DISEASES AND INCLUSIVE GROWTH IN WEST AFRICA: THE CASE OF HIV/AIDS

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Abstract

Inclusive growth is a concept which advocates all-encompassing growth covering all sectors and benefiting every segment and individual in society. However, diseases are capable of undermining growth and development activities due to their negative influence on macroeconomic fundamentals. This study examined HIV/AIDS vis-à-vis its effects on the key elements required for the attainment of inclusive growth in West Africa. It argued that HIV/AIDS possesses the capability of depressing the key elements of inclusive growth (such as adequate employment opportunities, high productivity, human capability development, and provision of social safety nets) in West Africa. It is therefore essential to effectively curtail the spread of the disease in the sub-region while efforts should be geared towards the provision of adequate employment opportunities and social safety nets to assist the vulnerable and those suffering from deprivation as a result of the menace of HIV/AIDS. Moreover, there should be promotion of higher productivity and development of human capabilities in the sub-region through adequate investment in basic social services of education and health.

Key Words: ***Inclusive growth, HIV/AIDS, Employment, Productivity, Social safety nets, West Africa.***

Introduction

Inclusive growth is a concept that advocates all-encompassing growth covering all sectors and benefiting every segment and individual in society. According to Anand, Mishra & Peiris (2013, p. 1), the concept refers to "the pace and distribution of economic growth." Citing Ianchovichina & Gable (2012), the authors reiterate that inclusive growth is "raising the pace of growth and enlarging the size of the economy by providing a level playing field for investment and increasing productive employment opportunities." Inclusive growth therefore is the "growth that not only creates new economic opportunities, but also one that ensures equal access to the opportunities created for all segments of society, particularly for the poor" (Ali & Son, 2007b, p. 12). The implication of this is that all strata of people in society should benefit substantially from any opportunity that accrues from growth or else such growth cannot be termed inclusive.

Available evidence on growth figure in most West African countries appears encouraging to some extent. For instance, a cursory look at Table 1 suggests that average growths of Gross Domestic Product (GDP) and per capita GDP for Benin from 1990 to 2014 have been positive. With respect to GDP growth, the country recorded the highest value of 5.08% in the period 1995-1999 with a per capita GDP growth of 1.92%. The least GDP and per capita GDP growths were recorded in 2005-2009, which stood at 3.77% and 0.63% respectively. Countries such as Burkina Faso, Ghana, The Gambia, Mali, Nigeria and Sierra Leone performed best in the periods 1995-1999, 2010-2014, 2000-2004, 2005-2009, 2000-2004, and 2010-2014 in that

order. Mali, Nigeria and Sierra Leone recorded double digits growths in the periods 2005-2009; 2000-2004; and 2010-2014 respectively. Moreover, from 2005 to 2014, all countries in the sub-region posted positive growths in their GDPs, with none of them having below 2%. All the countries with the exception of Cote d'Ivoire and Guinea, which had 2.16% and 2.38% GDP growths respectively posted well above 3% for the period 2005-2009. Burkina Faso, Ghana, Mali, Mauritania and Nigeria achieved corresponding 6.17, 6.13, 10.50, 6.14 and 6.34 percentage point GDP growths. For the period 2010-2014, Sierra Leone attained 10.35% growth followed by Mali with 8.93%. The least was recorded by Guinea, given as 2.49%.

The growth performance recorded in these countries notwithstanding, an in-depth analysis of sectorial growths suggests lopsidedness in what each sector contributes to GDP. Furthermore, in spite of the impressive growth figures recorded, several of the countries are still plagued with rising poverty and inequality as well as high rate of unemployment, which have further added to the growing awareness that growth in itself is not sufficient to address the problems of society if it is not inclusive. These have engendered a shift in the attention in recent times to the call for inclusive growth for a better society, and literature along this line has begun to emerge.

Table 1: Average Growth Rates of GDP and Per Capita GDP in West Africa, 1990-2014

Country/Year	1990-1994		1995-1999		2000-2004		2005-2009		2010-2014	
	GDPg	PCGDPg	GDPg	PCGDPg	GDPg	PCGDPg	GDPg	PCGDPg	GDPg	PCGDPg
Benin	4.80	1.11	5.08	1.92	4.74	1.41	3.77	0.63	4.63	1.80
Burkina Faso	2.70	-0.03	7.55	4.60	5.01	2.04	6.17	2.99	5.82	2.73
Cote d'Ivoire	-0.14	-3.52	5.03	2.02	-0.75	-2.68	2.16	0.13	5.22	2.76
Ghana	4.13	1.29	4.40	1.97	4.60	2.01	6.13	3.42	8.51	5.89
Guinea	3.84	-1.58	4.34	1.51	2.98	1.14	2.38	-0.13	2.49	-0.25
Gambia, The	2.64	-0.64	3.58	0.71	4.39	1.18	3.20	-0.08	2.74	-0.54
Guinea-Bissau	3.52	1.23	-0.91	-3.05	1.99	-0.15	3.26	1.03	3.07	0.62
Mali	2.60	0.16	5.22	2.42	5.87	2.74	10.50	6.94	8.93	5.69
Mauritania	0.94	-1.86	4.42	1.36	2.79	-0.31	6.14	3.34	5.11	2.51
Niger	0.03	-3.20	3.73	0.06	2.82	-0.88	4.46	0.63	6.96	2.80
Nigeria	3.12	0.54	2.14	-0.39	11.52	8.73	6.34	3.57	5.74	2.94
Senegal	0.88	-2.13	4.55	1.94	4.20	1.49	3.83	1.01	3.63	0.49
Sierra Leone	-2.78	-2.70	-2.46	-2.92	8.32	3.84	5.59	2.52	10.35	7.91
Togo	-1.01	-3.48	6.25	3.58	0.75	-1.92	2.65	-0.10	4.72	1.94

GDPg and PCGDPg = Growth rates of GDP and per capita GDP respectively

Source: Computed by Author from World Bank (2016) World Development Indicators

Ali & Son (2007a) identified three fundamental elements required for the attainment of inclusive growth to include: (i) creating employment opportunities and promoting higher productivity, (ii) developing human capabilities through adequate investment in basic social services of education and health, and (iii) providing social safety nets and targeted interventions to help those who are vulnerable and/or suffer from extreme deprivation. The import of this is that inclusive growth must be people centered and should be able to address societal problems. Thus, a society afflicted with high prevalence of diseases such as HIV/AIDS may have its inclusive growth activities hampered if the growing menace of such disease is not addressed. Therefore, the present paper seeks to examine the issue of inclusive growth vis-à-vis HIV/AIDS prevalence in West Africa.

Disease and Inclusive Growth: The Case of HIV/AIDS

Diseases tend to operate against the key elements of inclusive growth in any society where their prevalence is high and this can undermine development efforts. Not only that diseases could obstruct the fundamental elements required to attain inclusive growth, they are also capable of cutting short average life expectancy, and reducing both quantity and quality of labour force with the resultant effect of depressed productivity in an economy (Acemoglu & Johnson, 2007; Annim & Dasmani, 2011; Dauda, 2012, 2018a&b). According to Soyibo, Olaniyan & Ayorinde (2005, p. 2), endemic diseases "impose a heavy cost not only on a country's current income, but also on the rate of its economic growth, and therefore on its level of economic development."

Given a summary of the key elements of inclusive growth as "(i) average opportunities available to the population, and (ii) how opportunities are shared or distributed among the population" (Ali & Son, 2007, p. 13), it is imperative that growth should endeavour to increase such opportunities and make them more available to the poor elements in society than the non-poor. The poor is expected to enjoy health care services, unemployment benefits, educational services, etc., which should not only be made available to the poor but also be distributed in their favour. In this regards, inclusiveness of growth should expand the average opportunities available to individuals that constitute a particular population and also improve efficient distribution of such opportunities.

The debilitating effects of HIV/AIDS in a heavily hit society are capable of eroding the availability and distribution of these opportunities among the poor. The pandemic affects the poor directly, aggravates the level of poverty among them and also deprive them of available opportunities in the area of health care services, employment opportunities, unemployment benefits, educational services, health care services, and so on (Greener, Jefferis & Siphambe, 2000; Salinas & Haacker, 2006).

HIV/AIDS and Employment Generation

Employment opportunity is one of the important key elements required to attain inclusive growth in any society. However, prevalence of diseases could have detrimental effect on employment status of infected persons as well as employment generation activities while high rate of unemployment could also aggravate disease condition in any society. This is consistent with empirical literature, which reported that diseases can aggravate unemployment situation while unemployment can in turn worsened health conditions (see Weber, Hörmann &

Heipertz, 2007; Paul & Moser 2009, Janlert & Hammarström, 2009, Lundin *et al*., 2009, Moller, 2012; and Levinsohn, McLaren, Shisana & Zuma, 2013).

The HIV/AIDS epidemic possesses the tendency to hamper employment opportunities while unemployment situation could worsen the health condition of infected persons. These submissions appear to be more pronounced at the micro level rather than macro level and as such not much work on the impact of the disease on issues relating to labour market have been explored in empirical literature. Vass (2005, p.1) reiterates that much analysis on labour market trends tends to neglect HIV/AIDS, which is a key co-factor underpinning the rising unemployment trends in the infected society. The author noted that the reason for this is not unconnected to the fact that the HIV/AIDS impact on labour market is not a "clearly distinguishable co-factor, especially at the macro-level", which "is partly due to its long-wave nature, in that the long-term consequences of AIDS morbidity and mortality on productivity, structure and functioning of the labour market only become evident over time."

Few ways HIV/AIDS could affect unemployment situation in the hardest hit countries include: i) rising rate of unemployment among HIV/AIDS positive persons, which is made worse due to discrimination against infected persons in labour market, particularly in developing nations. Moreover, some of the infected persons, whose infection has reached an advanced stage may not possess the required strength to engage in formal employment activities, and as such may not be able to participate in the labour market; ii) decline in household and national income due to the menace of the disease could reduce job creation; iii) the disease could inform resource reallocation from job creation to fighting/preventing its spread and/or catering for infected persons; and iv) unemployment could in turn worsened the health situation of HIV/AIDS positive individual.

An ILO (2006) study revealed that around 24.56 million labour force participants covering ages 15-64 years were living with HIV/AIDS globally in 2005, with about 67% of them living in Africa. The study further reiterates that there were more than a million workers infected with HIV/AIDS living in each of five countries in Africa (Mozambique, 1.4 million; Nigeria, 1.8 million; South Africa, 3.7 million; the United Republic of Tanzania, 1.2 million; and Zimbabwe,1.1 million). Furthermore, ILO (2008, p.6) indicated that the global workforce lost an estimated 28 million workers to the HIV/AIDS epidemic by 2005 and the number was projected to increase to 45 million and 86 million by 2010 and 2020 respectively. Moreover, around 2 million HIV/AIDS infected workers would not be able to work "every year as their illness worsens." As at the end of 2015, about 37 million persons were living with HIV/AIDS and according to ILO (2016) majority of them are of working age. Most of these people face lots of discrimination by their employers, and such continue to experience unemployment. Furthermore, those of them with full blown AIDS may no longer be able to engage in labour market activities.

Levinsohn, McLaren, Shisana & Zuma (2013, p. 98) examined the effect of HIV status on employment outcomes in South Africa, using "two econometric methods based on the propensity score", with data on sexual behaviour "and knowledge of HIV from a large national household-based survey, which included HIV testing, to control for systematic differences between HIV-positive and HIV-negative individuals." The findings revealed that "being HIV-positive is associated with a 6 to 7 percentage point increase in the likelihood of being

unemployed" while persons who possess less "than a high school education are 10 to 11 percentage points more likely to be unemployed if they are HIV-positive."

Tawfik & Kinoti (2006) have also reiterated that the HIV/AIDS pandemic has contributed to human resource crisis in form of "excessive workload and burnout, high worker attrition rates with no replacement and limited entry into the workforce." Some people could drop out of the labour market for the purpose of caring for HIV/AIDS infected persons/relatives while others could not continue due to direct infection and HIV/AIDS related illnesses.

Unemployment rate appears to be high in West African countries, which could be attributed to the menace of the disease among other causes. Information contained in Table 2 suggests that countries such as Ghana, The Gambia, Guinea-Bissau, Mali, Mauritania, Nigeria, Senegal and Togo are still battling with high rate of unemployment. Mauritania appears to have the worst case of unemployment, which has been above 30% since 1990. For the period 1990-1994, the country recorded about 31.95% unemployment rate. This continued to increase before it got peaked at an average of 32.44% for the 2000-2004 period. The rate for 2010-2014 stood at 31.08%. Senegal seems to have the second worst case, having recorded above 10% unemployment rate since 1990 to 2014. The least case is recorded in Benin, where the rate has continued to lie below 2% since 1990 till date.

Theodore & La Fouce (2001) have argued that because HIV/AIDS contributes to the shrinking of the number of persons participating in the labour market, national output and productivity will decline, particularly, when these seek workers eventually withdraw from production.

The facts presented above substantiate the detrimental effects of the HIV/AIDS disease the key element of inclusive growth in the area of employment generation.

Table 2: Average Unemployment Rate in West Africa, 1990-2014

Country/Year	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014
Benin	1.13	0.84	0.88	1.16	1.00
Burkina Faso	2.68	2.36	2.78	2.98	3.26
Cote d'Ivoire	5.98	4.10	4.10	4.10	4.08
Ghana	8.03	8.92	9.04	3.84	3.54
Guinea	2.33	2.42	1.90	1.84	1.70
Gambia, The	7.13	7.12	7.18	7.10	7.05
Guinea-Bissau	6.90	6.98	6.86	6.86	6.84
Mali	8.58	8.50	8.48	8.44	8.10
Mauritania	31.95	32.22	32.44	31.52	31.08
Niger	5.10	5.08	5.00	5.10	5.10
Nigeria	7.40	7.50	7.64	7.60	7.54
Senegal	10.08	10.10	10.14	10.02	10.02
Sierra Leone	3.40	3.40	3.34	3.40	3.38
Togo	7.18	7.14	7.16	7.08	6.96

Source: Computed by Author from World Bank (2015 & 2016) World Development Indicators

HIV/AIDS and Productivity

Productivity is very strategic for the prosperity of every society. However, both national and individual labour productivities could be endangered by the menace of the HIV/AIDS disease. This position is consistent with both theoretical and empirical literatures. Viewing productivity from the perspective of GDP and per capita income (PCI), HIV/AIDS have been reported to have led to declines in per capita income and even output growth in most countries where its prevalence has been high.

Bonnel (2000) indicated that HIV/AIDS on average reduced per capita income growth in Africa by 0.7% annually between 1990 and 1997 while growth further declined by 0.3% per annum in African countries affected by malaria. Moreover, other studies have found negative and significant influence of HIV/AIDS on economic growth in countries hardest hit. Some of these include: Kambou, Devarajan & Over (1992), Cuddington (1993), Arndt & Lewis (2000), McDonald & Roberts (2006), Gardner & Lee (2010), and Dauda (2012).

For instance Dauda (2012) found that a percentage increase in the number of people living with HIV/AIDS in Nigeria reduced the nation's GDP by 0.19%. Similarly, Kambou, Devarajan & Over (1992) found that the virus reduced GDP growth by 1.9% per annum in Cameroon. In the same vein, McDonald & Roberts (2006) and Gardner & Lee (2010) in their cross-country studies found negative and significant impact of the disease on per capita income growth.

Per capita income in most countries in West Africa has been very low compared to countries of other regions of the world. Information available from World Bank (2015) showed that average income per capita of West Africa, which was US$432.60 in 1990 declined to US$371.79 in 1994 before it rose slightly to US$431.88 in 1995. It decreased further to US$394.78 in 2000 and fell again to US$397.40 in 2001. In 2005 about US$590.46 was recorded in per capita income by the sub-region. The 2014 figure stood at US$1159.67. Country-specific PCI performance revealed Nigeria as having the highest in the sub-region, put at US$3184.62, which was due to the recent rebasing of her GDP. Followed by Nigeria is Cote d'Ivoire, which recorded US$1646.43 per capita GDP while Ghana had US$1461.61. The least is observed in The Gambia, which stood at US$422.78.

Apart from the studies cited above, others have found that HIV/AIDS reduced labour productivity significantly in most sub-Saharan African countries endemic with the pandemic. Simtowe & Kinkingninhoun-Medagbe (2011) in their descriptive study on Southern Africa discovered that HIV/AIDS did not only reduce labour force and change the age and sex distribution of the labour force in this region but it has also led to greater decline in productivity and profitability in the formal and informal sectors. These findings are consistent with that of Coulibaly (2005) who discovered that in sub-Saharan Africa (SSA), HIV/AIDS has contributed to reduction in labour force growth, modified sex distribution of labour force participation rates, changed the age distribution of labour force participation and reduced working hours as well as labour productivity.

Fox *et al* (2004) carried out a study in Kenya to determine how HIV/AIDS affects labour productivity among tea estate workers who died or were medically retired due to AIDS related causes from 1997 to 2002. The authors employed a longitudinal regression for their analysis. They "compared daily output in kilograms of tea leaves plucked, use of paid and unpaid leave and assignment to less strenuous tasks by 54 workers who died or were medically retired

because of AIDS to" other workers who were not HIV/AIDS positive. The results indicated that persons who were HIV/AIDS positive plucked less tea within the period of 18 months that preceded AIDS-related termination (death or retirement) and also embarked on more leaves within three years before death or retirement due to HIV/AIDS related causes.

A good number of empirical studies have also reported declining agricultural productivity in different African countries due to HIV/AIDS.

Abu, Ekpebu & Okpachu (2010) investigated how HIV/AIDS affects agricultural productivity in Ukum Local Government Area of Benue State, Nigeria, using simple descriptive statistics and t-test for analysis. The authors collected data on 40 group and Focused Group Discussion (FGD), with the majority of the respondents being between ages 15 and 49 years. The findings showed a "significant difference between the farm size and annual income of the HIV/AIDS infected farm families and the non-infected farm families."

Similarly, in a qualitative study conducted by Parker, Jacobsen & Komwa (2009), to examine how the HIV/AIDS epidemic relates with labour availability, "agricultural productivity, household resources, food consumption, and health status in rural southeastern Uganda", it was found among other things that the disease in actual fact depressed "agricultural practices and productivity" in southeastern Uganda.

In review of some recent evidences regarding the impact of HIV/AIDS on farm labour productivity, Asenso-Okyere *et al* (2010) discovered that the HIV/AIDS disease has depressed farm productivity to a large extent. This is due to increased absenteeism among farmers occasioned by increased morbidity, and eventual death of HIV/AIDS infected person; greater "family time devoted to caring for the sick; and loss of savings, and farm assets." The ultimate effects of these are decline in household income and possible food insecurity, which further contributes to deterioration in household livelihood.

Duru & Mernan (2011), analyzed the effect of HIV/AIDS pandemic on output of agriculture in Ukum local government area of Benue state, Nigeria, employing the Snowball sampling method with descriptive statistical analysis. The findings among others suggest that HIV/AIDS has significantly reduced agricultural output in Ukum local government area of Benue state in Nigeria.

Iheke, Okezie & Onyekanma (2011) examined the "impact of HIV/AIDS on the productivity of farm households in Abia State, Nigeria", using data collected on "120 households spread across six Local Government Areas of the State." Having employed descriptive statistics and also estimated the stochastic frontier model specified in the study, it was found among other things that households who are vulnerable to HIV/AIDS (about 10.12 % of the households) were less efficient on farm than those who are not vulnerable. Specifically, "the input elasticity coefficient of land for HIV infected households", which was 0.04 was lower than that of the households (1.112) who were HIV negative. The implication of the results is that farm productivity of households infected with the disease is lower compared to the productivity of households who are HIV/AIDS negative.

Similarly, Ugwu (2009) studied how the HIV/AIDS epidemic has affected the productivity of farm women in Enugu State, Nigeria. The author employed multi-stage and purposive sampling methodologies to select 60 farm women/households living with HIV/AIDS and 60 farm women/households uninfected with the virus. The findings revealed that HIV/AIDS has led to a

significant "loss of feminine agricultural labour supply, reduced household income, reduced agricultural production, increased family burden as well as loss of family assets and the women's right, among others."

Apparently, the HIV/AIDS epidemic appears as threat to productivity both at national and individual levels as revealed by the forgone reviews above.

HIV/AIDS and Basic Social Services

Diseases are capable of preventing adequate investment in basic social services of education and health. It has been reported that HIV/AIDS is a great threat to health and education in countries severely affected.

With respect to heath, the disease has succeeded in reducing average life expectancy in Africa, increased morbidity and mortality and imparted negatively on the health sector. According to Haacker (2010), Anderson (2010), and UNDP (2013), HIV/AIDS brought about substantial decline in average life expectancy and widen its gap between the SSA and the global average value. United Nations (2013) reported that Uganda regained about 5.6 years of her average life expectancy as a result of decline in "AIDS-related and other mortality risks between ages 15 and 60 in recent years"; however, South Africa has not been lucky as she has lost approximately 5 years of average life expectancy in spite of "some benefits of prevention and treatment" accruing to the country.

In West Africa, average life expectancy has remained below 60 years. In 1990, the sub-region recorded an average of 51.36 years life expectancy going by data provided by World Bank (2015). This however rose slightly to approximately 52.78 in 2000 and further to 56.91 years in 2010. By 2013, it had reached 57.81. Average life expectancy of the sub-region would have risen beyond the 2013 figure in the absence of HIV/AIDS. Country-specific data showed Senegal having the highest average life expectancy among the West African countries considered in this study. In 2013, the country recorded around 63.35 years, followed by Mauritania, whose average life expectancy stood at 61.51 years. Ghana occupied the third position having posted 61.10 years. The least was recorded in Sierra Leone, whose value remained 45.55 years. Nigeria, the most populous country in the sub-region recorded 52.50 years in 2013.

With respect to morbidity and mortality resulting from the pandemic, facts available from UNAIDS (2015) suggest that the number of persons infected with the disease globally increased from 28.6 million in 2000 to 36.9 million in 2014. Of these figures, SSA alone accounted for about 72.72% and 78.05% in 2000 and 2014 respectively. The increase in the global figure was however due to the rise in the number of infected persons receiving antiretroviral therapy (more than 15 million people as at March 2015), which has improved their life span, since new rate has declined by about 35% since 2000. Global mortality attributed to AIDS declined from 1.6 million in 2000 to 1.2 million in 2014 (around 25% reduction). However, SSA saw AIDS-related mortality declined from 1.2 million in 2000 to 0.79 million in 2014.

In West Africa, AIDS mortality and morbidity remain high. The sub-region accounts for the third largest burden of HIV/AIDS in the world considering AIDS mortality, morbidity and prevalence. Facts presented in Table 3 revealed evidently that AIDS mortality and morbidity increased in most countries in West Africa from 1990 to 2005. However, in some countries such

as Benin, The Gambia, Ghana, Niger and Togo, they increased till 2009 period. Guinea-Bissau, Mauritania, Nigeria and Sierra Leone have continued to witness increasing trend in both figures. With respect to HIV prevalence, Cote d'Ivoire, Guinea-Bissau, Nigeria and Togo recorded the average of 3.78, 3.85, 3.40 and 2.65 respectively in 2013. Over the years, HIV prevalence among this age group has been the highest in Cote d'Ivoire, which got peaked at 5.28% in 2000-2004 period. Although prevalence has declined in most of the countries, Guinea-Bissau has continued to witness an increasing trend, which is not unconnected with the new HIV strain discovered in the country, which is capable of developing faster into a full-blown AIDS within five years than the parent strains (see Palm, *et al*, 2014).

Moreover, AIDS has contributed to the high rate of mortality at all age levels in countries hardest hit. As shown in Table 4, infant and under five mortality rates in West African countries over the period 1990-2013 remained extremely high. This is not unconnected with the menace of the pandemic.

Table 3: HIV Prevalence (ages 15-49 years), AIDS Mortality and HIV/AIDS Morbidity in West Africa, 1990-2013

			HIV Prevalence					AIDS Mortality					HIV/AIDS Morbidity (Millions)		
Country	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013
Benin	0.700	1.18	1.38	1.24	1.20	1040	1960	3500	3960	1775	0.02	0.04	0.06	0.06	0.07
Burkina Faso	3.66	3.16	1.96	1.24	1.03	8520	13800	14000	8080	4275	0.20	0.19	0.15	0.11	0.11
Cote d'Ivoire	3.72	5.26	5.28	4.42	3.78	10520	23800	34800	30200	23250	0.30	0.44	0.50	0.47	0.46
Gambia, The	0.30	0.94	1.78	2.10	1.95	100	300	800	1040	1025	0.003	0.01	0.01	0.02	0.02
Ghana	1.60	2.24	2.22	1.86	1.60	5760	11620	17800	18000	11800	0.13	0.22	0.26	0.26	0.25
Guinea	1.10	1.84	1.82	1.62	1.60	1380	4060	6520	6240	4300	0.04	0.08	0.10	0.10	0.11
Guinea-Bissau	0.50	1.38	2.76	3.70	3.85	160	440	1060	1600	1775	0.003	0.01	0.02	0.03	0.04
Mali	1.98	2.08	1.60	1.40	1.40	3440	6800	8120	6000	4525	0.08	0.11	0.10	0.10	0.12
Mauritania	0.28	0.64	0.88	0.86	0.75	140	440	1000	1000	1050	0.003	0.01	0.01	0.02	0.02
Niger	0.42	0.94	1.20	0.96	0.63	800	1980	4140	5260	4075	0.02	0.05	0.07	0.07	0.06
Nigeria	1.62	2.86	3.62	3.66	3.40	35200	84000	154000	184000	185000	0.87	1.80	2.64	3.10	3.35
Senegal	0.24	0.52	0.84	0.82	0.65	600	1020	1760	2480	2250	0.01	0.02	0.05	0.05	0.05
Sierra Leone	0.10	0.48	1.28	1.68	1.55	100	360	1340	2680	2700	0.002	0.01	0.03	0.05	0.06
Togo	1.64	2.92	3.50	3.16	2.65	1360	3300	6180	7000	4925	0.03	0.07	0.12	0.12	0.11

Source: computed by Author from UNAIDA (2015)

Table 4: Infant and Under Five Mortality Rates (Per 1,000 Live Births) in West Africa, 1990-2013

	Infant Mortality					Under Five Mortality				
Country	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013	1990-1994	1995-1999	2000-2004	2005-2009	2010-2013
Benin	102.58	93.96	84.56	69.16	59.075	169.30	153.22	135.98	108.26	90.425
Burkina Faso	102.28	99.42	93.02	79.40	66.875	201.76	194.22	177.28	140.38	105.55
Cote d'Ivoire	104.16	102.72	95.56	84.04	74.15	151.58	150.32	139.98	121.24	104.63
Gambia, The	76.10	67.74	60.72	54.76	50.60	158.30	132.64	110.46	91.30	77.73
Ghana	76.42	69.90	61.84	56.68	53.70	121.24	109.60	95.30	86.14	80.88
Guinea	133.24	114.54	95.54	79.34	68.075	225.32	191.62	156.14	126.50	106.35
Guinea-Bissau	128.44	116.38	103.7	91.44	81.18	216.98	194.98	171.38	148.52	129.85
Mali	127.56	122.22	108.74	90.68	80.30	247.20	234.48	201.70	156.48	129.83
Mauritania	76.78	76.10	75.72	73.08	68.68	115.12	113.32	112.42	105.64	94.20
Niger	131.58	111.5	93.86	75.40	62.83	311.04	256.28	206.38	151.92	113.38
Nigeria	125.64	119.94	106.38	90.84	78.00	211.98	201.56	176.38	147.46	124.08
Senegal	70.24	71.32	64.48	52.60	45.45	140.40	143.70	122.32	84.22	60.48
Sierra Leone	156.20	148.56	135.68	122.20	110.80	263.58	247.06	219.70	191.48	167.98
Togo	88.18	81.74	73.32	65.24	58.18	142.58	130.80	115.70	101.34	88.83

Source: Computed by Author from World Bank (2015) World Development Indicators

Furthermore, education sector has not been spared of the scourge of the disease. HIV/AIDS has been found to have contributed to declines in school enrolment, teacher's productivity, quality of teaching and dwindling of educational resources, as well as upsurge in teacher's mortality, pupil absenteeism, and low concentration among students in class.

World Bank (2013) argued that HIV/AIDS appeared to have reduced the capacity of the education sector to deliver what it terms the "Social Vaccine." It reiterated that due to HIV/AIDS, mortality of teachers occasioned by the disease is increasing in some affected societies, rates of absenteeism among teachers and even pupils are on the increase while "orphans and vulnerable children who are more likely to drop out of school or not attend school at all" are created by the pandemic. These according to the agency are indications that HIV/AIDS is damaging the education systems.

In a descriptive study by Dauda (2013) to determine the relationship between AIDS-Orphanhood and human capital development in Nigeria, using data covering the period 1990-2009, it was reported that school attendance was lower for orphans than non-orphans. Similarly, the rate of school drop-outs appeared higher for orphans than non-orphans while school enrolment was negatively affected. Some of the reasons for this have to do with inability to pay school fees, care giving to sick siblings or parents and engagement in household chores.
In addition, studies such as Bicego, Rutstein, & Johnson (2003); Case, Paxson & Bleidinger (2004); Monasch & Boerma (2004); Ainsworth & Filmer (2006); and Kürzinger *et al* (2008), have found negative impact of HIV/AIDS on education outcomes while others such as Kobiane, Calves, & Marcoux (2005) and Oladokun *et al* (2009) however, did not find much detrimental effect of the epidemic on education.

Kobiane, Calves, & Marcoux (2005) investigated how death of parents affects children schooling in Burkina Faso. The authors found that parent's death aggravated by AIDS which increased number of orphans has negative impact of the possibility of the orphans to enter school and participate. However, it was discovered also that children who were double orphans performed better in school than non-orphans.

Oladokun *et al* (2009) studied the socio-demographic and clinical characteristics of AIDS and non-AIDS orphans in Ibadan, Nigeria. The authors employed a hospital-based survey data, which were collected at the University College Hospital (UCH), Ibadan, Nigeria between 2005 and 2006. They used the Chi-square and t-tests for analysis. The findings however did not show any significant difference between school enrolment among AIDS and non-AIDS orphans.

It is obvious from the above information that HIV/AIDS possesses the ability to impart education and health outcomes negatively.

HIV/AIDS and Basic Social Safety Nets

With respect to provision of social safety nets and targeted interventions to help the vulnerable and those who suffer from extreme deprivation, it is evident that diseases contribute to increase in the number of people who fall within this group. The International Labour Organization (ILO) has estimated "that 80 percent of the world's population lacks access to adequate social protection, and more than half lacks any coverage at all" (Food and Agriculture Organization, FAO). The HIV/AIDS disease has exacerbated this figure. For instance HIV/AIDS has increased the number of orphans and vulnerable in society. Out of the 13.3 million children which were Orphaned by AIDS in 2014, 11 million of them are found in SSA (UNAIDS, 2015; UN, 2015). About 90% of global AIDS orphans are in SSA with 2.5 million of them found in Nigeria, 1.9 million in South Africa, 1.3 million in Tanzania, 1.2 million in Kenya, 1.2 million in Uganda, 1 million in Zimbabwe, 440,000 in Côte d'Ivoire, 180000 in Ghana and 130000 in Burkina Faso. This creates a great burden on the income of nation heavily affected by the pandemic.

The rise in the number of vulnerable due to the menace of HIV/AIDS has placed a greater burden on social safety nets, and as such communities have resolved to the use of informal social security as a safety net. The informal social security has to do with "self-organised family, community or informal sector coping mechanisms" always seen in the traditional Black "African" communities, which "incorporates values that promote togetherness and a sense of belonging" (Tshoose, 2010, p.411). In this type of system, which operates on the principles of solidarity and reciprocity, family or community members who are incapable of providing for themselves are assisted either in cash or kind to have their problems solved. Tshoose (2010, p.411) reiterates that "these informal safety nets have proven to play a significant role in mitigating the impact of HIV/AIDS at family and community levels." However, in communities where the HIV/AIDS prevalence is high such "communities are overwhelmed with the demands placed on them to support orphans and vulnerable children to the point where culture, traditions, and society at large are showing early warning signs of irreversible strain" (Huggins, 2007, p. ii). Miller (2007) also reported that demand for social safety nets has been very high in countries hardest hit be the menace of HIV/AIDS.

Theodore & La Fouce (2001, pp.2&3) submit that HIV/AIDS possesses the inclination to persistently erode the social safety net and security base and/or viability platform through

reduction in the number of employed people, which could lead to a weakening of the income generation system, with the resultant effect of decline in "the inflows to the social security system."

Even though the HIV/AIDS epidemic appears to increase the number of vulnerable who needs care and social safety nets, empirical evidences have also supported the potency of the social grant safety net in combating the menace of the disease. Booysen (2004), who investigated how the social grants could be employed to ease the socio-economic impact of HIV/AIDS in South Africa discovered that most households affected by the HIV/AIDS scourge depend mostly on income from social grants, which helped to alleviate the severity of poverty among and also lessen the stress and burden placed upon households by the menace of the disease.

Arguing in support of the above, Theodore & La Fouce (2001, pp.7) noted "that social security schemes have traditionally provided coverage for events related to loss of or reductions in income." The authors however, submit that due to the rampage of HIV/AIDS in the hardest hit areas, demands for benefits by "infected social security members and their affected dependents" would likely increase and this will eventually lead to upsurge in the overall expenditure made on social security.

Summary, Conclusion and Policy Implications

The study examined the impact of HIV/AIDS on inclusive growth in West Africa. It analyzed the channels through which the disease operates against the key elements of inclusive growth such as adequate employment opportunities, high productivity, human capability development, and provision of social safety nets. It discovered that HIV/AIDS due to its negative impact on several economic and socio-economic indicators like mortality, life expectancy, productivity, employment generation, education services and health care services, the disease can prevent the inclusiveness of growth in the West African sub region. The study therefore, recommended that an effective HIV/AIDS prevention and treatment programmes to curtail the menace of the disease will enhance inclusive growth in West Africa. While provision of the fundamental elements of inclusive growth such as adequate employment opportunities and social safety nets to assist the vulnerable and those suffering from deprivation as a result of the menace of HIV/AIDS, promotion of higher productivity and development of human capabilities in the sub-region through adequate investment in basic social services of education and health should be accorded necessary priority.

References

Abu, G. A., Ekpebu, I. D & Okpachu, S.A. (2010). The Impact of HIV/AIDS on Agricultural Productivity in Ukum Local Government Area of Benue State, Nigeria. *Journal of Human Ecology*, 31(3): 157-163 (2010)

Acemoglu, D & Johnson, S. (2007). Disease and development: the effect of life expectancy on economic growth. *Journal of Political Economy*, 115(6), 925- 983.

Ainsworth, M., & Filmer, D. (2006). Inequalities in children's schooling: AIDS, orphanhood, poverty, and gender. World Development, 34(6), 1099-1128.

Ali, I & Son, H.H. (2007b). Defining and measuring inclusive growth: application to the Philippines. ERD Working Paper No. 98. August 12, 2015 from https://www.adb.org/sites/default/files/publication/28211/wp098.pdf.

Ali, I & Son, H.H. (2007b). Measuring inclusive growth. *Asian Development Review*, 24(1), 11-31.

Anand, R., Mishra, S. & Peiris, S. J. (2013). Inclusive growth revisited: measurement and determinants. *Economic Premise*, The World Bank. Retrieved 24 August, 2015 from https://www.worldbank.org/content/dam/Worldbank/document/Poverty%20documents /EconomicPremise_July2013_No22.pdf

Anderson, K.G. (2010). Life expectancy and the timing of life history events in developing countries. *Human Nature*, 21(2), 103-123.

Annim, S. & Dasmani, I. (2011). The joint effect of human capital and income inequalities on HIV/AIDS prevalence: an exploratory investment. *Journal of AIDS and HIV Research* 3.7: 121-128.

Arndt, C. & Lewis, J. (2000). The macroeconomic implications of HIV/AIDS in South Africa: a preliminary assessment. *South African Journal of Economics*, 68(5), 390-392.

Asenso-Okyere, A., Aragon, C., Thangata, P., Andam, K & Mekonnen, D.A. (2010). HIV and AIDS and farm labor productivity: A review of recent evidence in Africa. *Journal of Development and Agricultural Economics*, 2(12), 406-415.

Bicego, G., Rutstein, S., & Johnson, K. (2003). Dimensions of the emerging orphan crisis in sub-Saharan Africa. Social Science & Medicine, 56 (6), 1235–1247.

Bonnel, R. (2000). HIV/AIDS: does it increase or decrease growth in Africa? *World Development*, 68(5), 1-25.

Booysen, F. (2004). Social grants as safety net for HIV/AIDS-affected households in South Africa. *Journal of Social Aspects of HIV/AIDS Research Alliance*, 1(1), 45-56.

Case, A., & Ardington, C. (2006). The Impact of paternal death on school outcomes: Longitudinal evidence from South Africa. Demography, 43(3), 401-420.

Coulibaly, I. (2005). The impact of the HIV/AIDS on the labour force in Sub-Saharan Africa: a

preliminary assessment. International Labour Organization. Retrieved 10 September, 2015 from http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@ilo_aids/documents/publication/wcms_117178.pdf.

Cuddington, J. (1993). Further results on the macroeconomic effects of AIDS: the dualistic labour-surplus economy. *World Bank Economic Review* 7(3), 403-417.

Dauda, R.S. (2012). The scourge of HIV/AIDS pandemic and economic performance: the case of Nigeria. *Global Journal of Human Social Science,* 12(1), 48-64.

Dauda, R.S. (2013). AIDS-orphanhood and human capital development in Nigeria. *Journal of Social Research & Policy*, 4(1), 121-138.

Dauda, R.S. (2018a). Diseases and sustainable development: The cases of HIV/AIDS, Malaria and tuberculosis in Nigeria. *African Journal of Sustainable development (Forthcoming).*

Dauda, R.S. (2018b). Impact of HIV/AIDS epidemic on human capital in West Africa. *The International Journal of Health Planning and Management, 1-. (Impact Factor: 1.241, ISI, 1.01, Scopus, USA). DOI: 10.1002/hpm.2486*

Duru, M & Mernan, I.A. (2011). HIV/AIDS scourge and agricultural output: An empirical study of infected and affected farm families in Ukum Local Government Area of Benue State. *Economics and Finance Review*, 1(2), 13-21.

Food and Agriculture Organization, FAO. (n.a). social safety nets and the food security. Accessed June 22, 2016 from www.fao.org/fileadmin/user_upload/ISFP/Social_safety_nets.pdf

Fox, M.P, Rosen, S., MacLeod, W.B., Wasunna, M., Bii, M., Foglia, G & Simon, J.L. (2004). The impact of HIV/AIDS on labour productivity in Kenya. *Tropical Medicine and International Health*, 9(3), 318-324.

Gardner, L. K. & Lee, S.H. (2010). The impact of HIV/AIDS on health capital and Economic growth: a panel study of 38 countries from 1999-2005. *International Journal of Management*, 27(1), 153-161.

Greener, R., Jefferis, K & Siphambe, H. (2000). The Impact of HIV/AIDS on Poverty and Inequality in Botswana, *South African Journal of Economics,* 68(5), Pages 393-404.

Haacker, M. (2010). HIV/AIDS, economic growth, inequality. In t*he socioeconomic dimensions of HIV/AIDS in Africa: challenges, opportunities, and misconceptions*. D.E. Sahn. ed. New York: Cornell University Press. Chapter 1: 12–41.

Huggins, M.W. (2007). Social safety nets, HIV/AIDS & orphans and vulnerable children in Quthing, Lesotho: an examination of coping strategies and how communities survive. Accessed December 28, 2016 from wiredspace.wits.ac.za/handle/10539/4684.

Ianchovichina, E & Gable, S. L. (2012). What is inclusive growth?" In commodity prices and inclusive growth in low-income countries, ed. by Rabah Arezki, Catherine Pattillo, Marc Quintyn, and Min Zhu. International Monetary Fund.

Iheke, O. R., Okezie, C. A & Onyekanma, A.O. (2011). Impact of HIV/AIDS on the productivity of farm households in Abia State, Nigeria. Accessed January 05, 2017 from http://addis2011.ifpri.info/files/2011/10/Paper_3B_Iheke-O.R.pdf.

ILO. (2006). HIV/AIDS and work: global estimates, impact on children and youth, and response. An ILO Programme on HIV/AIDS and the World of Work. Accessed December 27, 2016 from http://www.cinu.org.mx/prensa/especiales/2006/DiaLuchaSida/global_estimates_report06.pdf

ILO. (2008). Using the ILO Code of Practice on HIV/AIDS and the world of work: Guidelines for the construction sector. Accessed 27 December, 2016 from http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/publication/wcms_115123.pdf

ILO. (2016). Employment is key in the life cycle approach to HIV. Accessed December 27, 2016 from http://www.ilo.org/global/about-the-ilo/newsroom/statements-and-speeches/WCMS_536585/lang--en/index.htm.

Janlert, U & Hammarstrom, A (2009). Which theory is best? Explanatory models of the relationship between unemployment and health? *Biomed central Public Health*, 9: 235. doi:10.1186/1471-2458-9-235.

Kambou, G. Devarajan, S. & Over, M. (1992). The economic impact of AIDS in an African country: simulations with a computable general equilibrium model of Cameroon. *Journal of African Economies*, 1(1), 109-130.

Kobiane, J., Calves, A., & Marcoux, B. (2005). Parental death and children's schooling in a Sahelian country (Burkina Faso): What's wrong with the extended family system? Being a paper presented at the 2005 Annual Meeting of the Population Association of America session on Health and Education in Developing Countries, held in Philadelphia, Pennsylvania, March 31-April 2, 2005.retrieved August 5, 2013 from http://paa2005.princeton.edu/papers/51711.

Kurzinger, M.L., Pagnier, J., Kahn, J.G., Hampshire, R., Wakabi, T., & Dye, T.D.V. (2008). Education status among orphans and non-orphans in communities affected by AIDS in Tanzania and Burkina Faso, AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV, 20(6), 726-732. DOI: 10.1080/09540120701693958.

Levinsohn, J.A., McLaren, Z.M., Shisana, O., & Zuma, K. (2013). HIV status and labor market participation in South Africa. *Review of Economics and Statistics*, 95(1), 98-108.

Lundin, A, Lundberg, L., Hallstern, L., Ottosson, J & Henningsson, T. (2009). Unemployment and mortality - a longitudinal prospective study on selection and causation in 49321 Swedish middle aged men. *Journal of Epidemiology and community health*; 64: 22-28

McDonald, S & Roberts, J. (2006). AIDS and economic growth: a human capital approach. *Journal of Development Economics*, 80(1), 228-250.

Miller, C. (2007). Social welfare in Africa: Meeting the needs of households caring for orphans and affected by AIDS in Alberto Minujin and Enrique Delamonica (eds), Social Protection Initiatives for Children, Women and Families. New York: New School University and UNICEF.

Moller, H. (2012). Health effects of unemployment. Accessed December 12, 2016 from info.wirral.nhs.uk/document_uploads/Short-Reports/Unemployment-2%20Sept%2012.pdf .

Monasch, R., & Boerma, J.T. (2004). Orphanhood and childcare patterns in Sub-Saharan Africa: An analysis of national surveys from 40 countries. AIDS, 18(Suppl. 2), S55-S65.

Oladokun, R., Brown, B., Aiyetan, P., Ayodele, O., & Osinusi, K. (2009). Comparison of socio-demographic and clinical characteristics of orphans and nonorphans among HIV-positive children in Ibadan, Nigeria. International Journal of Infectious Diseases, 13(4), 462-468.

Parker, D.C., Jacobsen, K.H & Komwa, M. K. (2009). A Qualitative Study of the Impact of HIV/AIDS on Agricultural Households in Southeastern Uganda. *International Journal of Environmental Research and Public Health*, 6, 2113-2138.

Palm, A. A., *et al*. (2014). Faster progression to AIDS and AIDS-related death among seroincident individuals infected with recombinant HIV-1 A3/CRF02_AG compared to sub subtype A3. *The Journal of Infectious Diseases,* 209(5), 721-728.

Paul, K.I & Moser K (2009). Unemployment impairs mental health: Meta-analyses. *Journal of vocational behaviour*; 74: 264-282.

Salinas, G & Haacker, M. (2006). HIV/AIDS: The Impact on Poverty and Inequality. International Monetary Fund Working Papaer, WP/06/126. Accessed March 17, 2018 from https://www.imf.org/external/pubs/ft/wp/2006/wp06126.pdf

Simtowe, F. & Kinkingninhoun-Medagbe F. M. (2011). The impact of HIV/AIDS on labor markets, productivity and welfare in Southern Africa: a critical review and analysis. *African Journal of Agricultural Research*, 6(10), 2118-2131.

Soyibo, A., Olaniyan, O. & Ayorinde, F. (2005). Economic cost of disease in sub-Saharan Africa: a situation review. *Nigerian Journal of Economic and Social Studies.*

Tawfik, L., & Kinoti, S. (2006). The impact of HIV/AIDS on the health workforce in developing countries. Background paper prepared for The World Health Report 2006 – working together for health, WHO, Geneva. Accessed December 12, 2016 from http://www.who.int/hrh/documents/Impact_of_HIV.pdf

Theodore, K & La Fouce, A.D. (2001). The impact of HIV/AIDS on social safety nets: What can the Caribbean expect? Working paper, Health Economics Unit, University of the West Indies. 12th Annual Meeting of CARICOM Heads of Social Security, July 23–25, 2001. Accessed June 22, 2016 from econwpa.repec.org/eps/hew/papers/0110/0110003.pdf

Tshoose, C.I (2010). The impact of HIV/AIDS regarding informal social security: issues and perspectives from a South African context. *Potchefstroom Electronic Law Journal*, (13)3, 408-508.

Ugwu, D.S. (2009). Socio-Economic Impact of HIV/AIDS on Farm Women in Nigeria: Evidence from Enugu State. *World Applied Sciences Journal*, l 6 (12), 617-1624.

UNAIDS. (2015). How AIDS changed everything. Retrieved 27 July, 2015 from http://www.unaids.org/sites/default/files/media_asset/MDG6Report_en.pdf.

UNDP. (2013). The rise of the South: human progress in a diverse world. Human development report. Retrieved 10 September, 2015 from http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf

United Nations. (2013). World mortality report. Retrieved 10 September, 2015 from http://www.un.org/en/development/desa/population/publications/pdf/mortality/WMR2013/World_Mortality_2013_Report.pdf

Vass, J. (2005). The impact of HIV/AIDS on the labour market in South Africa. Employment & Economic Policy Research Programme. Human Science Research Council (HSRC).

Weber, A, Hörmann, G., & Heipertz, W. (2007). Unemployment and health-a public health perspective. *Dtsch Arztebl*, 104(43), A 2957–2962.

World Bank. (2013). HIV/AIDS and education. Retrieved 12 September, 2015 from http://go.worldbank.org/U583AZLIY0.

World Bank. (2015). World development indicators. Retrieved 12 September, 2015 from http://data.worldbank.org/data-catalog/world-development-indicators.

World Bank. (2016). World development indicators. Retrieved 22 June, 2016 from data.worldbank.org/indicator/SL.UEM.TOTL.ZS.