversion behaviour of others in response to the disease (see The Guardian, September 23, 2014).
9. The Ebola epidemic which ravaged some countries in West Africa from 2013 - 2016 also resulted in drastic reduction in each nation's Gross Domestic Product (GDP). For instance, in 2014 the GDP in Guinea reduced growth from 4.5 percent to 2.5 percent, the GDP in Liberia reduced growth from 5.9 to 2.5 percent, while the GDP in Sierra Leone reduce growth from 11.3 to 8.0 percent. This forgone output, according to the report, corresponds with USS 359 million in 2014 prices (see The Guardian, September 23, 2014). This shows the monumental economic losses that attended the outbreak of Ebola epidemic, 2013 - 2016.
10. The latest Ebola epidemic also gave rise to hyper inflation in some West African countries from 2014-2015. With the restriction of movement of people in the worst-hit

countries coupled with the closure of international borders and the decline in economic production due to illnesses and deaths, there was increase in the prices of essential commodities such as food stuffs and drugs. Besides, the attitude of panic buying and speculation worsened the problem of inflation in the Ebola affected countries. The consequence of these scenarios was that the poor households especially in Liberia, Sierra Leone and Guinea were becoming vulnerable to acute shortages of foods and pervasive poverty. (See The Guardian, September 23, 2014).

The United Nations had warned that unless access to food was drastically improved and measures were put in place to safeguard crop and livestock production, famine would ravage over a million in West African countries. According to the reports said to have been published by UN Food and Agricultural Organization (FAO) and World Food Programme (WFP), the Ebola disease's impact was potentially devastating in the three worst-hit countries already coping with chronic food insecurity. The Assistant Director-General of FAO, Bukar Tijani was reportedly stated that the Ebola outbreak had revealed the vulnerability of current food production systems and value chains in the worst Ebola-affected countries (see Salami, 2014). The Ebola virus epidemic was said to be having "a terrible impact on the three worst-hit countries and would continue to affect many people's access to food for the foreseeable future" (see Salami, 2014)

11. Finally, the Ebola epidemic of 2013-2016 also contributed largely to exchange rate volatility in West Africa especially in Ebola-affected countries. The exchange rate volatility was said to have been induced by uncertainty about when the epidemic would be contained (The Guardian, September 23, 2014). Moreover, the capital flight engendered by declining productivity; near absence of Foreign Direct Investments (FDI) due to panic, fear and disorganized manpower, as well as scarcity of material resources, all aggravated the economic problems in Ebola-affected countries.

CONCLUSION

This paper has discussed the Ebola virus disease (EVD), its origin and spread of its epidemic in West Africa especially as from December 2013- 2016. This study has shown that the Ebola virus disease infected about 28,652 people of whom 11,325 people were killed in six countries namely, Liberia, Sierra Leone, Guinea, Nigeria and Senegal. The ferocious spread of the EVD was partly because of the nature of the deadly disease, and mainly due to the fact that the worst-hit countries – Liberia, Sierra Leone and Guinea lacked the capacity to contain the rampaging Ebola virus epidemic.

Moreover, the international response to the EVD came very slowly, that is, many months after the outbreak of the EVD epidemic. This lesson from the EVD epidemic, therefore, demands proactive and effective response to health emergencies that could constitute a serious threat to global health security.

The paper concludes by highlighting the social and economic impacts of the EVD on West Africa. It established that the EVD epidemic worsened the economic conditions of Liberia, Sierra Leone and Guinea, and as well disrupted international trade within the West African sub-region. It also disorganized social relations as well as tourism in the affected West African countries.

REFERENCES

Aina, I., "Akon performs in plastic bubble to avoid catching Ebola," *Vanguard*, Saturday, October 18, 2014, p 27.

Alemma – Ozioruva, A., "Hunters decry campaign against bush meat", *The Guardian*, Monday, August 18, 2015, p 7.

Anuforo, E., "Ebola virus can remain live in sperm for three months," *The Guardian*, Tuesday, December 9, 2014, p 63.

Anuforo, E., "Why U.S. rejected Nigeria's request for ZMapp" *The Guardian*, Friday, September 5, 2014, pp 1-2.

Belluck, P. and Broad, W., "Ebola is lying in wait, far from Central Africa" *New Telegraph*, Monday, May 4, 2015, p 31.

Deen, G.F. et al, "Ebola R.N.A. persistence in semen of Ebola virus disease survivors – Preliminary Report", *WHO Report, Article 85*, October 14, 2015, p 4.

Egole, A., "Ebola: Caribbean island drops Flavour," *Vanguard*, Saturday, October 18, 2014, p 26.

Engl, N. et al, "Ebola Virus Disease in West Africa - , The First Nine Months of the Epidemic and Forward Projections" *WHO Ebola Response Team Report*, October 16, 2014, p 11.

"Ebola fear overshadows Afcon 2015," *Vanguard*, Friday, January 16, 2015, bp.

"Ebola outbreak: UN calls for $1bn to fight virus", *Vanguard*, World News, Wednesday, September 17, 2014, p 53.

"Ebola Virus Disease," *Aljazeera Documentary Report*, March 24, 2015. P 23.

"Ebola: EU wants massive increase in staff" *Vanguard*, World News, Tuesday, October 28, 2014, p 50.

"Ebola: Need for Vigilance", *New Telegraph Editorial*, Friday, June 2, 2017, p 15.

"Ebola: Ondo bans bush meat business," *The Nation on Sunday*, September 7, 2014, p 4.

"Economic impact of Ebola epidemy: short, medium term estimates," *The Guardian*, Tuesday, September 23, 2014, p 27.

Faramade, A.I., "Ebola; Preventing the scourge of emerging and re-emerging zoonotic diseases" *The Guardian*, Thursday, November 27, 2014, bp.

Komolafe, B. "IMF faults report blaming policies for Ebola outbreak," *Vanguard*, Friday, January 4, 2015, p 21.

Komolafe, B., "Nigeria, others to lose $25 billion over Ebola – World Bank", *Vanguard* , Wednesday, January 21, 2015, p 21.

Kumar, A. and Osagie, E. "Problems of ECOWAS" in Akinyemi, A.B. et al (eds), *Readings and Documents on ECOWAS*, Lagos; Nigerian Institute of International Affairs, 1983, p 147.

"Liberia's Ebola survivor faces health problems, fears virus could return", *The Guardian*, African News, Tuesday, January 26, 2016, p 51.

"Liberian boy dies after fresh Ebola cases" *The Guardian*, World Report, Wednesday, November 25, 2015, p 49.

McNeil, D.D.G, "New Ebola Vaccine Gives 100 percent protection", *WHO Ebola Response Report*, December 22, 2016, p 25.

Muanya, C., "Why Ebola virus flares up in West Africa, by scientists", *The Guardian*, Wednesday, May 4, 2016, p 4.

Musari, A., "European Union Identifies constraints to West Africa's trade in tegration", *The Guardian*, Africa News, Thursday, November 27, 2014, p 13.

Madike, I. "Ebola: Death Imported" *Saturday Telegraph*, July 16, 2015, p 23.
Nwaosu, B. "839 health workers affected by Ebola" *The Guardian*, Friday, March 6, 2017, p 2.
"Nigeria praised for combating Ebola as America battles outbreak", *The Nation News*, Thursday, October 2, 2014, pp 2-3.
"Nigeria warns citizens against travelling abroad", *Nigerian Tribune*, Ebola News, Friday, September 19, 2014, p 7.
Obinna, C. "How transformed Ebola virus affects humans – study" *Vanguard*, Tuesday, November 8, 2016, p 37.
Ogundipe, S. "Announce Ebola cure and go to jail- FDA warns", *Vanguard*, Tuesday, September 30, 2014, p 39.
Ogundipe, S., Obinna, G and Olawele, G. "WHO declare Nigeria Ebola free today" *Vanguard*, October 20, 2014, p 8.
Okojie, G. and Olayiwola, A., "Ebola: Taking over from AIDS as deadliest Disease?", *Leadership Sunday*, Sunday, August 3, 2014, p 63.
Oliver, B., "Bitter Guinea eager to avenge Ebola baiters", *The Guardian*, Saturday, January 24, 2015, p 3.
Oloke, T. "Ebola: shipping lines, air lines may shun West Africa," *Nigeria Tribune*, Thursday, August 14, 2014, pp 23-24.
Omokhunu, G., "Ebola" Confusion over schools' reopening," *The Nation on Sunday* September 21, 2014, p 7.
Omokhunu, G., et al, "Ebola: confusion over schools' reopening:, *The Nation*, Sunday, September 21, 2014, p 7; See also Salen, T. "Ebola: FG, NMA agree on September 22, resumption date, *National Mirror*, Tuesday, September 16, 2014, p 1.
Onochie, B.G., "Sierra Leone begins talk to rebuild export economy", *The Guardian*, World Report, Monday, January 25, 2016, p 50.
Onoyume, J. "Ebola in PortHarcourt: Questions on why diplomat hid in hotel", *Saturday Vanguard*, August 30, 2014, p 7.
"Over $600m needed to tackle Ebola-says UN," *The Guardian*, World Report, Friday, September 5, 2014, p 9.
Salami, O., "Ebola: UN urges improvement in food production in West Africa," *Nigerian Pilot*, Thursday, December 18, 2014, p 46.
See Anuforo, E, "Why U.S rejected Nigeria's request for ZMapp", *The Guardian*, Friday, September 5, 2014, pp 1-2.
See Idehem, M., "AIO cancels continental forum due to Ebola:, *National Mirror*, Thursday, September 16, 2014, p 35.
"Sirleaf urges help in post-Ebola phase" *The Guardian*, Monday, February 23, 2015, p 11.
"The Fresh Ebola outbreak in Congo", *Daily Sun Editorial*, Wednesday, May 24, 2017, p 15.
"Thousands of Ebola survivors face severe pain, possible blindness," *The Nation*, Saturday, August 8, 2015, p 7.
"UN projects $600m funding to tackle Ebola", *The Guardian*, Friday, September 5, 2014, p 17.
Wynner, E., "How Ebola is threatening communication, relationships" *The Guardian*, August 28, 2015, p 15.
Yesufu, K. and John, T., "Panic in Rivers as Ebola kills doctor," *Daily Sun*, Friday, August 29, 2014, p 5.
Yusuf-Adebola, M., "Ebola in Nigeria: salt and water, ignorance and panic", *The Guardian*, Friday, August 15, 2014, bp. "$5 million Ebola vaccine deal announced" *The Guardian*, African News, Thursday, January 21, 2016, p 49.