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The Political Economy of Infectious Diseases in Africa: Ebola Virus Disease (EVD) as a Case in Point

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Abstract

Annually, many deaths occur in Africa due to infectious diseases. African countries are predominantly low-income. A third of all deaths in low-income countries are caused by lower respiratory tract infections, HIV/AIDS, diarrheal diseases, malaria and tuberculosis. These preventable diseases continue to kill millions of Africans each year. More recently, Ebola Virus Disease (EVD) has killed thousands in Africa but even with the number of deaths attributable to EVD, it is still a fraction of the deaths caused by any one of the top five causes of deaths in low-income countries. This chapter examined the political economies that have enabled infectious diseases to thrive in Africa. The numerous conflicts, barriers to education, vulnerable employment, stubborn leaders that choose to remain in power beyond their term limits, high fertility rates in the poorest countries and the privatization-tied conditions of loans were some of the factors identified. Ecological studies also suggest that changes in climatic conditions around the West African country of Guinea enabled the index case of EVD to come from Guinea. The foundational causes of the diseases have made the African nations susceptible. The chapter concludes with recommendations.

Keywords: Poverty; International Monetary Fund (IMF), World Bank, Bretton Woods (BWI), Fertility, Population, Low-income Countries; Natural Resource, Political Economy; Conflicts.

Introduction

Africa is the second most populous continent with over 1 billion people (Population Reference Bureau, 2014) and home to the largest number of people living on less than \$1.25 per day (The World Bank, 2014). Globally, 80 percent of the world's poor can be found in Sub-Saharan Africa and South Asia. Seventy percent of the world's extreme poor are in ten countries and five of these countries are in Africa. These five countries are the Democratic Republic of Congo, Nigeria, Ethiopia, Madagascar and Tanzania. The remaining five countries are Bangladesh, China, India, Indonesia and Pakistan (The World Bank Group & International Monetary Fund, 2015). Despite these figures, Africa is viewed as a rising economy with the influx of mobile technology and an increase in Gross Domestic Product from 2.1% in 2001 to 7.1% in 2007 (WHO, "The Health of the People that Works", 2014).

Burden of Disease in Africa

The life expectancy at birth in low-income countries is much lower than in high-income countries ("Global Health Observatory Life Expectancy Situation," n.d.). People in low income countries usually die from infectious disease while people in high income countries die from chronic diseases like cardiovascular diseases, cancers, dementia, chronic obstructive lung disease or diabetes ("Global Health Observatory Life Expectancy Situation," n.d.). Table 1 shows the ten leading causes of death.

Table 1 Ten leading Causes of Death in 2012*

Rank	Diseases
1	Ischaemic Heart Disease
2	Stroke
3	Chronic Obstructive Pulmonary Disease
4	Lower Respiratory Infections
5	Trachea, Bronchus and Lung Causes
6	HIV/AIDS
7	Diarrhoeal Diseases
8	Diabetes Mellitus
9	Road Injuries
10	Hypertensive Heart Disease

*Tuberculosis was the 15th leading Cause of Death in 2012

Sources: WHO. The Top Ten Causes of Death. Available from:

<http://www.who.int/mediacentre/factsheets/fs310/en/>

WHO (2014) Top ten causes of death: How has the situation changed in the past decade?

Accessed May 2, 2015. Available from:

<http://www.who.int/mediacentre/factsheets/fs310/en/index2.html>

In low-income countries, a third of all deaths are caused by infectious diseases; lower respiratory infections, HIV/AIDS, diarrheal diseases, malaria and tuberculosis (WHO, 2014

Media Center: The 10 Leading Causes of Death; World Bank, 2015 Malaria Overview Context).

These five diseases are all preventable and yet cause a heavy disease burden in Africa.

The deaths caused by any one of these five diseases in a year are more than all the deaths caused by the Ebola Virus Disease (EVD) since the current outbreak. The total number of deaths caused by EVD since the disease' first occurrence in 1976 till 29 April, 2015 was 11317. The number of deaths from the ongoing outbreak as of April 29, 2015 is 10907 (CDC, 2015 Outbreaks Chronology) which is still a fraction of the deaths caused by lower respiratory infections, HIV/AIDS, diarrheal diseases, malaria or tuberculosis in one year (CDC, 2015 Outbreaks Chronology; WHO, "Ten Leading Causes of Death," 2014; World Bank, "Malaria," 2015). Table 2 shows the global number of deaths due to infectious diseases.

Table 2 Global Deaths from Infectious Diseases

Infectious Disease	Deaths	Year/Time Period
Malaria	584 000	2013
Diarrhea	1.5 Million	2012
HIV/AIDS	1.5 Million	2012
Tuberculosis	900 000	2012
EVD	10 907	December 2013- April 29, 2015
EVD	11317	1976- April 29, 2015

Sources: World Bank (2015). Malaria Accessed May 2, 2015. Available from:

<http://www.worldbank.org/en/topic/health/brief/malaria>

WHO (2014) Top ten causes of death: How has the situation changed in the past decade?

Accessed May 2, 2015. Available from:

<http://www.who.int/mediacentre/factsheets/fs310/en/index2.html>

In 2013, the global deaths from HIV-related causes world-wide were over 1 million (WHO, 2014 Media Center: The 10 Leading Causes of Death). In the same year, about 584 000 died from malaria (World Bank, “Malaria,” 2015), and 90% of the malaria deaths were from Sub-Saharan Africa. Most of the deaths from malaria were from children less than five years old. Tuberculosis was responsible for 1.5 million world- wide deaths in 2013. About 360000 of those that died from tuberculosis also had HIV (“MDG 6,” 2014). The sixth Millennium Development Goals (MDG) is to combat HIV/AIDS, malaria and other diseases and even though some of the moderate goals are being achieved, there is still plenty of room for improvement (“MDG 6,” 2014).

Globally, Human Immuno Deficiency Virus/Acquired Immuno Deficiency Syndrome (HIV/AIDS) is the sixth leading cause of death but the leading cause of death in Africa (World Bank Group & International Monetary Fund, 2015; WHO, 2014 Media Center: The 10 Leading Causes of Death). Sub-Saharan Africa has 13 percent of the world’s population (Population reference Bureau, 2014) but is home to 71 percent of all People living with HIV/AIDS (PLWHA) (UNAIDS, 2013 Global Report).

Nigeria is the seventh most populous country and the only African country in a list of the ten most populous nations (Population Reference Bureau, 2014). It has the largest number of HIV/ AIDS cases in West Africa (UNAIDS, 2013 Global Report) and the second largest number of infected persons in Sub-Saharan Africa. South Africa has the highest number of PLWHA in sub-Saharan Africa (UNAIDS, 2013, Global Report).

The burden of infectious diseases creates a toll on a nation's economy and reduces the economic earning power. School absenteeism due to malaria interrupts the child's education which in turn interrupts the employment when a parent has to stay with the sick child. Malaria reduces the Gross Domestic Product of a country. A high prevalence of malaria has been associated with a 1 % decrease in economic growth (WHO, "The Health of the People that Works," 2014). The World Bank estimates that the Gross Domestic Product of some African nations is reduced by around 1.3% due to malaria (World Bank, "Malaria," 2015). The PLWHA in Africa aged between 15 to 24 years constitute around 42 % of newly acquired infections (WHO, "The Health of the People that Works," 2014).

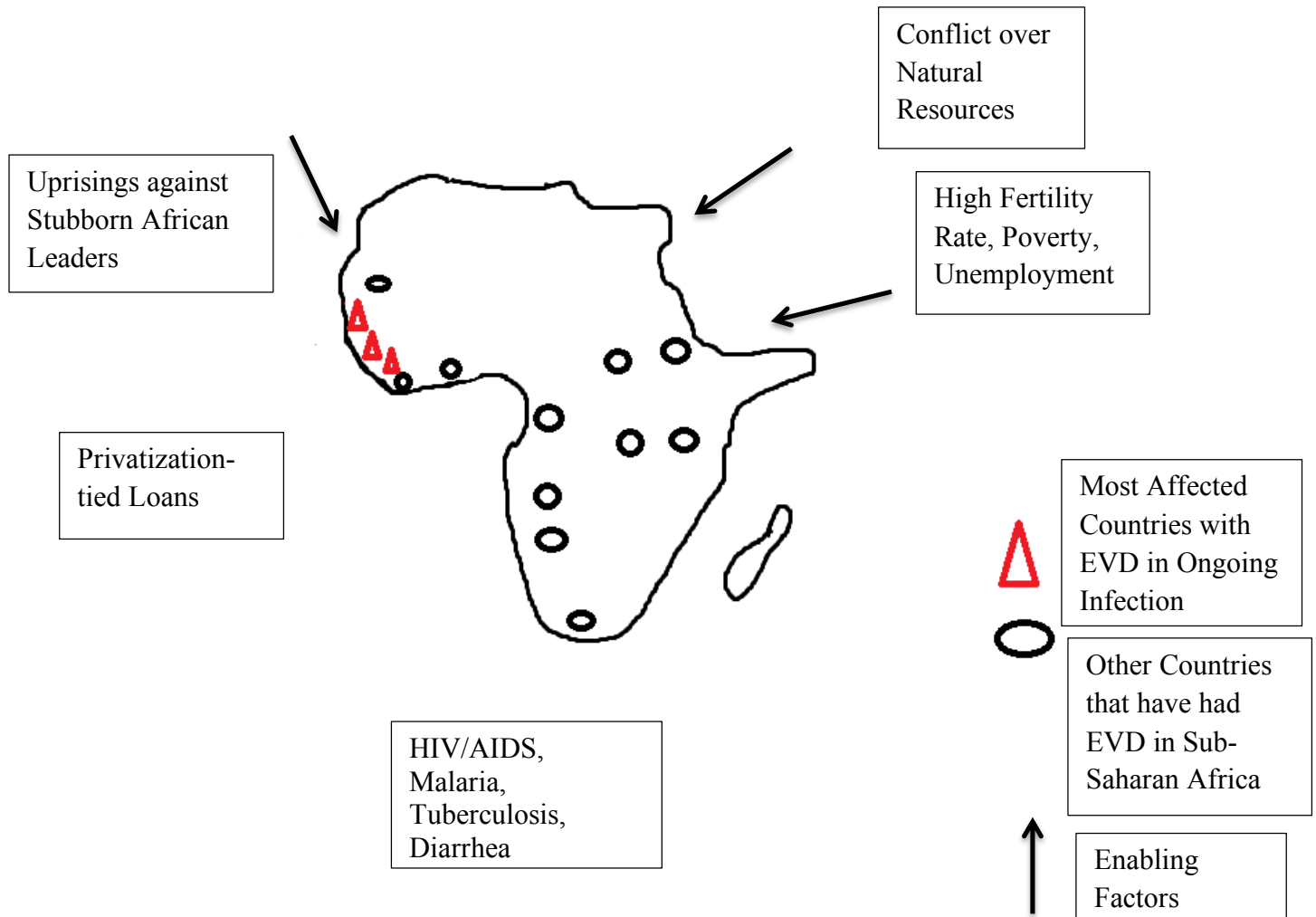
This young age group is the future of the continent and depending on the direct and indirect cost of living with HIV/AIDS, it leads to stagnation of their generation. Some employers do not employ PLWHA and some are let go when their employers know of their status (Obilade, 2015 b). Studies have also shown that when PLWHA are kept in employment, they live longer (Dray-Spira et al., 2005). When PLWHA lose their jobs or are unable to find employment, their families suffer especially when children drop out of school, take up risky health behaviors or when the children are orphaned. Ultimately, the families are left in poverty.

Ebola Virus Disease (EVD) as a Case in Point

The EVD was first reported to have been identified in Africa in 1976 when it occurred in south Sudan and Zaire (now Democratic Republic of Congo) (WHO, 1978a; WHO, 1978b). Its first occurrence in West Africa was in a 1994 lone infection of an ethnologist in Côte d'Ivoire (Le Guenno et al., 1995) but in 2014, there was an outbreak in West Africa stemming from an index case in Guinea. After more than a year, the outbreak is still ongoing.

Although EVD has affected African nations before, the ongoing outbreak has proved to be more devastating than previous outbreaks. It is not enough to view the outbreak from the lens of the media sensationalism but to delve into the foundational causes of the current outbreak. The rest of this chapter would examine the enabling factors that have allowed preventable infectious diseases to thrive. Some of the enabling factors that would be examined are the political economies over natural resources in African nations, civil unrest against African leaders that refuse to relinquish power, changing ecological climate and World Bank and International Monetary Fund loans to African nations. The chapter would examine how these factors have provided a thriving climate for infectious diseases.

Figure 1 Countries that have had EVD outbreak and Enabling Factors



The countries most affected by EVD rank the lowest in the 2013 United Nations Development Program (UNDP) Human Development Index (UNDP Report, 2013). Guinea ranked 179 out of 187 countries, Liberia ranked 175 out of 187 countries and Sierra Leone ranked 183 out of 187 countries. Liberia beat only twelve other countries; Mali, Guinea-Bissau,

Mozambique, Guinea, Burundi, Burkina Faso, Eritrea, Sierra Leone, Chad, Central African Republic, Democratic Republic of the Congo and Niger. The twelve countries that had lower rankings than Liberia are from Africa and six of these countries are from West Africa (UNDP Report, 2013). More than half of the countries in Africa are among the list of the least developed nation (UN List of Least Developed Nations, 2015).

Table 3 List of Countries between the 171st and 187th position in the 2013 UNDP Human Development Index *.

Country	UNDP Human Development Index
Côte d'Ivoire	171
Gambia	172
Ethiopia	173
Malawi	174
Liberia	175
Mali	176
Guinea-Bissau	177
Mozambique	178
Guinea	179
Burundi	180
Burkina Faso	181
Eritrea	182
Sierra Leone	183

Chad	184
Central African Republic	185
DRC	186
Niger	187

* All the countries listed are from Africa

Source: Adapted from UNDP Human Development Reports. Table 1: Human Development Index and Its Components (UNDP Human Development Report, 2013).

Table 4 List of African Countries that are Members of Least Developed Country

Member of Least Developed Country
Benin
Burkina Faso
Gambia
Guinea
Guinea-Bissau
Liberia
Mali
Mauritania
Niger
Senegal
Sierra Leone
Togo
Angola
Burundi
Central African Republic
Democratic republic of Congo
Djibouti
Equatorial Guinea

Eritrea
Ethiopia
Lesotho
Madagascar
Malawi
Mozambique
Rwanda
Somalia
South Sudan
Sudan
Uganda
Tanzania
Zambia
Comoros
Sao Tome and Principe

Source: United Nations. UN List of Least Developed Countries. Accessed May 2, 2015.

Available from: http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf (UN List of Least Developed Nations, 2015).

Public Health Emergency Declaration of EVD

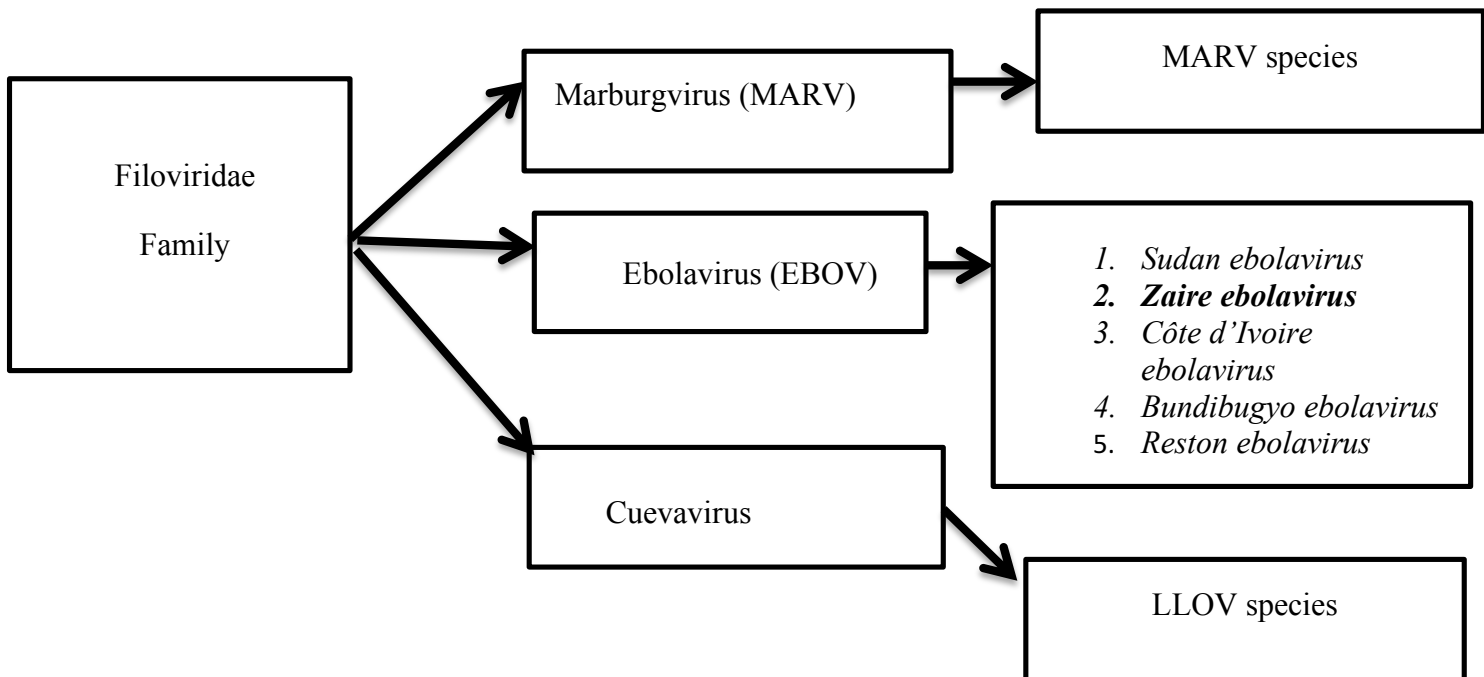
A recent global threat of a highly infectious disease was the Severe Acute Respiratory Syndrome (SARS) outbreak in 2002. However, a public health emergency was declared earlier for SARS than in the time it took EVD to be declared a public health emergency. In 2003, SARS spread to people in over 24 countries in Asia, North America, South America and Europe before it was curtailed (CDC, 2013 SARS Response Timeline). The SARS outbreak started in November 2002 as atypical pneumonia in East Asia and WHO was not alerted until February 2003 (CDC, 2013 SARS Response Timeline). In the current EVD outbreak, a Public Health Emergency was not declared until the 8th of August 2014, almost nine months after the index case occurred showing a lapse in communication.

This lapse in communication at several levels of authority allowed the EVD to spread from porous remote borders to densely populated urban areas. Several factors stemming from poverty and the political economies of the countries also allowed the disease to spread (Obilade, 2015a). The people’s cultural practices, mistrust between the government and the people and fear were some of the other factors that allowed the disease to spread (Obilade, 2015a).

The Zaire Ebola Virus Species

The Ebola virus is one of the causative pathogen of the viral hemorrhagic fevers (Paessler & Walker, 2013). Viral hemorrhagic fevers are caused by 23 enveloped RNA viruses from four distinct taxonomic families of viruses: *Filoviridae*, *Arenaviridae*, *Bunyaviridae* and *flaviviridae* (Paessler & Walker, 2013). The *Filoviridae* family is home to three virus genera: Marburgvirus (MARV), Ebolavirus (EBOV) and Cuevavirus (Negredo et al., 2011; Paessler & Walker, 2013).

Figure 2 Illustration of taxonomic family, genera and species of Ebola virus



The Zaire Ebola virus species is responsible for the current outbreak that has been devastating the countries of Guinea, Sierra Leone and Liberia. Non-human primates, bats, rodents, humans, mosquitoes and ticks can transmit the disease (Paessler & Walker, 2013). Infection is usually by contact with body fluids of infected humans or animals. From Guinea, the disease was able to spread to neighboring Sierra Leone and Liberia through infected persons and through weak infection control systems. The incubation period is 4 to 21 days (Paessler & Walker, 2013).

Ebola virus disease was formerly called Ebola hemorrhagic fever but the name was changed because it is not all cases of the Ebola virus infection that gives rise to hemorrhage. Since 1976 when the virus was first identified from simultaneous infections in south Sudan and Zaire (now Democratic Republic of Congo) (WHO, 1978a; WHO, 1978b) a licensed cure or treatment still does not exist (Paessler & Walker, 2013). Therefore, treatment is mainly supportive but prevention of EVD is achievable through intensive infection control.

Enabling Factors for infectious Disease in Africa

The rest of this chapter would examine different enabling factors that have contributed to the spread of infectious diseases in Africa.

Natural Resources and Conflict

Africa is home to natural resources like bauxite, iron ore, crude petroleum, diamonds and aluminum and export products like cocoa beans and cotton (African Development Bank Report, 2007). All the African nations have natural resources. For brevity, Table 5 shows only the list of

West African nations with their main exports. Natural resources like diamond and crude petroleum are sources of main exports in countries like Sierra Leone and Nigeria.

Table 5 List of West African Nations and their Main Exports including their Natural Resources

Country	Main Exports
Benin	Cotton, Edible nuts, Non-ferrous Metal Waste
Burkina Faso	Cotton
Cape Verde	Fish
Côte d'Ivoire	Cocoa Beans, Crude Petroleum, Cocoa Paste
Gabon	Crude Petroleum, Wood, Manganese Ores
Gambia	Edible nuts,
Ghana	Cocoa beans, Manganese Ores,
Guinea	Aluminum Ore, Aluminum Oxide, Copper Ores
Guinea-Bissau	Edible Nuts
Liberia	Ships, boats, Natural Rubber Latex
Mali	Cotton
Mauritania	Iron Ore, Molluscs, Fish
Niger	Radio Active Chemicals
Nigeria	Crude Petroleum
Senegal	Inorganic Acid
Sierra Leone	Diamonds, Cocoa Beans, Cultivating Machinery
Togo	Cocoa Beans, Natural Calcium Phosphates, Cotton

Source: Adapted from: African Development Report 2007

Despite the natural resources and other valuable exports in the West African nations, about three-quarters of them are among the lowest ranked in the UNDP Human Development Index (African Development Bank Report, 2007; Obilade, 2015 b). Armed conflicts usually occur around the regions of natural resources (Balestri & Maggioni, 2014; Ross, 2008). Five civil conflicts occurred in the Mano region between 1989 and 2004 (Balestri & Maggioni, 2014). The Mano region straddles Guinea, Liberia and Sierra Leone (Ross, 2008).

The term *resource curse* is a paradox of plenty and was first used by a British Economist, Richard Auty in 1993 (Auty, 1993; Perry, 2010). It describes how nations that have abundant resources tend to become impoverished while countries that have scarce resources tend to become rich (Auty, 1993). It is not all African countries with abundant resources that tend to become impoverished. Botswana has avoided conflicts despite its resources in diamonds (Sachs & Warner, 1999).

A 2007 report by the African Development Bank identified several factors associated with the paradox of plenty in countries with natural resources (African Development Bank Report, 2007). There were exacerbations of inequalities in the people, enhanced corruption and rent seeking, governments making poor investment decisions, poor governance, less prudent policies, lack of transparency and poor macroeconomic management (African Development Bank Report, 2007). It is not all conflicts that are related to natural resource as can be seen from violent government changes in African countries.

Conflicts over natural resources impoverish the people. It displaces the people, disrupts their education and increases unemployment. It also leads to political instability and

infrastructures that can support the health and educational systems are destroyed or weakened. In countries where there are already existing barriers to education, the conflicts compound these barriers even further.

Political Instability and African Leaders Holding on to Power beyond Term Limits

A study of coups and attempted coups in Africa between 1990 and 2000 showed that there were 25 successful coups and 71 coup attempts. It also showed that 17% of the African countries had been plunged into civil war (Stone, 2004). Another study showed that there were more than 80 violent changes in governments in African countries between 1960 and the 1990's (Adedeji, 1999).

Several African leaders refuse to leave when their terms are up or they manipulate the constitution to extend their terms. Several African leaders that are currently in power have served for at least 15 years ("How Long Are African Leaders Staying in Power", 2015). The presidents of Algeria, Chad, Congo-Brazzaville, Djibouti, Sudan, Gambia, Uganda and Eritrea have ruled for at least 15 years. In addition, presidents of Zimbabwe, Angola and Cameroon have served for more than thirty years ("How Long Are African Leaders Staying in Power", 2015). Robert Mugabe of Zimbabwe has been in power since 1980. He is Africa's oldest president at 90 years and has ruled for 34 years (African Leaders Who Choose Power", 2015). Teodoro Obiang Nguema of Equatorial Guinea is Africa's longest serving President. He has been in power for 36 years. He came into power through a bloody coup by executing his uncle that was the president at the time (African Leaders Who Choose Power", 2015). Teodoro Obiang Nguema's son is the vice president (African Leaders Who Choose Power", 2015).

John Kabila of Democratic Republic of Congo has been in power since 2001. The next elections are due in 2016 and the citizens are anxious to see if he will seek an extension contrary to term limits (African Leaders Who Choose Power”, 2015). There are already suggestions by the government that the 2016 elections could be delayed because of a proposed national census that could take three years (African Leaders Who Choose Power”, 2015).

In 2014, the president of Burkina Faso, Blaise Compaore sought to extend his rule (after being in power for 27 years) through a third term but was battled out by the citizens (African Leaders Who Choose Power”, 2015). Former Senegalese leader, Abdoulaye Wade also sought to rule for a third term contrary to the constitution and he was also battled out by the populace (African Leaders Who Choose Power”, 2015). On the 1st of May 2015, the Burundians protested against President Pierre Nkurunziza’s bid for a third term (“Burundi,”n.d”).

On the 29th of April, 2015, Togo’s Faure Gnassingbe was elected for a third term. The opposition had failed to stop his third term bid for the presidency. President Faure Gnassingbe took over power from his late father who had ruled the country for 38 years (“Togo's Faure Gnassingbe Wins,” 2015; “Togo Profile,” 2015).

In 2010, former Côte d’Ivoire’s President Laurent Gbagbo’s refusal to accept defeat in the elections claimed thousands of lives. In 2015, Mrs. Gbagbo was sentenced to 20 years for her role in the loss of lives during the post-election violence. Mr. Gbagbo is still awaiting trial (“Laurent Gbagbo,” n.d.).

Countries in North Africa are not immune from leaders holding on to power. The former presidents of Tunisia, Egypt and Libya were toppled by popular uprisings against their almost permanent hold on to power (“Arab Uprising,” 2013; “Egypt Under Sisi,” n.d. ; “Libya Country

Profile, 2015”). Altogether, combining the number of years ruled by Tunisia's President Zine al-Abidine Ben, Libya's Colonel Gaddafi and Egypt's Mubarak gives a total of 95 years. All three presidents were overthrown by popular uprisings.

Sudan's President Omar al-Bashir was recently reelected in April 2015. The 71 year old president has been in power since 1989. He has been implicated in the Darfur crisis in which an estimated 300 000 people died and more than 2 million were displaced (“Omar al-Bashir Wins,” 2015). South Sudan gained independence from Sudan in 2011 but has been engaged in internal and external conflicts arising from accusations between the president and the vice president as well as land disputes and conflicts over oil (“South Sudan Profile,” 2015).

Selfish ambitions for power by African leaders must be overcome in order for their governments to be stable. Across Africa, the leaders strive to remain in power against the best interests of their countries. Many of the countries highlighted above have been impoverished. The conflict also paves the way for internally displaced persons and refugees. The people that are left in the impoverished situations resort to dangerous means to leave their countries in search of a more stable life. Many heads of households leave their families behind in search of better opportunities. And some of them die before they realize their dreams. This can be exemplified by thousands of migrants who attempt to cross from Africa to Europe through unsafe shipping vessels. Thousands of them drown. The families left behind are sometimes left in severe hardship leading them to undertake risky, health behaviors culminating in the spread of HIV/AIDS and other diseases. As unemployment increases crime would also increase. The governments of these countries frequently remain unstable.

Conflicts from Religious and Ethnic Interests

Some conflicts also arise from religious interests and others from both religious and ethnic interests. When people flee from areas of conflict, it can give rise to internally displaced persons or to refugees. The structures that are destroyed during the conflicts may never be rebuilt. Jobs are lost. Families are destroyed. The education of children is interrupted and any form of development stalls. When they are placed in camps, it makes it easy for infectious diseases to break out.

A total of 38 million people were internally displaced because of conflict and violence according to a new report by the Internal Displacement Monitoring Center (IDMC, 2015). Sixty percent of the newly displaced people were from Democratic Republic of Congo, South Sudan, Nigeria, Iraq and Syria (IDMC, 2015). These internally displaced persons have been forced out of their homes due to conflicts arising from political or religious interests. Some of the internally displaced remain in temporary camps for years making it impossible for stability that they need for employment and their children's education and other basic necessities that would improve their lives.

Some people become refugees in other lands and choose to remain in the countries they have sought refuge in. Therefore, their own countries of origin lose massive manpower which in turn leads to loss of production and goods which also tips the country into poverty. When large numbers of people are forced to leave their homes because of conflicts, it also means any development in the areas that they have left behind become stagnated. Any form of prolonged conflicts would lead the affected countries into poverty which makes it easy for infectious diseases to thrive.

Barriers to Education, Unemployment and Poverty

The 2005/2010 primary school completion for females was 66% in Africa, 99% in Europe and 97% in Northern America (Population Reference Bureau, *The World's Women & Girls*, 2011). The completion of primary school education is not enough to prevent poverty especially in this digital age. The first of the eight millennium development goals are centered on poverty reduction and a universal primary education (United Nations, *We Can End Poverty*, 2015) because the long term approaches to getting out of poverty include education, provision of basic infrastructure and employment.

Vulnerable employment is usually self-employment with or without a contributing family member and usually people in vulnerable employment do not have a safety security net in a crisis. People in vulnerable employment are more likely to fall into poverty (ILO, 2010). According to the 2013 global employment trends, 77% of workers in Sub-Saharan Africa were in vulnerable employment and 12% of the youth were unemployed (ILO, 2013). The challenge in Sub-Saharan Africa is not the lack of people in the work force but an inadequate production of goods and services (ILO, 2013).

Apart from the labor force contributing to the mental and physical health of the workers, it helps in building the economy of the country. An increase in the work force leads to a rise in the production of manufactured goods which amplifies the country's purchasing power, ultimately fueling the economic growth (Njoku & Ihugba, 2011). Barriers to education must be removed before families and generations can be lifted out of poverty.

High Population and Fertility Rate

The first ten countries with the highest fertility rates are from Africa. Niger has the highest fertility rate of 7.4 and Liberia, one of the West African countries that suffered severe losses from EVD comes tenth with a fertility rate of 5.9. Although the global fertility rates have fallen to an average 2.5 lifetime births per woman, the rates in Africa remain high. The average fertility rate in sub Saharan Africa is 5. Not counting any African country, Afghanistan and Yemen have the highest fertility rate with 5.7 and 5.5 children per woman respectively. The lowest fertility rates are in East Asia and Europe (Population Reference Bureau, The World's Women & Girls, 2011). Table 6 shows countries with high fertility rate alongside their Human Development Index.

Table 6 Countries with the Highest Fertility Rate and their Human Development Index

Country	Children Per Woman	UNDP Human Development Index
Niger	7.4	187
Mali	6.6	176
Somalia	6.5	***
Uganda	6.5	164
Congo, Democratic Republic	6.4	185
Zambia	6.2	141
Chad	6.2	184
Burkina Faso	6.0	181
Malawi	6.0	174
*Liberia	5.9	175
**Afghanistan	5.7	169

**Yemen	5.5	154
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*Liberia is one of the three countries most hit by the current EVD. **Apart from countries in Africa, Afghanistan and Yemen are the countries with the highest fertility rate. *** Somalia was not ranked.

Sources: 1. UNDP Human Development Reports. Table 1: Human Development Index and Its Components. Accessed 5 May, 2015. Available from:

<http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components>

2. Population Reference Bureau. The World's Women's and Girls 2011 Data Sheet Accessed May 1, 2015 Available from <http://www.prb.org/pdf11/world-women-girls-2011-data-sheet.pdf>

A high fertility rate increases the number of people. When populations increase without a corresponding increase in schools, hospitals and food production, any achievement made in education would be lost. An increase in population without a corresponding increase in produce and infrastructure would lead to food scarcity, water shortage, lack of infrastructure and political instability because the large populations would consume natural and financial resources. Youth unemployment is also another major cause of conflict, increase in armed robbery and disorder (Ajaegbu, 2012).

Ecology of the Most Affected Nations in the EVD Outbreak

It has been suggested that climatic changes in temperature was another contributory factor in the index case coming from Guinea and for the spread of EVD in West Africa (Bausch & Schwartz, 2014; Ng, Basta & Cowling, 2014). The index case in the current EVD outbreak was from Guinea. Prior to the current outbreak, EVD had never been reported in any West African country apart from the single incident of an ethnologist that got infected in Tai Forest Park, Côte d'Ivoire (Le Guenno et al., 1995).

Recent research has also shown that the mean temperature in Guinea is similar to the mean temperatures in countries like DRC and Gabon (Ng, Basta & Cowling, 2014). Gabon and DRC have had several outbreaks of EVD. Sudan and Uganda have also had numerous outbreaks of EVD and research showed that the mean absolute humidity in Guinea was also similar to that of Sudan and Uganda (Ng, Basta & Cowling, 2014). Further, there have also been prolonged dry seasons in Guinea which increases the risk of humans making contact with the animal reservoir. Deforestation from logging and clearing of land for agriculture also increase the risk of humans coming in contact with the suspected animal reservoir of EVD (Bausch & Schwartz, 2014). Mining for natural resources also increase the risk of human contact with potential animal reservoirs.

Exacerbations of Poverty from Conditions of Foreign Loans-The Bretton Woods Institutions

The Bretton Woods Institutions (BWI) is comprised of the International Monetary Fund (IMF) and the World Bank (Bretton Woods Project, 2005). They were established after the meeting of forty-four nations in Bretton Woods, New Hampshire, USA to stabilize the global

economy after the Second World War (IMF, 2015c; The World Bank, 2015). The International Monetary Fund (IMF) was established to promote international monetary cooperation and assist member countries with loan payments. The International Bank for Reconstruction and Development (IBRD) provides loans to middle income countries. It was originally the World Bank Institution. Today, The World Bank refers to both IBRD and the International Development Association (IDA) (IMF, 2015c; The World Bank, 2015). The World Bank Group refers to IBRD, IDA and three other financial groups.

The IDA is the arm of the World Bank that loans to the world's poorest countries (IDA, 2015). The IMF and the World Bank are made up of 188 member countries. The IBRD is represented by 20 elected executive directors and 5 appointed executive directors. The IMF has an executive board of 24 directors representing 188 countries (IMF, 2015a).

At the founding of the BWI, only 3 African countries had gained independence and so Africa did not have a role (Browne, 1987). In the early history of BWI, the focus was on industrialized countries and by 1963; it started lending to Sub-Saharan Africa (Browne, 1987).

The voting structure of the International Monetary Fund is based on the economic contribution of the member states (Wolff, 2013). Approximately 37.37% of the total votes are held by just five countries and the United States holds 16.75% of that 37.37% (IMF, 2015b). A combination of 23 African countries hold 3.34 % voting power and another combination of 23 other African countries hold a 1.66 % voting power (Eurodad, 2006). The five largest shareholders are the United States, France, Germany, Japan and the United Kingdom. The weighted voting system allows countries with a larger financial contribution to impose policies that are favorable to their home countries but not to the borrowing countries (Browne, 1987;

IMF, 2015b). Table 7 shows the percentage of votes held by the largest states. The voting power of the IMF correlates with the economic contribution of the member states.

The voting powers of IBRD are also similar to the IMF. Five of the executive members are appointed and 20 are elected. The elected executive directors predominantly represent a group of countries that can be up to 12 at a time (The World Bank, 2015).

Table 7 Percentage of Votes Held by the Five Largest Shareholders in the IMF

Country	Percentage of Votes Held
United States	16.75
Japan	6.23
Germany	5.81
France	4.29
United Kingdom	4.29

Source: IMF (2015c). IMF Executive Directors and Voting Powers. Accessed May 3, 2015. Available from: <http://www.imf.org/external/np/sec/memdir/eds.aspx>

A study conducted to examine 20 poor countries that had taken loans from the BWI showed that each country was faced with an average of 67 conditions for each loan (Eurodad, 2006). Uganda faced 197 loan conditions (Eurodad, 2006). On average, 18 of the 20 countries had privatization related conditions to their loans (Eurodad, 2006).

Global free market benefits the countries that have the highest voting powers while countries that take loans from the World Bank or IMF are subjected to adjustment programs that

impose privatization and free trade (Wolff, 2013). The conditions for accepting these high interest loans include privatization, trade liberalization and lower government spending on social issues. Trade liberalization undermines local African industries (Eurodad, 2006). These conditions translate to lower salaries and increase poverty for the borrowing countries. It exacerbates income inequalities that favor countries with the greatest voting powers. However, for the multinational companies, it means they can now purchase cheaper raw materials from the borrowing countries.

The Way Forward

The civil conflicts around the areas of natural resources have not led to stable governments in these countries. Areas that do not have civil conflicts but are dependent on their natural resources for export have not invested in strengthening of their infrastructures. Similarly, the people in these countries have been impoverished despite an abundance of natural resources. They have been left poor with weak and struggling infrastructures that cannot combat the EVD disease. Conflicts also arise when stubborn African leaders refuse to leave when their terms are up. Other conflicts also arise from religious and ethnic interests.

Loans should not be tied to conditions like privatization and trade liberalization. The BWI should reform their policies and give the borrowing countries more leverage. African leaders should be willing to relinquish power when their term is up. A system of incentives and disincentives should be set in place to motivate leaders to leave when their term is up and disincentives should be activated for leaders that refuse to leave.

The change in the ecological climate of Guinea to a climate similar to countries that have frequently had EVD also facilitated the index case in the ongoing EVD coming from Guinea.

Access to education should be provided beyond the primary school level. Other African countries with natural resources should collaborate with countries like Botswana that have natural resources like diamond but have not had conflicts. Health education should be accessible to both men and women. Conflicts arising from religious interests and terrorism should be diffused through international collaboration and sharing of information.

Conclusion

Díè díè nimú ẹ̀lédèé fi ń wọ̀gbà is a Yoruba proverb that means it is little by little that a pig's nose enters the compound. The morale of including this proverb is that big problems start little by little. The enabling political economic factors have contributed to the environment that allows infectious diseases to thrive in Africa. The EVD is a glaring example even though there are several infectious diseases that have been responsible for more deaths than the EVD. This chapter has examined the enabling political economies of infectious diseases in Africa.

The foundational structures at the time of the current EVD was grossly inadequate to manage the disease. In addition, lapse in communication by the World Health Organization, poverty, weakened and struggling health infrastructures, cultural beliefs, mistrust of the government and fear accelerated the spread of the disease. The privatization-attached conditions attached to loans by IMF and the World Bank has exacerbated poverty in poor countries.

Poverty is also exacerbated in populations with high fertility rates as six of the countries with the highest fertility rates (Niger, Mali, Democratic Republic of Congo, Chad, Burkina Faso and Liberia) ranked among the lowest in the UNDP Human Development Index. Conflicts arising from natural resources, African leaders that are reluctant to leave and conflicts from religious interests and terrorism have contributed to political instability, unemployment, poverty

and poor infrastructures. All of the identified enabled factors provide an environment that nourishes poverty which facilitates the spread of infectious diseases.

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