

The Nexus between the Containment of Ebola and Achievement of Sustainable Development Goals

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DOI: [10.36347/sjahss.2019.v07i03.004](https://doi.org/10.36347/sjahss.2019.v07i03.004)

| Received: 23.02.2019 | Accepted: 05.03.2019 | Published: 15.03.2019

Abstract

Review Article

This article is a reflective proposal that the world mounts structures for achieving Sustainable Development Goals in order to contain Ebola viral disease in Africa and elsewhere. The first case of Ebola Viral Disease (EVD) was reported in Democratic Republic of Congo (DRC) former Zaire in Central Africa in 1976. Since then, the disease has been found to have five strains—Zaire, Sudan, Tai Forest, Bundibugyo and Reston and has re-appeared 20 more times, with some re-emergence threatening to get out of control, regardless of the current medical technological advancement. Particularly, the 2013 outbreak saw the disease spread to several West African countries, with 30,000 cases of diagnosis and killing over 10,000 people. The impact of the outbreak was felt far and wide—and not just in the neighbouring countries. In 2018, the virus re-emerged in DRC, and according to the World Health Organisation, the outbreak is only dwarfed by the 2013 one in West Africa. This paper is a critical review of literature on the viral disease and attempts to address the three questions: Why does EVD re-emerge more frequently? Why does it sometimes threaten to get out of control? Does the elephant in the room – climate change – have a role to play in the outbreaks? The paper then describes a link between the containment of Ebola Viral Disease and attainment of Sustainable Development Goals (SDGs) set in 2015 by the United Nations General Assembly. It is the beginning of a solution seeking conversation that should not die until EVD war is worn in Africa and elsewhere.

Keywords: Ebola Viral Disease (EVD), Sustainable Development Goals (SDGs), Containment.

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INTRODUCTION

A highly infectious disease (EID) called Ebola reared its ugly head in Africa in 1976. According to Laupland & Valiquette (2014), Peter Piot was then researching infectious diseases when he was asked to examine a blood sample from a Belgian nun who had died in Democratic Republic of the Congo (then known as Zaire). At first, there was a strong conviction that she had died of yellow fever, but when the blood sample was placed under a microscope, it proved to be something else (Breman & Johnson, 2014). When Piot sent the sample to the Centre for Disease Control (CDC) in Atlanta, USA for further analysis, it was confirmed that the pathogen that had aggressively hit cotton factory workers, was indeed new. The new disease was given the name Ebola, a name of a river in Yambuku DRC. Apart from DRC, which reported 318 cases and 280 fatalities, Sudan was another country where the disease was later reported—at a place called Nzara. Here, there were 284 reported cases, with 151 fatalities. Before the outbreak of this worm-like—string-like virus in these two countries, the people of Africa were known to die from mainly respiratory

infections, cholera, diarrhoea, malaria, among others (Belluz, 2014).

Symptoms of Ebola

According to Quammen (2014); Arwady, et al. (2015) and Omoleke (2016), Ebola usually manifests itself in abdominal pains, sweats, body aches, fever, sore throat, nausea, loss of appetite, arthralgia (joint pain), myalgia (muscle pain), tachypnea (rapid breathing), and uncontrollable diarrhoea. Patients also vomit, feel weak and suffer from fatigue. Other patients bleed from eyeballs, ears and mouth; vomit blood; bleed from gums; and experience hiccups. But some of these symptoms may manifest themselves in some patients and not in others. Mortality varies markedly; although it is known to be over half (50 – 90%) of the infected; in some cases, however, it is from 30 to 90% (Briand, *et al.*, 2014).

Since the emergence of the disease over four decades ago, there have been over 20 outbreaks in countries such as Gabon, Cote d'Ivoire, Uganda, DRC Congo, Liberia, Guinea, Sierra Leone, Mali, Senegal, and Nigeria, apart from the two countries mentioned

earlier. The worst outbreak in the history of the African continent was in March 2013, when the virus swept through six West African countries and then pitched camp in Liberia, Guinea and Sierra Leone, with about 30,000 reported cases and claiming over 10, 000 lives. According to (Briand, *et al.*, 2014) and Quammen (2014), the virus that spread to the six West African countries, and finally finding a home in three of them, is strongly believed to have started in Gueckedou, a prefecture of southern Guinea, where it first killed three people: a small boy in Meliandou village in December 2013, his little sister, and then her grandmother.

When the disease spread to the six countries, after just 33 weeks since its emergence, the World Health Organisation (WHO) declared it “a Public Health Emergency of International Concern” (Briand *et al.*, 2014). This declaration, by the Director-General of WHO, recommended that the Heads of States from the hardest-hit countries declare a national emergency, then activate their countries’ disaster management systems, and form centres of emergency operation. This particular outbreak sent shock waves across the world, with the international community fearing that it could easily get out of hand, spread far and wide, and impacting economies and social lives. Fortunately, the virus did not get out of hands, but it left the three countries highly affected. Commerce grounded almost to a halt; many people failed to go to work and therefore tax collection took a nosedive; health costs skyrocketed; the agricultural sector collapsed as workers moved away from the affected areas; and generally, the economic growth was frozen (Briand *et al.*, 2014).

By the time the viral menace receded, it left the stricken nations requiring five to six billion dollars from the international donors and debt cancellation of \$ 4 billion so as to return the affected countries to normalcy (Dawson, 2015). In pitching for assistance, the then Sierra Leonean President, Ernest Bai Koroma, said during a meeting with his Liberia and Guinea counterparts and heads of Bretton Woods Institutions that social services in their countries had been ruined, economies had been halted, and therefore there was dire need for a real Marshall Plan to take Ebola-affected countries out of the woods. However, according to the World Bank press release, the World Bank Group provided \$1.62 Billion. (Leger 2015) avers that the bank estimated that, in terms of gross domestic product (GDP), the three countries counted losses as follows: Sierra Leone, \$1.4 billion; Guinea, \$535 million; and Liberia, \$240 million.

It is not only the three African countries that suffered, in the height of the virus, Kenya, for example, so scared after being regarded as one of the countries at a greater risk of acquiring the virus, halted flights of its KQ Airline to West Africa, losing about Sh4 billion revenue in one year (Herbling, 2014). Other carriers

that cancelled their flights to the three Ebola-hit African countries included Emirates, Nigeria’s Arik Air, ASKY Airlines of Togo, and British Airways.

Tourism, a key source of revenue for many African countries, felt the impact of the virus. Potential tourists were hesitant to visit a continent ravaged by Ebola (a cureless viral disease), even though the affected countries were just three out of over 50. According to a UK tour company expert for Africa, Chris McIntyre, in reference to the Nigerian economist Bismarck Rewane of the Financial Derivatives Company, occupancy rates in Lagos (Nigeria), which had long been declared Ebola-free, remained low for long, with many conferences postponed until further notice (Paris, 2014). Even bookings from the Africa continent itself, McIntyre further said, were affected significantly thus:

I think that something which is as emotive as Ebola generates so much fear in people that it’s almost impossible to ‘reassure them’ with logic . . . A holiday is a very discretionary purchase. Nobody has to go on holiday to Africa, or to anywhere else in the world. Everybody has lots of choices, including staying at home.

After the major outbreak of 2013, the disease resurfaced again in North Kivu and Ituri province of DRC on May 8, 2018, with new cases recently reported in Butembo and Katwa. This is now regarded as the worst outbreak in the history of the country and the second major outbreak in Africa, after the West African one of 2013 to 2016. According to Lancet (2018), however, there were several minor outbreaks such as the one of Likati in the Bas-Uele Province – DRC in May 2017, which killed four people. Because of mainly the remoteness, insecurity in the affected area that has displaced about a million people, the outbreak has proved complex and thus difficult to tackle. It has so far claimed over 240 lives, with over 400 cases reported as of December 2018 – and it is yet to show signs of relenting (Gostin *et al.*, 2018). Recently rebels killed 19 people and kidnapped about a dozen children in the area, compounding the Ebola situation (Weber, 2018). One feels it is only a matter of time before WHO declares Ebola in the DRC a public health emergency; even though the world body announced that the epidemic is yet to reach that stage.

Why Is Ebola Difficult To Contain Once It Emerges?

Ebola virus often threatens to get out of control; yet, essentially, it is known not to be highly contagious, considering that it is not airborne and only passed on through contact with infected people or their bodily fluids (blood, vomit and secretions). Many things conspire in Africa to create an enabling environment for the virus to spiral and therefore pose a

real challenge to the medical staff in countries where it breaks out. Some of the factors that contribute to the spread of the disease are impaired public health infrastructure, which cause delays in the management of infections; the dearth of effective communication process to help create awareness about the disease; insufficient budgets to facilitate quick responses, given that the countries affected are poor and, among other things, spend by far less on healthcare, employ few healthcare providers; and have high illiteracy rates hence public-health campaigns fail to yield much. The aforementioned factors, besides making the virus difficult to contain, influence the spread of the epidemic, just to mention a few.

According to Arwady *et al.*, (2015), burial rituals carried out for those who die of Ebola usually play a significant role in spreading the disease (as cited in Lashley, 2014, p. 261). A Ugandan story as narrated by (Hewlett and Amolat 2003, p. 1245) illustrates better how the virus is spread during burial ceremonies in sub-Saharan Africa. When Ebola hit Northern Uganda between 2000 and 2001, the paternal aunts of dead persons, that is their fathers' sisters, were asked to prepare the bodies for burial (This is in accordance with the Acholi people tradition). In case a father did not have a sister, an old woman related to the dead person was given the responsibility to prepare the body of the deceased. During the preparation, the corpse was undressed, bathed and dressed in the most liked clothes and then put in a coffin. As a ritual, all family members were asked to wash their hands in a common basin. After that they gave love touches to their dead relative before he or she could be laid to rest. This particular burial practice, which could spread the virus rapidly, is shared in a number of countries in sub-Saharan Africa. Quammen (2014) reveals that the people of Acholi attributes Ebola virus to supernatural forces:

One early patient ...was pulled out of the village clinic because his family disbelieved the Ebola diagnosis and preferred relying on a traditional healer. After that patient died at home, unattended by medical personnel and uncured by the healer, things got testy. The healer pronounced that this man had been poisoned by sorcery... (p. 43).

Poverty also makes the virus difficult to contain. In the argument of (Wang *et al.*, 2017), Ebola is a disease of the poor, just as tuberculosis, malaria, and cholera that kill millions of people every year. So that means unless something is done to lift the poor people out of poverty, the disease will continue to devastate African communities. The African countries that are normally hard hit by the virus are some of the poorest in the world; and some of them are still involved in (or recovering from) civil conflicts that have halted public health systems (Chan, 2014). Whereas Sierra Leone endured a ten-year old civil war (1991-2002) that killed about 70,000 people and

displaced 2.6 million others, Liberia lost approximately 250, 000 people during its 1989-2003 civil wars; wars that also left almost a whole generation without education. Guinea, on the other hand, has experienced bloody coups and political unrest Arwady *et al.*, (2015). Also, for many years, Democratic Republic of the Congo has not had peace; the latest outbreak, for example, has been complicated by ongoing war – making it difficult for health workers to access areas ravaged by the bug.

Peters and LeDuc (1999) enlist other factors that contribute to the fast spreading and difficulties in containing the virus (like the outbreak in Kikwit City of Bandundu Province in Democratic Republic of the Congo in 1995) as: paucity of regular transport in most African countries, lack of proper systems and a strategy of relaying correct messages, caring of patients in secrecy, fear, rumours, panic, and misconceptions. These are difficult issues that take time to tackle. Chan (2014) has singled out fear as the most difficult challenge to overcome, for it forces people who have direct contact with the infected to hide or flee treatment centres, and relatives of the sick to hide their symptomatic relatives, or take them to the bush or to traditional doctors.

(Hewlett and Amolat 2003; Arwady, *et al.*, 2015) note that people usually reject the idea of taking their Ebola patients to hospital, because they fear their people would not be visited while being treated there, and also that in case they died in hospital, they would be buried in open-fields—something that most African communities detest. So, in West Africa, when ambulances moved around to collect patients and corpses to take to hospitals and mortuaries respectively for treatment and burial, relatives and carers hid them. In many parts of Africa, when people die, they are supposed to be buried in homesteads. Burying them away from their homes is akin to abandoning them, and is believed to be an abomination.

The fear of contracting the disease is another important factor that makes it difficult to control the disease. Kreil (2015) intimates that the use of blood or plasma of a person who has recovered from the disease is effective in the treatment of this epidemic; it is reported to stop the virus from replicating. Because of fear people cannot volunteer to donate blood. Fear forces people to abandon the sick. Mitman (2014) explains well how fear engulfed the world when the disease emerged in West Africa in 2013:

In late July, when word came that two American health care workers in Liberia had become infected, the outbreak suddenly drew global headlines labelling it an “epidemic”. Ignited by media attention, fear erupted and spread faster than the virus itself.

As a result of the great fear caused by the virus in USA, for instance, a teacher at Louisville, Kentucky, who had visited Kenya was forced to resign when parents of the school where she was teaching raised concern that she could have picked up the virus while in the East African country, and as a result their children were in great danger of contracting the virus. Yet in Kenya, not only was there no single reported case of Ebola, but the country is thousands of kilometres away from the West African countries affected by the epidemic (Arwady, *et al.*, 2015). Furthermore, a number of states in America decided to quarantine health workers for 21 days on returning home from the three most affected countries of West Africa. This isolation affected even the troops that were returning to the US from West Africa where they had gone to control the health crisis.

Stigmatisation of the victims and their families is another unfortunate situation. Goffman (in Nzagha, *et al.*, 2011, p. 38) defines stigmatisation as “bodily signs designed to expose something unusual or bad about the moral status of the signifier,” adding that there are “three types of stigma: lack of self-esteem, tribal stigma and complete rejection by society.” Many people do not want to be associated or to be near a person recovering from Ebola. Survivors of the virus are not even welcomed back home. According to Hewlett and Amolat (2003), during the Ebola outbreak in Uganda in 2000 and 2001, some survivors were rejected by their partners; their clothes were destroyed and their children refrained from touching them. For married male survivors, their wives were sent back to their parents. And villages where there was an outbreak were not spared either; members of these villages could not access marketplaces or watering points; if they attempted, they would be harassed. If some other diseases were mistaken for Ebola virus – indeed this happened – the victims suffered even to death. So a lot of people died of curable diseases such as the malaria, and not Ebola Virus. As a result, some people suffered secretly, but before they died, they spread the virus. In fact, according to BBC News (2015), health experts estimate 74,000 malaria cases went untreated in Guinea in 2014, and the untreated malaria cases had tragic consequences.

Because health care professionals are usually the ones with the knowledge of dealing with the virus, most of them are exposed more to the virus than laypersons, especially if they lack protective gear. And this is the reason why usually when there is an outbreak the virus claims quite a good number of health workers. Ebola also spreads easily because Africans tend to mingle freely (Aylward, *et al.*, 2014). Another factor that makes the disease difficult to control is that it has the behavior of ‘now you see it and now you don’t’. In other words, it hides, emerges, and re-emerges after some time. According to Peters and Luduc (1999), after the 1976 outbreak, it emerged again in 1994,

compelling scientists to wonder about where it had been hiding all this time.

Other Factors Contributing To the Spread of Ebola

According to Friedman, *et al.*, (2014, p. 1179)), in order to control the spread of Ebola disease, there is need to follow elements of the Global Health Security Agenda as applied to the Ebola outbreak. Once an outbreak is reported, infection-control education and supplies for hospitals and ambulances should be provided without delay. Arwady *et al.*, (2015); Quammen 2014) also point out that proper use of examination gloves, gowns, masks and disposable needles and syringes may protect medical staff from contracting and spreading the disease. But African countries cannot equip hospitals because they lack resources.

Research shows that fruit bats and monkeys are natural hosts of the haemorrhagic virus. So there ought to be reduction of human contact with bats and animals, hence a reduction of unsafe handling of bush meat to stop outbreaks. But the reduction requires an increase in food security, because poverty forces people to feed on bush meat, for governments in Africa are unable to solve food insecurity. According to Omoleke, *et al.* (2018, p. 30):

... in areas where food production is challenging and poverty is rife, wildlife, including, fruit bats and primates are hunted for subsistence or commercial purposes. This activity greatly amplifies human exposure to potentially deadly pathogens, as viruses harbored by these animals can easily spread via bites or scratches when handling the animals or through blood and body fluids when butchering their carcasses for consumption. Indeed, EVD outbreaks to date have been linked to handling of carcasses of bats and NHPs in impoverished rural areas with limited food supplies.

If the virus has to be tackled quickly to reduce its spreading once it emerges, there is an urgent need of early warning systems and a quick track down mechanism. Besides, there is need for improve systems for specimens to be transported quickly to where laboratories are located so that the disease is diagnosed in time in order to be managed. Apart from the transportation systems that would require better roads, early warning and track down systems require population surveillance. With standard surveillance, comes quick case identification, isolation, social mobilization, awareness and behavior change campaigns.

Hiring and training personnel to find cases and contacts, to manage outbreak detection and response, and to care for patients safely can go a long way in helping to stop the spread and therefore alleviating the epidemic situation. But again, where are the funds? Chukwudozie (2015, p. 45) echoes that health financing

is prerequisite for delivery of universal healthcare, and WHO says that “health financing is fundamental to the ability of health systems to maintain and improve human welfare.” However, African governments lack funds to use to hire and train personnel. When funds are provided by, say, donor agencies, they are embezzled. The Ministry of Health in Kenya is commonly referred to as *Afya House*; but, because of several cases of corruption, it has recently changed its name to *Mafia House*. The media are normally replete with stories about corruption in the ministry; for example, a daily newspaper reported recently that the taxpayers lost Sh7 billion (Oruko, 2018). Last year, newspapers also reported that the ministry could not account for billions of dollars.

The spread of the virus can be contained if staff emergency operations centres in every country, and every area within a country affected by outbreak are established to oversee case detection and diagnosis, contact elicitation and follow-up, establishment and management of safe isolation and treatment facilities, as well as to promote safe burial practices. But, according to (Omoleke *et al.*, 2016), most African countries are resource-poor and therefore lack the wherewithal to establish the centres. The issue of brain-drain has worsened the situation in the developed world, and Africa, in particular, Trained healthcare workers move to the developed world in search of greener pastures – higher salaries, advanced technology, higher education, and stable political environment.

Misau *et al.*, (2010) revisits a survey conducted on Ghana’s healthcare facilities in 2002 that revealed that 72% of all clinics and hospitals could not deliver the expected services because of lack of health workers. What compounds the problem is that the health workers emigrating from the third world to the first world are the young health professionals. So, in years to come, the problem of lack of healthcare personnel will worsen: if today the wealthy in the third world travel to the first world for medical services, a time will come when third world will probably begin to employ first world doctors. Haven’t some African countries started employing Cuban doctors? Well . . . Cuba is not a first world country. Soon Cubans will be exhausted (because even South Americans are employing them), and the developing world will begin to pay dearly to get the British, Australians, Canadians and Americas.

If the issue of climate change is tackled, it is likely that the re-emergence and spread of Ebola would be curbed, because studies have shown that high temperatures force fruit bats to emigrated from their original habitats to areas with suitable temperatures, thus taking the virus to areas that hitherto unknown to have it (Omoleke, 2016). But solving the problem of climate change is a herculean task for African countries, for the countries that emit copious gases known to

cause global warming are adamantly opposed to the idea of reducing the emissions.

CONCLUSION

Ebola Viral Disease will continue to re-emerge, and the re-emergence are envisioned to be frequent, difficult to control, and will occur in more other countries, besides those in Central and West Africa. The factors that would make the epidemic difficult to manage are numerous and varied: non-functional public health infrastructure; insufficient healthcare budgets; lack of trained healthcare providers; burial rituals (that causes more infections); insecurity (that makes it difficult for health workers to offer services); paucity of transport services, especially in rural areas; stigma that is attached to the disease, making it difficult for both community members to report cases and for patients to seek treatment; poverty, forcing people to feed on fruit bats and monkeys (believed to harbour the virus that causes the disease); health workers emigrating to developed countries in search of better living conditions.

Research has shown that the effects of climate change also influence the outbreak and spread of the virus. Increased temperatures and reductions in precipitation compel fruit bats and some wild animals to move from their habitat in equatorial rain forests to others areas that have favourable environmental conditions. Because the bats harbour the virus, where they find a new home, an outbreak of the disease occurs, especially if humans come into contact with these bats (and indeed they do get into contact). Increased populations have also caused human encroachment on forests, triggering migration of certain species of birds and animals. So the birds and animals have escaped to other parts of the world, escaping with certain dangerous pathogens.

Given that the Sustainable Development Goals (SDGs), also called Global Goals for Sustainable Development, address directly some of the factors that contribute to the re-emergence of Ebola virus, the measures to achieve these goals will go a long way in containing the disease when it re-emerges and reducing the frequency of re-emergence. For example, the SDGs of eradication of poverty and hunger, well-being promotion, attainment of sustainable economic growth, and control of climate change and its effects, among other goals, will have a devastating impact on re-emergence and management of Ebola. According to (Morton *et al.*, 2017), the SDGs are a set of objectives adopted by the member states of United Nations General Assembly in 2015, and are to be implemented within 15 years. The 17 SDGs succeeded the eight Millennium Development Goals (MDGs) that ran from 2000 to 2015. The MGDs were poverty, education, gender equality, child mortality, maternal health, HIV/AIDS, malaria and other diseases, environment sustainability and global partnership for development.

The SDGs, the blueprint for challenging global development obstacles to attain a better life for the people of the world (that run up to 2030), are as in the appendix attached at the end of this paper.

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APPENDIX: SUSTAINABLE DEVELOPMENT GOALS

Goal 1. End poverty in all its forms everywhere.

Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Goal 3. Ensure healthy lives and promote well-being for all at all ages.

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Goal 5. Achieve gender equality and empower all women and girls.

Goal 6. Ensure availability and sustainable management of water and sanitation for all.

Goal 7. Ensure access to affordable, reliable, sustainable, and modern energy for all.

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all.

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Goal 10. Reduce inequality within and among countries.

Goal 11. Make cities and human settlements inclusive, safe, resilient, and sustainable.

Goal 12. Ensure sustainable consumption and production patterns.

Goal 13. Take urgent action to combat climate change and its impacts.

Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development

Goal 15. Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development