POVERTY, RESOURCE ENDOWMENT AND CONFLICTS IN SUB-SAHARAN AFRICA
A REEXAMINATION OF THE RESOURCE CURSE HYPOTHESIS

An Abstract of a Thesis

Presented to the
Department of Economics and Decision Sciences
Western Illinois University

In Partial Fulfillment
Of the Requirements for the Degree
Masters of Arts in Economics

By
Nsaikila Melaine Nyuyfoni
May 2015

Abstract

Nsaikila Melaine Nyuyfoni: Poverty, Resource Endowments and Conflicts in Sub-Saharan Africa.

(Under the Direction of Dr. Bhavneet Walia, Dr. Thomas Sadler and Dr. Kasing Man)

Contrary to the logical conclusion that the more natural resources a country has or controls, the more prosperous, rich and happy will be its people, the evidence from many Sub-Saharan countries is pointing to a different direction with numerous conflicts occurring mostly near mineral deposits or in countries heavily endowed with natural resources of various sorts. This paper seeks to tackle the basic questions of a sub-Saharan African and any person interested in the region; why are there so many conflicts in the region? Why is there absolute poverty despite the presence of enormous natural resources? What are the factors contributing to the present problems facing the region? This paper establishes the relationship between poverty, resource endowments and conflicts in sub-Saharan Africa. The paper reviews literature, stressing on the different conditions under which resource abundance can and have been a primary cause of conflicts. It argues that poverty and conflicts have re-enforced each other and that natural resources have played a role. The paper also makes use of conflict, resource and poverty data among other variables to establish the probable cause for the numerous conflicts in Sub-Saharan Africa. The paper suggests statistically that Political Stability and Absence of violent conflicts can only be altered by the lack of sustainable economic opportunity, failure to control corruption and rising levels of poverty. It is worth noting that the resource variables are not statistically significant. This however, do not dismiss the role of natural resources in the present conflicts of the region because the trend is observable that most conflict ridden countries in

the Sub-Saharan African region are resource rich. It rather lays an emphasis on the fact that resource revenues could be used to avert the current situation by provision of basic needs like shelter, potable water, security, accountable institutions, education and the promotion of enterprise that will be a guarantor of sustainable economic opportunities. The paper employs Maslow's Human needs theory for some explanations and also multiple regression, using panel data for statistical analysis. Fixed and random effects estimation techniques are used, and other statistical testing to determine the validity of the different variable coefficients generated. The paper suggests concrete economic and policy recommendations to the problems enumerated that could leapfrog the region out of the current bad situation it has been in for decades.

Key Words: Sub-Saharan Africa, Poverty, conflicts, Natural Resource Abundance, resource curse.

APPROVAL PAGE

This thesis by Nsaikila Melaine Nyuyfoni is accepted in its present form by the Department of Economics and Decision Sciences of Western Illinois University as satisfying the thesis requirement for the degree of Masters of Arts.

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Acknowledgements

Firstly, I would like to express my greatest gratitude to my committee members, Dr. Bhavneet Walia, my committee chairperson, Dr. Kasing Man and Dr. Thomas Sadler who have mentored me throughout the period I was writing this thesis. You unconditionally put at my disposal your priceless time and technical knowhow. This work couldn't have come to fruition without your unflinching support. Thank you very much.

My gratitude also goes to Dr. Joseph Fosu, whose questions about the sub-Saharan African Region triggered my thinking and left me looking for answers. I wouldn't be doing justice if I stop short of saying thank you to other faculty and my teachers: Dr. Shane Sanders, Dr. William J. Polley, Dr. Alice A Melkumian, and Professor. John Gruidl whose lectures and assignments equipped me with the necessary skills needed for this task.

Also, I want to say THANK YOU to the Fulbright Scholarship Board that saw the potential in me and awarded me the prestigious Fulbright Scholarship. The Fulbright Experience, I must say has been nothing short of Amazing.

Finally I am thankful to my fellow graduate students and friends who were and have always been there to provide help when needed especially Abdullah Alshajri, Elhadji Massata Diakhate and Hossou Boniface Zounffa. And of course I am grateful to Western Illinois University in general and to the Department of Economics and Decision Sciences in particular for providing such an accommodating environment for me to comfortably carry on my studies.

Dedication

I dedicate this work to my family. A special thanks to my Dad, Nsaikila Francis and my Mom, Ndisi Martha Diom. You gave and thought me the quintessential requirement of life needed to succeed anywhere in the world, education and the insatiable quest for more information. Your words and advice always resonate in my mind and encourage me especially when I contemplate giving up in a situation of difficulty. Thanks for always being there.

I also want to dedicate this work to my brothers; Rev. Fr. Gabriel-Alexis Nsaikila, Eventuis Nsaikila and Voluntas-Dei Nsaikila, my extended family members and friends. Finally, this work is dedicated to the entire people of Sub-Saharan Africa and especially those whose livelihood have been taken away by the frequent conflicts within the region. There are better days ahead.

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Chapter1: Introduction

1.1 The Sub-Saharan African Region

Sub-Saharan Africa (SSA) refers geographically to the countries of the African continent that lie south of the Sahara desert. This excludes the Northern African countries which are considered as part of the Arab world. It constitutes 44 (from Chad to South Africa, Senegal to Somalia) out of the 50 African states and home to four out of five United Nations Regional classification of the African continent; Eastern, Central, Western and Southern Africa. Regional indicators show that the SSA region has a Gross National Income (GNI) per capita of only $1351 compared to $3,436 for North Africa, an annual Gross Domestic Product (GDP) growth rate of 4.3% against 6% for North Africa in 2007 and a total population of 910.4 million (world Bank 2012). Also, a poverty head count ratio of people living on less than $1.25 a day as a percentage of the total population is 48.5% as reported by the World Bank in 2010. This poverty percentage is very high when compared to North Africa which has a poverty ratio of only 1.7% of the population.

The African continent is generally rich in natural resources such as, oil, timber, diamonds, gold and other mineral resources with the Sub-Saharan African region emerging as the world's fastest growing source of oil (Johan 2008). Mineral deposits (most of it unexploited) of every kind are scattered throughout the region. Foreign investments have increased recently but recent studies and articles do indicate that the resources which have been a major attraction of investments within the countries have only succeeded sometimes to only achieve economic growth and no significant improvement in the welfare of the African populace. Simply put, "oil dependent nations fail to diversify the economy, neglect industrialization and sustainable agriculture (which is the mainstay of most of these economies) and are highly vulnerable to global economic shocks (Namakula, 2014). The

aspect of resource wealth even achieving growth is greatly contested in some circles leading to an increase in the belief of the *(in) famous Resource Curse Theory or The paradox of plenty.* Even though in some empirical research, a negative relationship between resource wealth and economic growth has been established, it is not all conclusive evidence because in certain situations resource abundance could be good for consumption and not economic growth; certain policies might just be good for economic growth and not consumption (Sachs & Andrew M. Warner, 1997). Some government policies which might be tailored towards the protection of other non-resource industries might incur social costs which at various points in time become far much greater than the benefits accruing from the natural resource industry. Such decisions by governments are therefore illogical.

Sub-Saharan Africa, a huge landmass rich in numerous resources and potential for investment opportunity has for the most part since the independence of many of its component countries in the 1950s been in perpetual conflict. Due to the conflicts and complex socio-political dynamics, the modern trends of democracy and economic prosperity have literally eluded a majority of the African nations (Moe, 2009) thereby leaving a good number of the countries within the region to be impoverished. Conflicts in many cases have led to an increase in the refugee population and also the number of internally displaced persons. The conflicts have dealt a great blow not only to the physical capital of these nations but also to the human and social capital which of course are vital building blocks of a society. This renders a good number of nations incapacitated and unable to effect any development projects. The 1994 Rwandan genocide, for example resulted in 800,000 men, women and children being killed (Cowel, 2014)

Away from the mere occurrence of war, what further truncates prosperity in most of SSA is the frequent reoccurrence of these conflicts. Almost 39 countries which have had civil wars since the year 2000 also have one or more within the last three decades (*The*

Economist, 2014). Colonialism and the cold war also have been very instrumental in the situation SSA finds itself in today (Moe, 2009). The disruption of sovereignty by colonialism and the hastily formed governments during the cold war period left behind a perfect recipe for perpetual strife for control over resources. Given the fact that most SSA countries were or are still acting as the producers of raw materials for the so-called advanced countries, there is very little precedence for manufacturing. All these coupled with volatility of the prices of primary products in the world market today, and the strong bargaining power of the industrial nations of America and Western Europe have dampened the prospects of any significant economic prosperity in SSA.

It is, however worth noting that Sub-Saharan Africa is home to some of the world's most valuable resources amongst which some are unique to Africa alone. Seven of the world's fastest growing economies are in Sub-Saharan Africa, growing at a joint average of 7.2% per year. Foreign direct investment (FDI) has been on a steady increase within the region since the 1990's and exports from the region to the rest of the world has been on an increase since the 1990s (Regional Econiomic outlook. Sub-Saharan Africa, 2013). This trend is shown on the graph below.

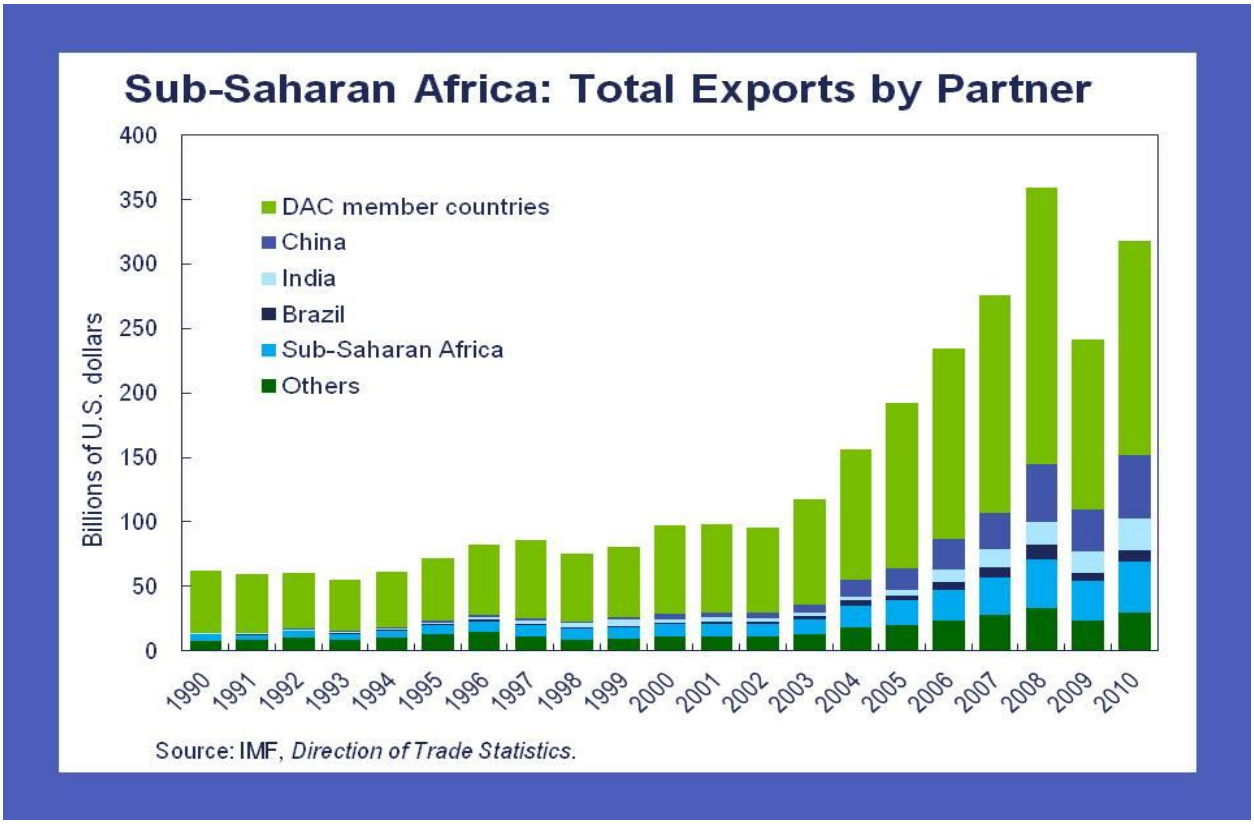

Figure 1: Sub-Saharan Africa: Total Exports by Partner

Despite all this, GDP per capita still stands at a staggering low amount of $1350; the primary school completion rate is 69% as opposed to 91% for the relevant group for the rest of the world, life expectancy is at an average of 56 years and above all, the 48.5% of the population living under the poverty line reflects nothing good about the rapid economic growth. Twenty one out of the twenty two countries of the world with literacy rates of less than75% are in Sub-Saharan Africa and all of the countries with the lowest literacy rates are in this region. All this in spite of its wealth.

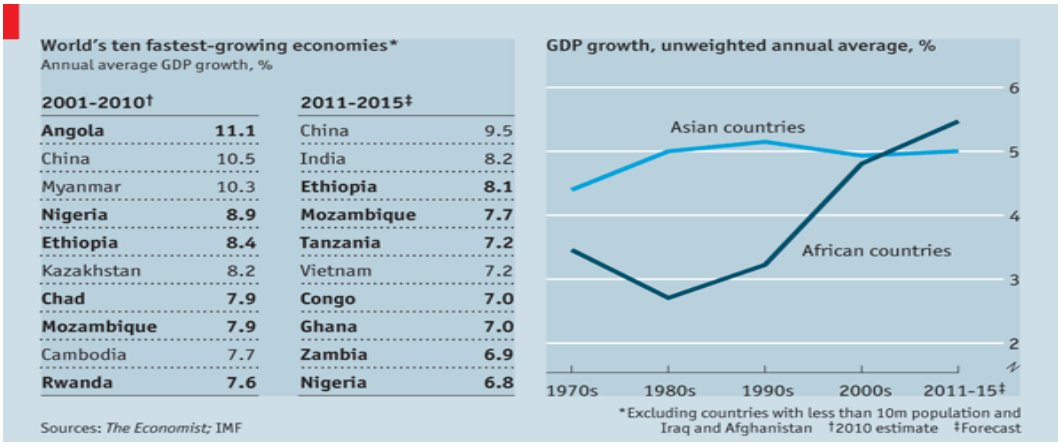

Figure 2: Fastest Growing economies of the world in two time period

1.2 Current economic structure

Economic growth within the region for the year 2013 was 5.4% and is expected to increase to 5.7% in 2014. This growth is mainly driven by export oriented policies and was stronger in resource rich economies. Also, in most other countries within the region, growth was hampered by numerous political crises which sometimes had spillover effects in neighboring countries. The risks that threaten growth in the region include; the possibility of economic stagnation in the Euro area and the sharp drop in investments in major emerging markets (IMF 2013). It must be noted that the economic growth within the region has also been largely bolstered by foreign direct investment (FDI) which was projected to increase at the end of 2013 by 24% ($40billion). FDI (2010-2011) accounted for about 10% of GDP in a fourth of the region's countries (World Bank 2013). In Chad and Liberia, it was about 20%. The graph below shows the growth of foreign direct investment in the entire region for the 1980 to 2012. The graph below shows a persistent increase in the FDI within the region from 1980 right up to 2010 and the figures are expected to continue in this trend in the coming years

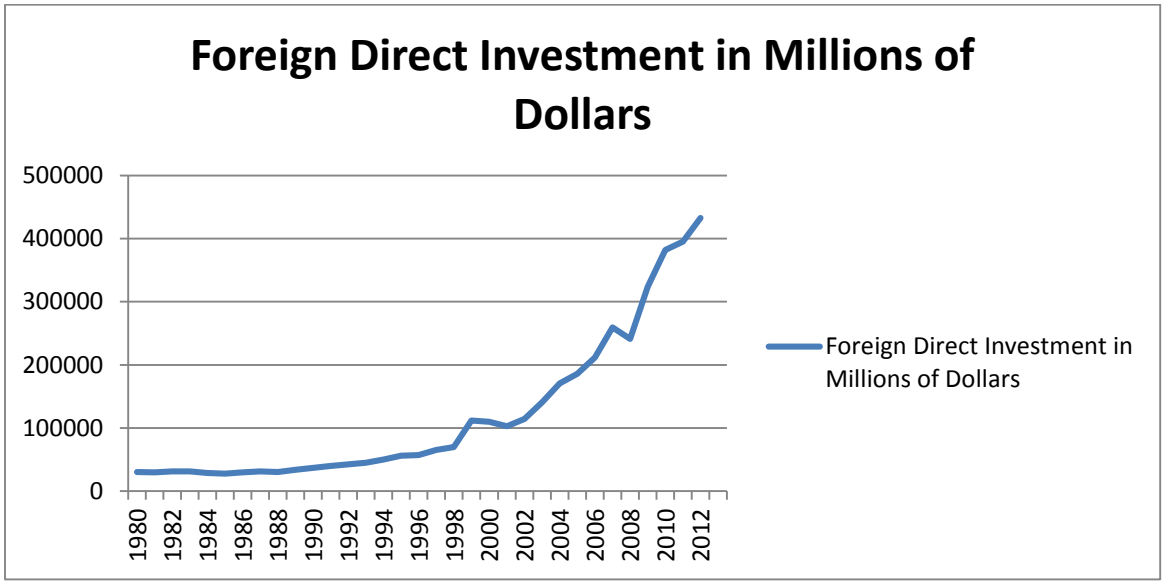

Figure 3: FDI trend of SSA countries from 1980 to 2012

Data Source: United Nations Conference on trade and Development Statistics.

The government debt to GDP ratio is increasing in different countries, however, it is overall moderate. If emphasis is being made on the overall debt to GDP ratio, it could be misleading due to the fact that some government debts even triple the debts of other countries and in calculation, the countries with lower debt would absorb the intensity of the entire ratio. The overall debt to GDP is 33.875%. We find that the percentage of national debt to GDP in most countries is very high and a reliance on an overall percentage debt to GDP could be very misleading.

1.3 Conflict and poverty in Sub-Saharan Africa

The history of SSA has always at every point in time been characterized by conflicts of varying degrees of intensity. Such conflicts are either intrastate (within a country) or interstate (between two countries) but the prevalence of intrastate is much higher than that of interstate (Schünemann & Cilliers, 2013). However, in many situations, there has been evidence that intrastate conflicts are fuelled from outside the country in question. E.g. the continuous fighting in the Democratic Republic of Congo is usually blamed on neighboring Rwanda and Uganda who are believed to have strategic interest in the country.

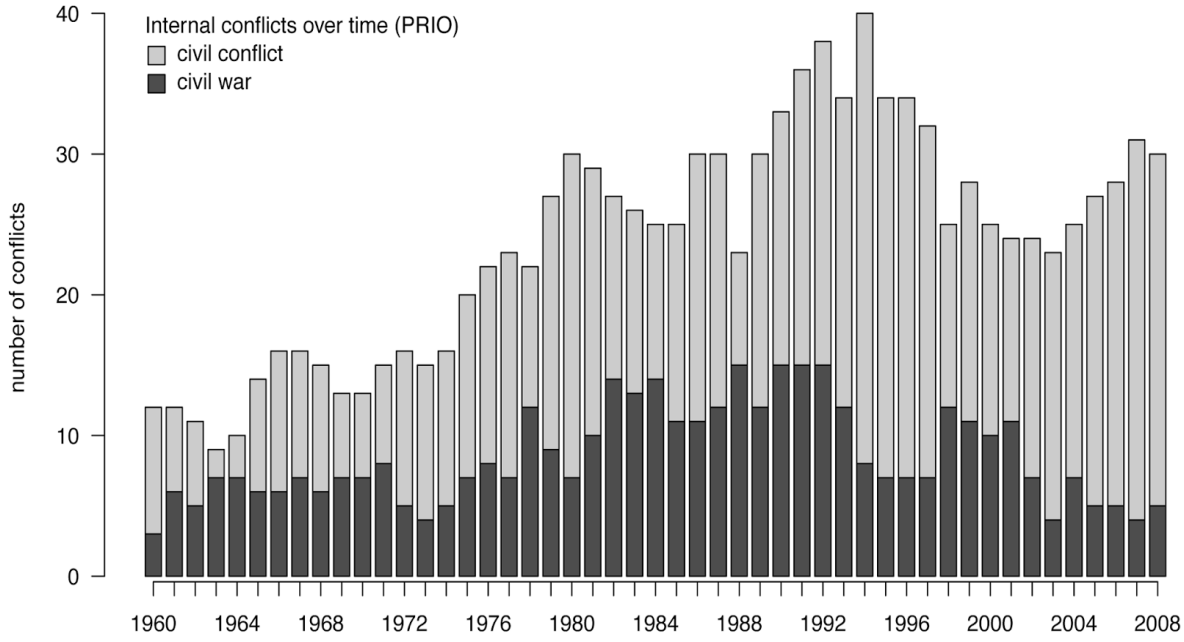

Figure 4: Graphical Representation of internal conflicts and Civil Wars of the SSA Region

Source: Peace Research Institute Oslo

The bar chart above shows the number of conflicts in the region over the years from 1960. A steady increase is observed over the years. Armed conflicts are arguably the most single determinant of poverty in Africa. The streams of refugees and displaced people, the loss of livelihood sources and the loss of social safety nets that simultaneously occur as a

result of conflict all contribute towards an intense form of poverty. Some researchers have argued that there is a distinction between the transient poor and chronically poor *(Restrepo, Sanchez , Gouley , & Galindos , 2008).* The transient make up a majority of the poor in most countries that haven't witnessed any conflict and there is a higher chance of coming out of poverty. In a situation of conflict most people in this group get engulfed permanently in the poverty trap. They become chronically poor without any prospect freeing them from poverty.

Sub-Saharan Africa stands out in the developing world in terms of the number of conflicts, the persistence of the conflicts and the impact that such conflicts have on the livelihood of people *(Luckham, Ahmed, Muggah, & White, 2001).* There is no doubt that most of these countries were already poor prior to the conflicts but it can be said that these two phenomena in the case of Africa, mutually re-enforce each other. In as much as violence and conflicts increase the level of poverty, sometimes the conflicts arise because of poverty and hardship. When grievances and demands are not met, individuals question the government, riot and in extreme situations take up arms. Therefore a given level of growth can be a disincentive to violence.

Conflict is usually treated as an exogenous variable (Suzanne, 2001), (Luckham, Ahmed, Muggah, & White, 2001) which impacts strongly on poverty but which is not part of the problem. The linkages between the two remain undocumented and not well understood despite the fact that their importance extends to the decolonization era. It is not until the 1990s that the issue of conflict and poverty began to be addressed by development agencies. We must contend that part of the reluctance to address the issue stemmed from the position of non-intervention in the internal matters of sovereign states. The desire to

avoid controversy during the cold war in which the practices of the donors (transfer of arms and military assistance) instead helped in fueling the flames of conflict.

Also part of the difficulty in establishing the link comes from the ambiguousness in the categorization and measurement of conflict related issues. The very consequence of conflict addresses that. The loss of livelihood, the destruction and facilitation of the decay of institutions, the loss of social safety nets and finally the loss of human lives all make it more and more difficult for the collection and assessment of data related to the impact of conflicts. Conflict render individuals homeless. It doesn't only inflict physical pain but psychological pain through rape as an instrument of war. It renders physically productive people totally dependent even for the most basic of human needs such as food. It is estimated that in South Sudan 3.7million people, almost a third of the population of the country are in acute need for food aid, 1.44 Million are internally displaced and another 123,000 have fled to neighboring countries due to the continuous fighting between rival political factions in the country (United Nations Office for the Coordination of Humanitarian Affairs, 2014)

Chapter 2: Literature Review

The theoretical basis for most arguments that relate to natural resources and effects on growth and poverty is the *resource curse theory* but very few researchers have provided conclusive evidence that resource abundance is a cause for conflict, economic stagnation and poverty in Sub-Saharan Africa. The "resource curse" might be defined as the adverse effects a country's natural resource wealth has on its socio-economic and political well-being (Ross, 2014). A handful of research papers related to this topic have been published with a wide range of differences in their results. Some researchers conclude rather strongly that resource abundance has been a primary cause for conflict and poverty while others appear to be inconclusive by virtue of their results as to what to say. In spite of the conflicting research results as to the validity of the resource curse theory, it has however been a basis for most researchers and policy makers in reconciling the prevailing circumstances in many troubled and poor countries of the world such as in the Middle East, Africa and Latin America. We must however acknowledge the fact that, to an extent, the results from any particular research depends on the researcher's definition of natural resources, the source of data and the statistical methods used. This section explores the models, methods and conclusions of different researchers. This part will be divided and analyzed in three sections:

The resource wealth and conflicts/Democracy.

Poverty civil conflicts.

Resource wealth and poverty

2.1 The resource wealth and conflicts/democracy

Numerous researchers in the field of political economy have one thing in common as far as the relationship between natural resources and conflicts is concerned. Their conclusions usually are not without controversy and challenges as to what type of resources bring about a greater risk of conflicts. (Kucera, et al., 2011), in the paper '*Armed Conflicts and Natural Resources*' concluded that not only do previous conflicts have a positive effect on present day conflicts but also that as the distance from a strategic natural resource increases, the level of violence within a particular community or country drops but as the distance decreases, the level of violence increases. This implies that in areas where the natural resources are readily available or easily accessible, the likelihood of violence is high. Such results were captured using the *Tobit model,* a statistical model proposed by James Tobin (1958) to capture the relationship between a non-negative dependent variable and an independent variable. The dependent variable in this case is the level of violence. A country like the Democratic Republic of Congo is a tacit example with numerous diamond deposits that do not need any heavy machinery to pull out from the soil. This country has witnessed numerous rebellions dating back to its independence and in all cases, the fight for control of diamond fields and other mineral deposits has been the main reason for the surge in violence. Sierra Leone and Liberia have also had their own share of civil wars due to the battle for the control of Diamond. Such conflicts have been the reason for many international agreements aimed at putting an end to "Conflict Minerals". The Kimberly process Certification Scheme and the Extractive Industries Transparency Initiative are both agreements born out of the international community's efforts to end the violence brought about by the struggle over minerals.

(Soysa & Neumayer, 2007) use a simple linear regression model and finds no evidence of the view that resource wealth (as defined by energy wealth and mineral wealth) relate to conflict. In the paper titled "Resource wealth and the risk of civil war onset" they conclude that when controlled for those countries whose resources include oil, the risk of conflicts is high. Also, the results indicate that energy wealth increase the risk of civil war. In sum this research shows that fossil fuel dependence thwarts a nation's capacity to deter conflicts and that resource dependent states should focus on capacity building in the management of natural resources but the assumption that conflicts only arise when the resource in question is easily loot able appears to be statistically insignificant.

(Bulte & Deacon, 2004) make findings consistent with the Resource curse theory. In three simple regression models with a distinction between *point resources (petroleum and other minerals)* and *diffuse resources (Agricultural produce),* they conclude that an abundance of point resources are usually associated with less democratic regimes and unproductive social indicators hence low level of development. As is the case with many countries in Africa, such undemocratic regimes could have the potential of spurring anger due to corruption, exclusion, misallocation and mismanagement of public funds. The result of this usually is a protracted conflict. An explanation for this is that such resources can be easily controlled by small groups of individuals or elites who in most cases resist industrialization because of its potential of diluting their power base. This results in delayed modernization and development efforts, hence poverty of the masses all to the benefits of the elites. Also, unproductive institutions and elitist governments tend to score lower on various development indicators. This implies that the resource curse theory occurs at a broader scale than just economic growth since countries with point resources tend to perform worse than others across a broad spectrum of indicators. This is therefore a

reinforcement of the conclusions of many other researchers that the institutional reform is an absolutely necessary condition for countries to develop irrespective of what type of resources they have at their disposal.

(Oyefusi, 2007) uses the *Multinomial logit and ordered logit* to estimate the propensity of violent conflicts in the country as a whole and the Niger Delta region which has the largest oil fields in the country. With the propensity of civil disobedience as the dependent variable, he came to the conclusion, given his model that civil disobedience reduces with rising *income, education, asset, socio-economic inclusion and the endowment of social infrastructure.* This is to say that all of these have a negative relation with civil disobedience. However, the availability of oil increases the potential of civil disobedience. While other factors tend to explain the propensity to civil disobedience, three main factors stipulated in this paper appear to be of the highest significance *(education, income and asset).* Oyefusi states that if the proceeds of oil are judiciously used for the improvement of the educational facilities of the oil rich regions, the propensity to resort to violence would be significantly reduced. Also, if more income generating activities are introduced and the ability and conditions to acquire and own assets improved, then violence would drastically drop because these three variables increase the opportunity cost of participation in a rebellion. He however regretted the fact that the Nigerian government and oil companies have stopped short of making the necessary social investments in the Niger delta region and this explains the frequent rebellions and violence currently plaguing the region. The Niger delta, it must be noted is one of the poorest regions in the country despite its oil riches. Also contributing to the problem is the near destruction of the agricultural base of the region due to frequent oil leaks.

In answering the research question as to why some resource abundant countries tend to succeed while others do not, *(Mehlum, Moene, & Torvik, 2006)* makes references to panel data research related works with country fixed effects and concludes that in many situations, there exist a positive correlation between resource abundance and slow economic growth; however, much still remains to be done in providing evidence why some resource rich countries succeed while others do not. Also, the extent to which resource abundance causes slow growth has not been established and that has only helped in making the *resource curse theory* weak. It would be rather spurious to rely on such a theory hence more research needs to be done in order to fill the gaps.

(Busse & Groning, 2011) analyzed the impact of resource abundance on a variety of governance indicators. Unlike other papers confined to cross-sectional data, they use panel data and an instrumental variable technique to account for endogeneity. The results show that natural resource abundance significantly leads to an increase in corruption. This holds true for different model specifications with different measures or alternative indicators for natural resource abundance. The increase in corruption therefore concentrates the benefits of such resources in the hands of a few individuals. This might not directly establish the relationship with poverty and conflict but we may recall that the extractive industry just like any other has a negative externality on the environment and if this is not properly taken care of, protest which may later degenerate into violent conflicts may arise. Any efforts however, to mitigate the effects of this so-called resource curse lies solely on the governments in question and international actors. The government on its part has to ensure an inclusive approach in such a way that benefits are distributed and the international partners should only foster economic ties if certain set local conditions are met. But given the huge amounts of money involved, there is increasing doubt as to the willingness of both partners to renegotiate future deals.

The relationship between resources wealth and conflicts has also been looked at from a variety of perspectives. Supporting the claim of *(Oyefusi, 2007),* (Lujala, February, 2009; Ross, 2014) state that the location of resources also determine whether they are likely to result in conflict or not. When oil for example is located off-shore, it is out of reach from potential looters and so less likely to be the source of any strife but when it is onshore and especially in the poor regions of the country, there is high probability that it will lead to conflicts. Also, when a country is fractionalized by ethnicity, the discovery of a resource of any kind has the potential to encourage the locals of the resource rich community to take up arms in order to prevent others from encroaching or to use the benefits of the resource to fight the government.

(Ross, 2014), addresses the resource curse literature from a different perspective. In a careful review, he points out that from the definitions of resources which of course vary from scholar to scholar, different types of data are "Mined beyond diminishing returns" and there is a tendency for such data to produce biased results. According to Ross, one particular type of resource – petroleum - brings about a curse. This is because:

- It increases the durability of Authoritarian regimes (Authoritarianism)
- It facilitates certain types of corruption and (Bad institutions)
- It increases the potential of violent conflicts in most poor and middle income countries especially Africa, the Middle East and Latin America.

Using oil income per capita and the percentage of time from 1960-2006 under democratic rule, he concludes that there is a strong negative correlation between higher oil income per capita and the percentage time spent under democratic rule. Michael concludes that higher levels of oil wealth help authoritarian regimes to ward off democratic pressures. In other words, oil wealth could have two outstanding possibilities: It could strengthen authoritarian governments prevent them from transiting to democracy; and it could also

weaken democratic governments and push them towards authoritarianism (Ross, 2014). Mineral wealth may increase (if more deposits are discovered) or decrease (if existing deposits are depleting) the value that authoritarian regimes place on remaining in power, Fish (2005).

The relationship between resources and the quality of institutions is also carefully examined. By quality of institutions, emphasis is laid on the effectiveness of the government bureaucracy, the incidence of corruption, the rule of law and the state's capacity to promote economic development. All of the above indicators determine the level of democracy in a country. Institutional quality determine the level of corruption and the effectiveness of government. The correlation between resource wealth and low levels of institutional quality can be can be hardly concluded as causal given that opposite results have been found in different research papers. Also, this is difficult because the definition of institutional quality is ambiguous.

Even though mineral resources and oil are found to both affect the level of conflicts in similar ways (Ross, 2014), the intensity (battle related deaths) have a wide variation when both are examined independently (Lujala, February, 2009). Where there is hydrocarbon production inside conflict zone, there is more like likely to be more battle related deaths than where other minerals such as diamonds and gold are. Drugs which are considered as natural resources are less likely to increase the intensity of conflicts. In the *Kashin* and *Shan* states in Burma with high opium cultivation, the conflicts have killed less than 500 combatants where as in the oil producing Sudan, between 1983 and 2000, there was an annual casualty rate of 1000, (Lujala, February, 2009).

It must however be noted that the variation in conflict severity is more likely to be determined by the sizes of the conflicting sides. Supposing a government is fighting a rebel army which is almost as strong as the military, the intensity will be high but if the rebel

army is ill equipped and can only launch small scale attacks, the intensity is likely to be low. Therefore the intensity of conflicts depends on the sizes of both armies and the methods adopted by the rebel group. The intensity is related to the access to resources. The greater the government's access to resources, the more revenue and likelihood of more soldiers being recruited. Similarly, rebel groups with access to resources are more likely to generate revenue, buy arms and have more recruits. The abundance of resources sometimes may further make conflicts violent due to the rise of multiple actors fighting both for control over the state and the resource (Fearon & Laitin, 2003), (Lujala, February, 2009). The prospect of future revenue increases the potential of indiscriminate use of force on civilians to clear resource areas.

Given the many research papers that have been written in this topic, there has hardly been a model developed to demonstrate how natural resources are actually linked to conflict. To put things into context in this paper, we are going to examine a partially developed model explaining and or describing the numerous civil wars in Africa.

If conflict are over lootable resources, they are likely to be protracted, have fewer combat deaths and have a characteristic of low intensity warfare (Addison, Le Billon, & Murshed, 2001). The low intensity is because the rebels will have to allocate time for fighting and resource exploitation. Also, collaboration between government soldiers and rebels limits battle related deaths and even provides the opportunity for the rebels to loot. In many situations as is/was the case in the Democratic Republic of Congo and Liberia, government soldiers partake in the looting. Given this situation where the persistence of conflicts is beneficial to the actors on the ground, the utility of war is higher than that of peace because with peace, the revenue gained from looting is no longer guaranteed. The rebels may face competition with local miners the mining companies and so it will be in their best interest to continue fighting. The reoccurrence of conflicts even after peace deals

have been signed is proof that peace is not beneficial. Rival rebel factions in Southern Sudan started fighting each other barely a couple of months after independence from Khartoum. Numerous peace deals have been signed between the government of the Democratic Republic of Congo and different rebel groups yet the violence continues. (Lujala, February, 2009) draws three reasonable implications from this two actor model;

- Conflicts over lootable resources are usually long and protracted with low level of intensity and combat elated deaths.
- Only lootable resources are related to the severity of conflicts.
- Even if the battle related deaths are few, the burden on civilians will be high if rebels use indiscriminate violence.

The first two statements are disprovable because what was referred to as *unlootable* in the past is no longer. Oil for example was not considered lootable but the frequent attacks and illegal tapping of oil from oil wells in the Niger Delta in Nigeria has changed the look of things. In essence, all resources be it diamond, gold, oil or gas are lootable given technological advances and increasing sophistication and networking of rebel groups around the world. If it concluded that only lootable resources are related to severity of conflicts but then it can be said that all resources are lootable, the second statement is therefore invalidated. Finally and of course truthfully, the burden on civilians will be high if rebel forces are indiscriminate in the use of force and violence.

On the other hand, Weinstein (2007) goes further to explain the reasons or motivation for rebel violence on civilians. He argues that if the rebel group raises some amount of revenue and has the capability of paying its 'soldiers' they are likely to attract individuals who seek short term gains into their ranks to fight. Such individuals may or may not share ethnicity or any relationship with the inhabitants of where they are fighting. Also, the high command of the rebels may not have direct control over the soldiers and their

actions on the warfront. This implies that the presence of lootable resources alters the organizational structure of the rebel movement, Paivi (2014). In this situation the rebels are likely to perpetrate violence against anyone and civilians are the most likely to bear the brunt of it.

(Humphreys, 2005) implicitly rejects the view by Addison, et., al that conflicts over lootable resources are usually protracted. He states that Resource related wars last shorter and are likely to end quickly with military victory rather than negotiation. When resources are threatened in the global market, it is in the interest of the international community to intervene (which is usually the case) to put an end to the conflicts by negotiating peace deals. The effectiveness of peace deals in Africa has lost ground because of the frequent outbreak of wars barely months after the so-called peace deals. This argument supports Macartan's position that such conflicts are not likely to end with negotiations; that notwithstanding, the actual evidence in Africa does not confirm the position that resource related wars are short lived. Macartan however with strong policy recommendations such as the better management of resource revenues and the regulation of extractive industries. This he said could be done by requiring corporate compliance with protocols and by corporate participation in voluntary initiatives such as the Global compact. Also, investment in social initiative could better diffuse any tensions that are as a result of resource related activity.

Given the above literature and the distinction between lootable and *non-lootable* resources, it could be concluded that the intensity and combat related deaths are higher in areas where hydrocarbons and natural gas are exploited (Lujala, February, 2009). Also, the results show that lootable gemstones in the conflict region more than doubles the combat related deaths. This is partly because of the durability of conflicts in areas that have such minerals.

Also natural resources reduce the effectiveness of institutions only in non-democracie*s* (Bhattacharyya & Holder, 2010). This is further bolstered by the assertion that in countries where the resources are in the hands of government controlled institutions, there is a likelihood of a week tax base but where such resources are controlled by multinational firms and investors, the government is more likely to concentrate on developing a strong fiscal base (Luong & Weinthal, 2005).

The perspective from which one judges an effective institution also matters. Generally, strong effective institutions are likely to put in place stringent measures that limit the tendency of profiting from illegal resource exploitation. An institution may also be effective in channeling illegal funds to corrupt government officials. Given this, we can say that the institutional framework is a direct result of the authorities of the country. If corruption was rife prior to the exploitation or discovery of resources, then there is the likelihood of an escalation in the level of corruption. Also, the independence of an institution determines whether it is likely to be affected by negative influences or not. The solution the problem of corrupt institutions lie in the authorities that be in various countries. Investing in strong, incorruptible and accountable institutions, manned by apolitical individuals, selected by general consensus. The general consensus on the solution to Africa's problems lies within this context of strong institutions but there is however disagreement on how to pursue this goal. In a

2.2 Poverty and Civil Conflicts

Simply put, poverty is the inability of an individual to meet up with his/her day to day needs. These needs include but are not limited to social, material and psychological well-being. The focus in economics however is the material aspect of poverty. According to standard World Bank definition, a poor person is one who lives on less than $2 a day. In

some cases, for the sake of measurement, this amount goes down to $1.25 a day. Given the present day world economy, there is very little that can be done with such an amount. There can hardly be any case study that better explains the relationship between poverty and civil conflict than the Sub-Saharan African Region. In spite of the fact that the African continent exceeds the United states of America, Europe and China in its resources and land mass, most Africans still struggle for survival *(Brian, 2009: Seidman, et al., 2006).* Independence wars, resistance against white minority rule are over (in the case of South Africa, Zimbabwe and Namibia), but internal conflicts are rife and dominate the political discussion of the continent. From Violent insurrections that in some cases subsequently lead to the overthrow of governments such as Museveni's National Resistance Army in 1986, to post election violence in Kenya and Zimbabwe in 2008, the *Tuareg* uprising in Northern Mali demanding better living conditions and even advocating secession in 2011, the seemingly never ending conflicts in the Democratic Republic of Congo, the horrific scenes of genocide in Rwanda just to name a few, we can see that the Sub-Saharan African region is still very much in struggle just as was the case prior to independence from colonial rule. The few examples between 1986 and 2011 is an indication that the frequency of conflicts in this part of the world is high. Usually, the general expectations at the end of conflicts is that there would be an improvement in welfare, poverty reduction, rising employment. In general, people do expect an enhancement in wellbeing when a civil strife comes to an end because that is usually the reason (in most cases) for fighting but such expectations have hardly been met especially in Africa. Civil strife has hindered and reversed economic growth, impoverished individuals, households and communities, destroyed life, Capital stock, wholesale displacement of populations and conflicts over land have often inhibited investment in land improvement and destroyed crops (Austin, 2001). It is suggested that between 1998 and 2002, approximately 4million people were killed in the war in the

Democratic Republic of Congo (Pedro, 2004). This definitely was executed with arms. This is to say that once there is conflict, resources are unavoidably directed to the purchase of weapons which in essence cannot enhance the welfare of the African. While acknowledging the contribution of other factors that lead to conflicts in this troubled region, it is strongly suggested that Africa's conflicts are as a result of what he terms *'Poverty Rooted on Political corruption'* (Ikejiaku, 2012).

Underemployment and unemployment also play a huge part in the poverty phenomena. In most of Sub-Saharan African these two economic vices have created some level of disenchantment that goes beyond the mostly cited material deprivation. The unemployed in these countries are most likely poor. Poverty comes with anger and increases the possibility of participation in protests that eventually degenerate into conflicts. Young vulnerable teenagers and poorly paid soldiers with training in the use of fire arms are conscripted into rebel armies. This contributes to the strength of the rebel movements and when there is some level of symmetry between the regular military and the rebel movements, the conflicts become protracted and the casualties are significantly increased. So poverty and related issues do increase the propensity to rebel which has a potential to go violent and result in long lasting civil wars.

To better explain the concept of poverty and why it leads to conflict, we are going to use

2.21 "Maslow's Hierarchy of needs" Theory

Abraham Maslow propounded this psychological theory which has now been extended to different fields of studies. Basically, the theory suggests five different stages of human needs and fulfillment. He argues that as humans seek to meet basic needs, they also envisage the attainment of higher needs in succession as a means to achieve 'Self

Actualization' which is the highest level of Human needs. These needs are traditionally presented in a pyramid from the bottom basic to the highest as seen below.

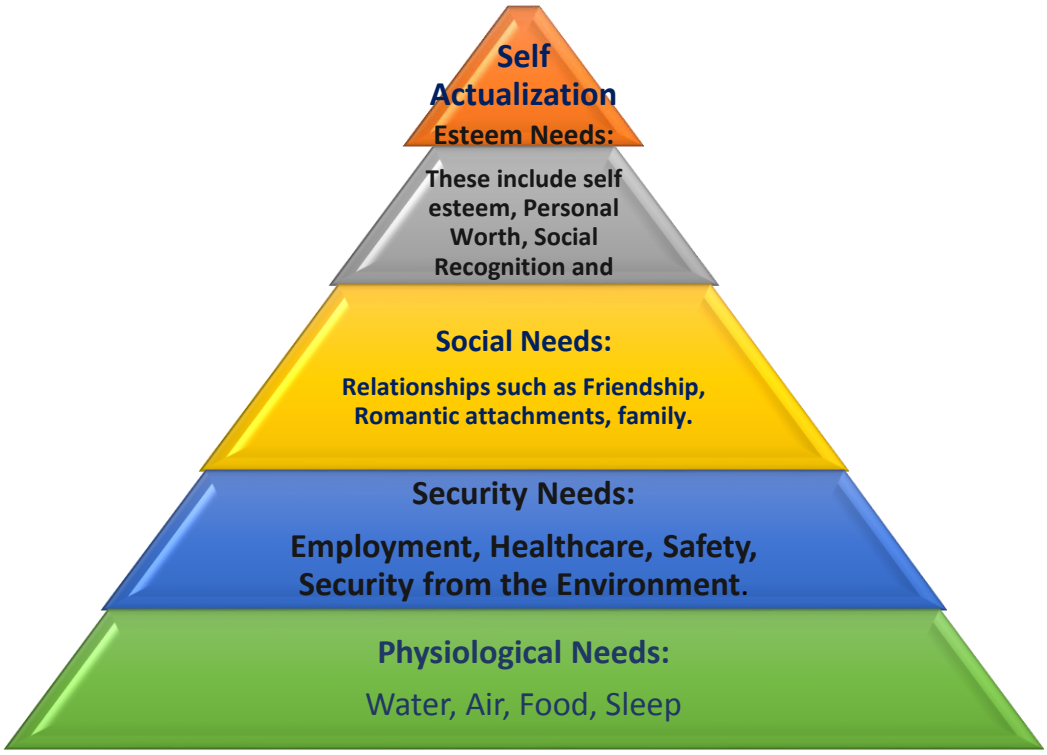

Figure 5: Maslow's Hierarchy of Needs Pyramid

As presented in the *Hierarchy of needs above* Maslow suggested that human needs range from physiological needs to self-actualization. According to him, these needs are achieved successively and at the primary stage of physiological needs, every other factor is secondary. Arguably, every other needs could be traded but for the first two which are Physiological, and Security needs. Food, water, sleep, health care are non-negotiable and absolutely necessary for human survival and when governments cannot provide their populace with these basic of needs, the outcome is civil strife. Therefore, social conflicts are derived from poverty and distributive injustice *(Brian, 1999).* So long as corruption

continue to be the order of the day, with unemployment and underemployment thereby denying the common man these basic needs, there is bound to be conflict as individuals will tend to react violently as a way to demonstrate their grievances and dissatisfaction. This is further aggravated when individuals know fully well that the land in which they live is abundantly endowed with resources but the benefits go only to a select few who occupy positions in government. This is a stark reminder that peace and stability cannot be achieved on a foundation of poverty.

In essence poverty is both a cause and consequence of conflicts. As suggested above, people resort to conflicts because they are poor: Such conflicts hardly ameliorate their conditions but instead make them worse off. Corruption, especially political corruption such as embezzlement of public funds is, as stated by a Cameroonian human rights lawyer, is a crime against humanity and should be treated as such. It is no doubt that there is corruption in every country in the world but the case of Sub-Saharan Africa is different. While dictatorships in Asia were corrupt such as the Suharto regime in Indonesia, they still invested huge sums of money on infrastructure and other areas within their countries but for the case of Africa, most political elite stash out embezzled funds in foreign bank accounts and buy very expensive properties abroad. The relationship between corruption and poverty as discussed by *(Brian, 2009)* is illustrated in the flow chart below. The diagram shows that political corruption causes poverty which have a two way causal relationship with conflict. Due to conflict, the development process is truncated, hence underdevelopment.

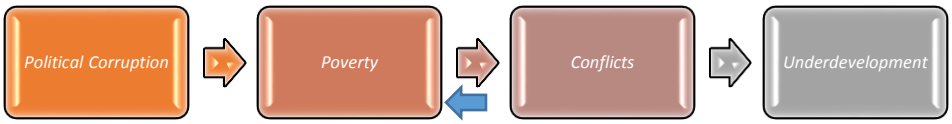

Figure 6: The relationship between Political corruption, poverty, conflicts and underdevelopment

At this juncture, it is good to refer to the data to determine what it suggests. The two figures below establish a relation between poverty and unemployment in Sub-Saharan Africa. Figure2 shows the relation in the fifteen most resource endowed countries in the region and Figure3 shows that of the least resource endowed countries in the region.

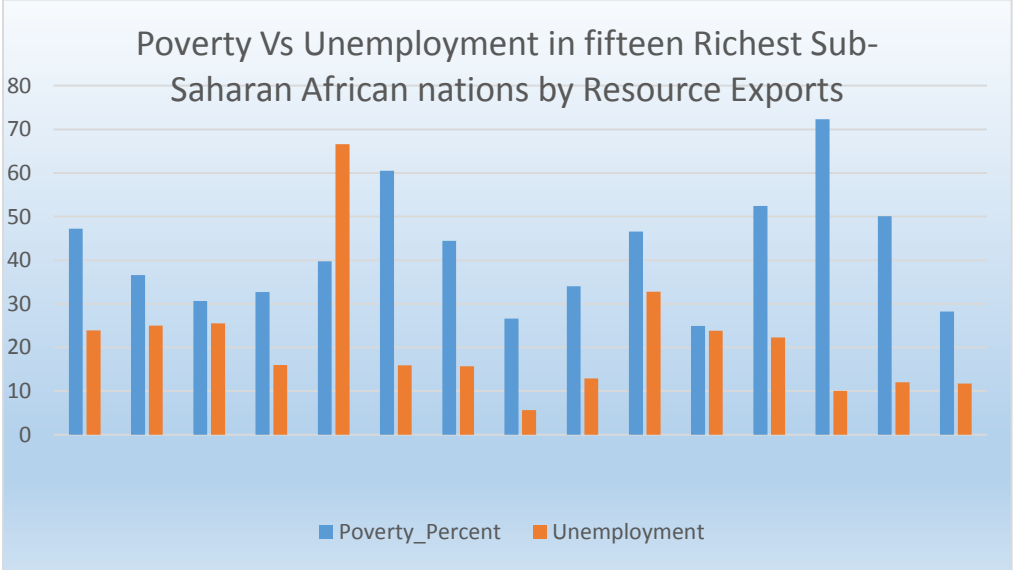

Figure 7: Poverty and Unemployment

Source of Data: world Bank Statistics and CIA World Fact Book

The bar charts show that most of the countries do have an Unemployment rate above 15% and the percentage of population living below the poverty line of $1.25 a day

above 25%. These are disturbing figures for countries that are home to about 80% of the continent's resources.

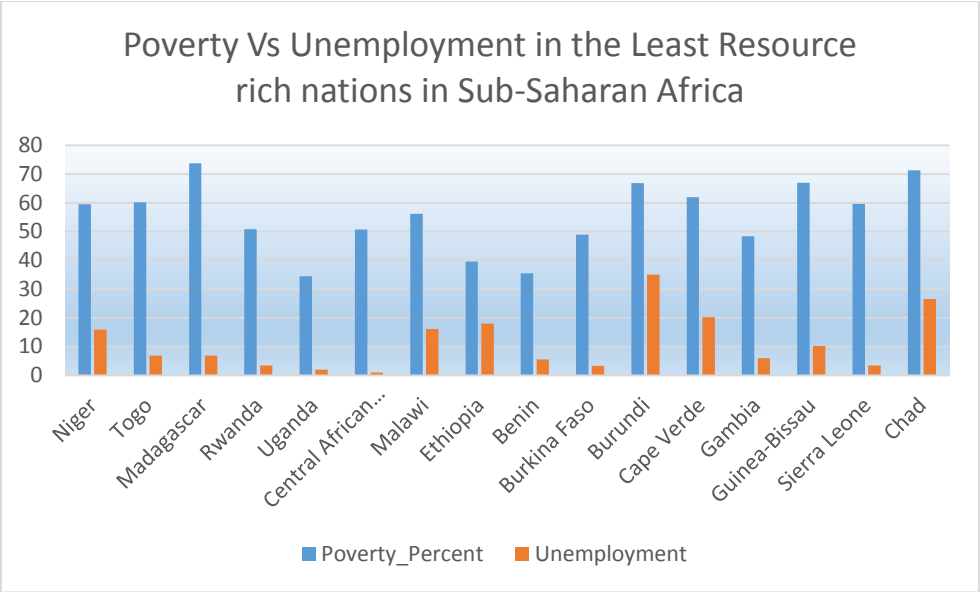

Figure 8: Poverty and Unemployment for fifteen least resource rich SSA nations

Source of Data: world Bank Statistics and CIA World Fact Book

Similar to the fifteen richest resource endowed countries above, the least resource endowed also have very high levels of poverty but on the other hand we can observe that the unemployment rates are very low. This to an extent is could be explained by the 'Dutch Disease Syndrome'. This concept explains that countries with a huge natural resource base do have a tendency of devoting most of their resources in resource exploitation while inadvertently ignoring the other sectors of the economy. It is the more reason why the least resource endowed countries have lower unemployment rates than resource endowed countries.

In times of civil strife, unemployment increases because of the destruction of human capital and the fear of being attacked. Unemployment means no wages and therefore most

people more people falling into the poverty trap. The high level of poverty in the least resource endowed countries despite the low levels of unemployment indicates that there is more to the problem of poverty in these countries than just low unemployment figures.

From a very theoretical perspective, *(Justino, 2010)* identified civil wars as one of the main causes of and persistence of poverty in many regions of the world. War damages every support mechanism that people rely on such as institutions, infrastructure, production, assets, breaks up communities and above all, maims and kills people. This has far reaching effects than any other cause of poverty. During wars, individuals are trapped under certain ceiling conditions such as low healthcare, low levels of literacy and low levels of physical capital accumulation. Such dire circumstances persist and even get worst in post war eras unless such individuals are literally pushed out (By means of aid) of these traps. Looking from another perspective, the paper argues that poverty could also be a cause of civil wars. Citing evidence that many civil wars occur in poor countries and in most cases, in the poorest regions of such countries, therefore it is not an exaggeration to say that poverty plays significant role in the outbreak of violent conflicts. More people have been killed and displaced by conflicts in Africa than famine and floods according to the Reports of the Economic Commission for Africa. Peopled forced out of their homes are exposed to poverty related such as malnutrition and disease may follow.

The literature above and the theoretical framework within which it has been explained suggests that so long as there continue to be hungry and unemployed people on the African continent, conflicts are bound to occur. In sum, conflicts in most cases have obliterated what took decades to build.

2.3 Resource Wealth and Poverty

By virtue of mathematical intuition, if Resource wealth by some means results in conflicts, and poverty also is related to conflicts, we can therefore say that Resource wealth is related to poverty however, to avoid the ambiguity of such an inference, we examine the work of other scholars on the issue.

According to Daniel Kaufmann (2012; Brookings), approximately 300 million people live in dire poverty today with many under $5 a day. Majority of the poor are in Resource-Rich African countries where 85% of total populations live on $5 a day and more than 50% under $2 a day. Why is it so?

Norman *et al* (2013) show that resource exploitation within a district provides better living standards, lower poverty, higher level of literacy but all of these decrease with administrative and geographic distance from the area of exploitation. As district level welfare improves only within the area of exploitation, the inequality amongst other districts within the province increase. Such phenomenon breeds discontent with the exploitation and the reference to resources as a curse. This is true but for the fact that the case study is Peru and generalizations cannot be made. For the sake of warding off such generalizations from work like this, looking at the context of Sub-Saharan Africa many questions could be asked. What accounts for the high level of illiteracy, poverty, malnutrition in the Niger Delta of Nigeria despite the fact that it is the richest region in terms of oil in that country? The diamond rich villages in Sierra Leone, Liberia and the Central African Republic remain the poorest in those countries. What accounts for the high level of poverty even among miners and the high frequency of miner's union strikes in South-Africa? It is no doubt that these resources bring about rising revenues and increasing growth figures but there is hardly any improvement in the welfare of the local populace and indeed a paradox that most resource

rich countries in Sub-Saharan Africa have higher levels of poverty when compared to the non-resource rich nations.

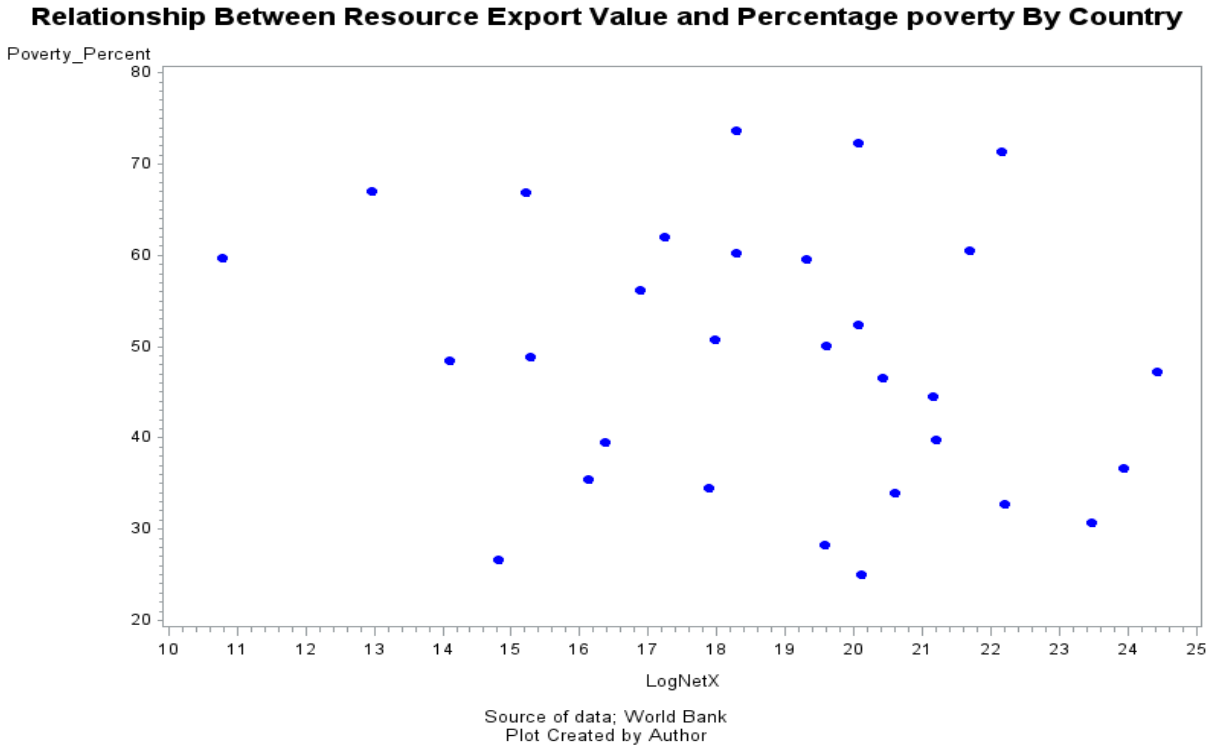

Figure 9: Resource Export Value and Percentage of poverty by Country

According to the Council on foreign Relations, less than 75% of the African populace lived on less than $700 a year despite the fact that the per capita income is $35000; Instead of creating prosperity and lifting people out of poverty, these resources have often fostered corruption, undermined inclusive economic growth (hence poverty), incited violence or inflamed it and finally caused untold damage to human, physical, and social infrastructure.

Highlighting the specific case of minerals, Antonio (2006) of the Economic Commission for Africa in answering the question of whether to mine or not to mine, argues that mineral endowments has the potential to spur growth and reduce poverty in developing countries if "*deployed under appropriate conditions*". Based on the premise that

the resources constitute part of the natural capital of the resource rich African countries, they should therefore be exploited. Given that it is the resource sector that attracts a majority of the foreign direct investment (FDI as shown in Figure 5 below) and that resources make up the largest sources of export earnings it is imperative that African resource rich countries maintain the path they have taken to extract these resources. Antonio however notes that despite the huge mineral endowment in most African Countries, the growth performance has been dismal and the poverty situation is not improving. He therefore makes an argument on the conditions under which mineral resources should be exploited: under the *Right Economic, Political and Social conditions,* mineral resources should be exploited. Also, because these resources are finite, to contribute in poverty reduction, the proceeds have to be invested to create new wealth and other forms of capital such as fiscal and human capital which are absolutely necessary for sustainable development.

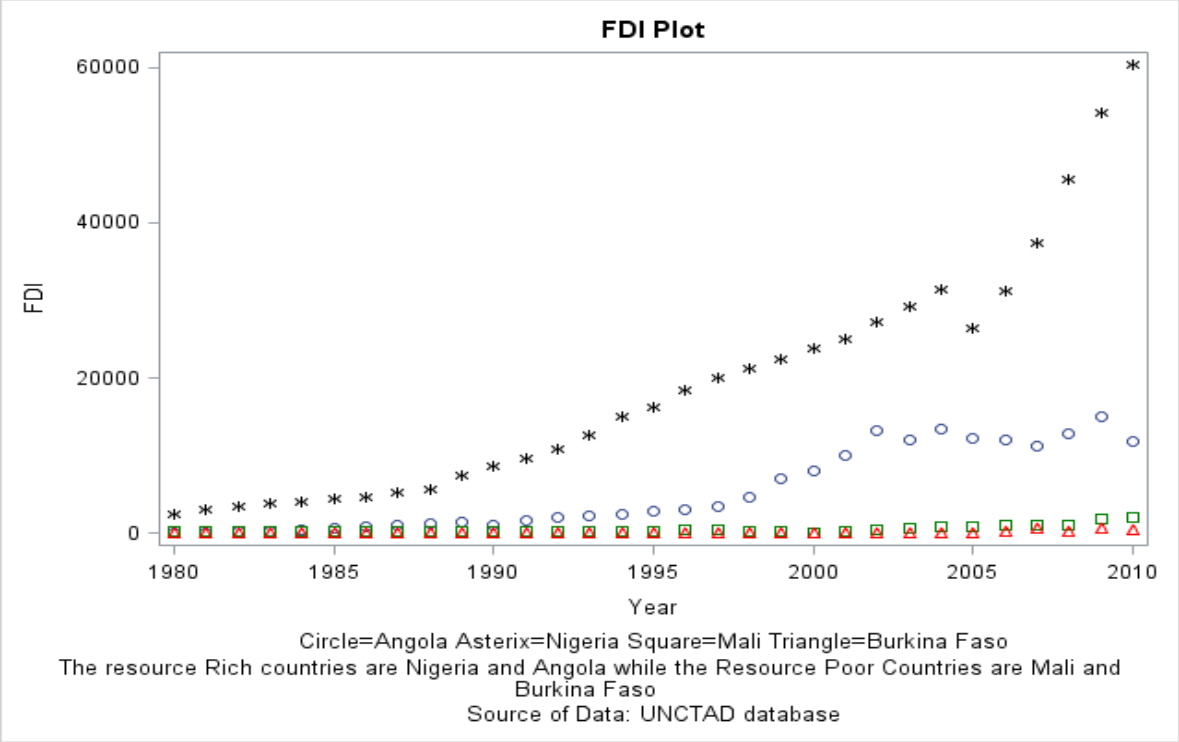

Figure 10: FDI Plot for four selected countries; Angola, Nigeria, Mali and Burkina Faso

The scatter plot show the growth of foreign direct investment in four different African nations. Two are resource Rich (Nigeria and Angola) and the other two (Mali and Burkina Faso) are resource poor. It can be observed that from 1980, the foreign direct Investment in Nigeria been increasing. Also that of Angola which was stagnant during the 1980s took off around 1995 meanwhile Mali and Burkina Faso have witnessed no significant change in FDI since 1980s. That notwithstanding, the poverty situation all of these countries is not very different

It is worth noting here that this paper seeks to answer certain key aspects of the resource curse theory. The focus has been on what impacts resources have had on civil conflicts, what conflicts have had on poverty and what resources have had on poverty. The objective is not to dismiss the productive role resources have played in ameliorating

economic conditions in most parts of the world and in some rare cases in Sub-Saharan Africa. I have however sought to show that in the case of Sub-Saharan Africa, the lack of good governance institutions, bad economic policies and failure to reinvest resource revenue in developing other sectors of the economies have resulted in conflicts. Also, a lot of literature from other authors suggest that poverty plays an important role in stirring up conflicts in most African nations.

Drawing from the example of South Africa and Botswana, it would be outrageous to say that natural resources mean no good. On the other hand, looking at the strides that non-resource rich countries (Such as South Korea and Japan) have made in development, it is high time for most African governments to diversify their economies and seek to develop the non-extractive industries. The fact that in most of these countries, the government's capacity to collect or develop a decent non-resource tax base is eroded with resource wealth should be the reason for diversification. As Moore, (2000) argues, rising revenues from mineral extraction removes the needs of these governments to seek to raise revenue from the population. As a result of this, during crisis periods the countries are vulnerable because of the inadequacy of mobilizing human and material resources.

Chapter 3: Data description, Model Specification and Discussion of Results

3.1 Data description

The data used in this paper is panel data and comes from various data sources and they include the World Bank, transparency international, United Nations conference on trade and development *(UNCTAD)* and the IMF databank for the economic data. For Conflicts, instead of the ACLED (Armed Conflict and Event Dataset), Uppsala Conflict Data Program and DACS (data on Armed Conflict and Security), I use the probability of violence in the different African nations provided by the World Bank as political stability and absence of terrorism and Violence. I use this variable to depict conflicts and measure the impact of the other independent variables on it. The reason for this rather than the traditional conflict data set is that, this provides a situation over time and can be used for present decision making. To capitalize on the conflict data set, the measurements will be limited to particular periods in time and not a clear reflection of the present day situation in the countries. If we take South Africa for example, during the apartheid regime, the country was more prone to violence. It may or may not have been partially due to the resource curse but using the conflict figures which include clashes during that period, will paint a different picture of the present day South Africa. For this reasons, we use the probability of violence and regress against other variables which include resource valuations that also vary from year to year. By so doing, we are able to determine whether as more natural wealth of these nations are uncovered, there is a high chance of an increase in violence.

I also use data on the Press Freedom Index (PFI) and Sustainable Economic Opportunity Index. The argument here is that so long as the population is deprived of

economic opportunity and the ability to freely express their views, there is a high tendency of a resolve to violence.

3.2 Model Specification

The following ten models are run in this project. We run the models with various measurements of resource wealth together with other variables that by virtue of the literature reviewed above, have some potential of influencing the probability of violence. We begin by estimating the total valuation of wealth, followed by the natural capital value, then the sub-soil assets, minerals and oil. We then run simple regression models for the different components of resources to capture their individual influence on the probability of violence.

Psavc= β_0 + β1ppov + β2coc + β3 popgrowth + β4lntw + β5 hdi2 + β6 seo + β7 pfi ……..1

Psavc= β0 + β1 ppov + β2 coc + β3popgrowth + β4 lnnc + β5 hdi2 + β6 seo + β7 pfi ……2

psavc = β0 + β1 ppov + β2coc + β3 popgrowth + β4 lnssa + β5 hdi2 + β6 seo + β7 pfi ……..3

psavc = β0 + β1ppov + β2coc + β3popgrowth + β4 lnm + β5hdi2 + β6 seo + β7 pfi ……..4

psavc= β0 + β1ppov + β2 coc + β3popgrowth + β4lno + β5hdi2 + β6 seo + β7 pfi ……5

psavc = β0 + β1lntw……6

psavc = β0 + β1 lnnc……7

psavc = β0 + β1 lnssa……8

psavc = β0 + β1 lno……9

psav= β0 + β1 lnm……10

Given that the data used is panel data, both the fixed and random effects models of estimation are used and the *Hausman Test* is carried out to determine which is the best method of estimation is used.

3.21 The Fixed-Effects Model

The fixed effects model basically is used in analyzing the impact of variables that vary over time. When using fixed effects, we assume that some characteristics within the explanatory variable may or may not influence the predictor variable and we need to take care of it (Torres-Reynar, 2007). In the case of panel data, the interpretation of such a model will be that as *X* varies across time, *Y* increases or decreases by $\boldsymbol{\beta}$ units (Bartels, 2008) . A simple equation of the fixed effects model is shown below.

$$\mathbf{Y_{it} = \alpha_i + \beta_1 X_{it} + \mu_{it}}$$

Where $\boldsymbol{\alpha_i}$ **=** the known intercept for each quantity

$\mathbf{Y_{it}}$ **=** is the dependent variable where i= entity and t= time

$\boldsymbol{\beta_1}$ **=** the coefficient for the dependent variable

$\mathbf{X_{it}}$ **=** independent variable

$\boldsymbol{\mu_{it}}$ **=** the error term

3.22 The Random-Effects Model;

The random-effects method of estimation unlike the fixed effect model assumes that variations across entities is random and has no correlation with the independent variables. If there is a well-founded reason that differences across variables is related to the dependent variable, then, the random effects method of estimation should be used (Torres-Reynar, 2007) . The advantage of the random effect is that time invariant variables such as

Gender could be used where as in the fixed effect model, the impact of such is absorbed by the intercept. A random effect model equation is defined below.

$\mathbf{Y_{it} = \beta X_{it} + \alpha + u_{it} + \varepsilon_{it}}$

Where variable definition remains same as with the fixed effects unless that

$\mathbf{u_{it}}$ = Between-entity Error and

$\boldsymbol{\varepsilon_{it}}$ = Within-entity Error

The decision to make use of either fixed or random effect, in this situation can only be done using a statistical technique since we are not interested in capturing a specific pattern in the data but to have an overall estimation of the effects of the independent variable on the dependent variable. The Hausman test is the appropriate test of determining the best estimation method.

The Null Hypothesis (H_o) States that the Random Effect is appropriate and

The Alternative Hypothesis (H_1) states that the Random Effect is not appropriate at 5% level of significance

Based on the results of the *Hausman* test *(Appendix, Hausman)* carried out on the all the models with the fixed and random effects, the P-values tend out to be statistically insignificant (i.e. >5%) at 5% level of significance, hence we fail to reject the Null Hypothesis that the Random Effect is appropriate.

Also, to further determine whether to use Random effects or Ordinary least Square technique the *Breuch Pagan (Appendix, Breusch Pagan)* test is used.

The Null Hypothesis (H_o) States that the Random Effect is Not appropriate or variances across entities is Zero and

The Alternative Hypothesis (H_1) states that the random effect is appropriate or variances across the different entities is not equal to Zero.

Based on the *Breusch Pagan test* I reject the null hypothesis that the random effect is not appropriate. This implies that the random effects method of estimation is the right way to move forward. The results of the random effects model are presented below.

Table 1: Regression Results

	Model1	*Model2*	*Model3*	*Model4*	*Model5*	*Model6*	*Model7*	*Model8*	*Model9*	*Model10*
ppov	-0.024**	-0.021**	-0.025*	-0.047*	-0.025					
	(0.404)	(0.347)	(0.420)	(-1.032)	(0.410)					
coc	0.433***	0.430***	0.439***	0.326***	0.424***					
	(4.262)	(4.211)	(4.357)	(3.325)	(4.002)					
popgrowth	-0.483	-0.961	-0.097	-2.830	-0.476					
	(-0.132)	(-0.259)	(-0.026)	(-0.599)	(-0.128)					
lntw	-0.085					-0.036				
	(-0.541)					(-0.299)				
hdi2	0.789**	0.732*	0.816**	0.482	0.819**					
	(2.081)	(1.875)	(2.177)	(1.150)	(2.140)					
pfi	0.035	0.041	0.029	-0.055	0.033					
	(0.489)	(0.570)	(0.416)	(-1.073)	(0.475)					
seo	0.067**	0.100***	0.088**	0.375**	0.052**					
	(0.248)	(0.360)	(0.329)	(1.551)	(0.194)					
lnnc		-0.819					-0.796			
		(-1.495)					(-1.021)			
lnssa			-0.149					0.008		
			(-1.331)					(0.087)		
lnm				-0.062						-0.049
				(-0.236)						(-0.336)
lno					-0.019				-0.045	
					(-0.159)				(-0.435)	

Constant	**-18.795**	**0.473**	**-21.576**	**-1.247**	**-21.152**	**34.181*** **	**51.868*** **	**33.235*** **	**33.599*** **	**32.985*** **
	(-0.890)	**(0.019)**	**(-1.051)**	**(-0.050)**	**(-1.011)**	**(7.638)**	**(2.803)**	**(8.888)**	**(9.487)**	**(6.516)**
RSquared	**0.5480**	**0.5764**	**0.5614**	**0.5046**	**0.5400**	**0.0388**	**0.0495**	**0.0243**	**0.0383**	**0.0200**

* p<0.10, **p<0.05, *** p<0.01

3.3 Discussion of Results

Unlike other papers addressing the resource curse theory, the conflict data from the correlates of war and other datasets that show the number of conflicts that different countries have witnessed in time haven't been used. As a measure of conflicts, the Political Stability and the absence of violent conflict and terrorism (psavct) in selected African Nations have been used. This is because this approach measures the likelihood of a potential uprising at a given period in time and this may change over the years. In an attempt to determine whether resource abundance actually increases violence (given the psavct) a series of models have been run with dramatically different results from what most published papers on this topic have established. Running the probability of violence against different measurements of resource abundance in different models, we have found all the measurements of resource abundance to be insignificant in the determining the *psavct* which measures from 0 meaning highest likelihood of instability and violence and 100 meaning very stable.

From model 1 on to Model 5, three variables are consistently significant unlike the measurements of resource abundance; the control of corruption (coc), the Human development Index (hdi2) and the sustainable economic opportunity (seo). This implies that in present day Africa, institutional factors matter most. The control of corruption index here ranks from zero (0) meaning low control of corruption to 100 implying absolute control. The coefficient for this variable is positive implying that the greater the control of corruption within a given country, the more stale that country will be *ceteris paribus.* Far from dismissing the fact the resources abundance do not lead to violence, such a result indicates that the method of governance and the transparency with which resource funds are managed matter most. Whether a country is resource rich or not, the presence of

corruption especially on a scale seen in most African nations is an invitation to catastrophic and the numerous insurrections the continent has witnessed in recent times. According to the UNDP Anti-Corruption Practice Note, Corrupt practices violate the rule of law, leads to the violation of human rights by fostering an anti-democratic environment plagued by uncertainty, unpredictability and the disrespect for constitutional institutions and authority (UNDP, 2004). Given the increasing number of institutions around the world that have taken the anti-corruption fight as a priority, it can be said that success in meeting sustainable development and peace in Africa depends on the quality of democratic governance and the generation and effective management of financial resources (Bamidele, 2013)

The human development index (HDI) according to our results show significant results in three out of the four models in which it is used. The HDI is a summary of average achievement in key dimensions of human life UNDP Development reports (2014). This index consists of three main factors; the life expectancy, the literacy rate and the standard of living. The higher the human development, the greater the stability within a country. Given the description of the human development index, the level of violence within most of Sub-Saharan Africa can be justified. Educational attainment and life expectancy are some of the lowest in the world, and the standard of living in this region is at a staggering low. These three factors put together in the HDI describes the well-being of the population within a particular area. Many countries with low human development tend to be have a higher level of violence. According to the Geneva Declaration on Armed violence and Development (2010), countries with low levels of human development tend to have a higher rate of violence than countries with high levels of human development. The diagram below compares the level of life satisfaction among a handful of low income countries, most of them Sub-Saharan African countries and some countries in the developed world.

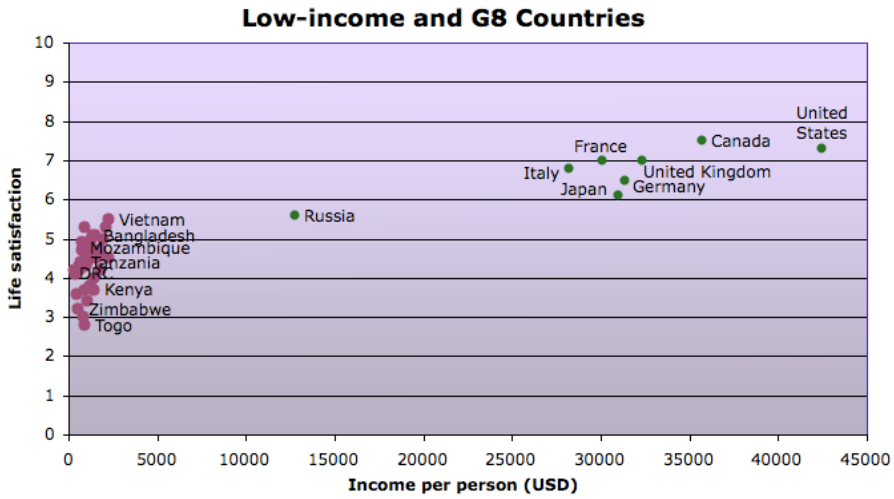

Figure 11: Income per person and Life satisfaction between Rich and Poor countries

source:http://www.givewell.org/international/technical/additional/Standard-of-Living

On the diagram above, the stark difference can clearly be seen between the developed world and SSA countries. Life expectancy is low and the income per-capita is almost zero compared to the high level of satisfaction and high incomes. Low incomes coupled with dissatisfaction enshrined in illiteracy, low life expectancy and low standard of living is a perfect recipe for violence.

Sustainable economic opportunity (seo) is also a variable very significant in the model. In an environment where unemployment rates are high, underemployment if rife, there is a higher probability of violence. This index measures on a scale from zero to 100. The higher the (*seo)* the higher the level of stability according to the regression results. In many SSA countries, unemployment most people in the labor force are under employed. In such an environment where there are no jobs which is further compounded with job insecurity, most unemployed especially the youth resort to violence as a way of expressing their anger and dissatisfaction with the system.

The R-square of Model 1 to Model 5 is comparatively large (Ranges from 54% to 57%) when compared to those of Model 6 to Model 10 (Ranges from approximately 3% to 5%). This to an extent translates to the fact that the resource variable in itself does not explain a significant portion of the variation in stability within the region.

Even though our main variables of interest which are the different measurements of resources abundance (the natural capital, sub-soil assets and total wealth) are not statistically significant, this study is far from dismissing the fact that resource abundance do not or are not intrinsic in the emergence of violent conflicts in this region. It is to say that when violence is looked as a time variant factor which changes from period to period, in different countries, institutional factors play more important role than just the presence of natural resources. It is good institutions that control the level of corruption, guarantees a safe working environment and a high standard of living that has created resource rich success stories in Africa like Botswana and South Africa. Countries where corruption is rife and institutional ineptitude is the order of the day such as the Democratic Republic of Congo, violence comes into play despite its huge natural endowment. The poverty level is also significant, showing a negative relationship with stability. The poorer people become, the more likely they are prone to committing violent acts. In most of these countries, due to corruption, access to state service is denied to the poor who cannot pay bribes, the cost of doing business is increasing, investment and growth are compromised lack of accountability has become a natural phenomenon. All of these factors which are further compounded by the fact that they take place in naturally endowed economies, serves as breeding ground for the level of violence that is experienced in most of the SSA region today.

Chapter 4: Conclusion

Research in the domain of resources and how they have contributed to the chaos prevalent in sub Saharan Africa is pretty nascent and only came into prominence in the mid-1980s. This implies that many of the results gotten from such research work are preliminary and needs tremendous improvements. Improvements in the data collected, in the variables that we think can actually plunge a country into civil strife. This document looks at conflicts from a different perspective and measures it with probability unlike the static conflict figures of the correlates of war and other conflict data sets. Given the results of this paper, we have come to realize that the underlying causes of violence are institutional deficiencies that undermine human development. Many sub-Saharan countries are replete with bad and corruption ridden institutions, reasons why other research works cited in the review of this paper point resources to be the sole reason for violence. However, transparent governance that ensure the proper use of resource revenues can and has helped to diffuse the violence and build more stable environments.

4.1 Policy recommendations

Poverty, unemployment, illiteracy and corruption are arguably the most significant causes of violent conflict within the sub-Saharan African Region. In most cases these conflicts are fueled and sponsored by the illegal exploitation and sale of natural resources for the procurement of arms and food for rebel armies. The destruction of safety nets, educational facilities, political institutions, human capital and the psychological trauma caused by these conflicts make it even harder for any reasonable recovery in the post war period. Recovery is made difficult because post war governments (the So-called Power sharing governments) usually are characterized by rebel leaders who have limited experience in governance and only a vested interest in the country's resources. Individuals

are given positions not because of their expertise but their allegiance to a given group. The ineptitude of such governments with rebel factions have been demonstrated in the recent examples of the *seleka Uprising* in the Central African Republic and the warring rebel factions in South Sudan.

Conflicts costs Africa about $18bn per year, seriously derailing development (Hillier, Martlew, & Alun, 2007). The most commonly used weapons are the Kalashnikovs of which about 95 percent come from outside. Also, it is estimated that between the periods 1990 to 2000 about $300bn was lost to conflicts in some twenty two African Nations (Hillier, Martlew, & Alun, 2007). Such amount of money could have contributed enormously to the fight against diseases as AIDS and malaria, it could have boosted investment in education to combat the staggering illiteracy levels and also investment in industry and agriculture that would've created economic opportunities and prevented famines that also claimed thousands of lives. This amount of money lost in conflict is almost the same amount he continent received in aid from the developed world. Rather than rely on aid which has become controversial with increasing questions on its effectiveness the entire world together with African governments have to rise up to the challenge to provide and most importantly implement policies that will lift the Sub-Saharan African Region out of the current situation. Such policies include but are not limited to;

I. **Robust counter Corruption measures**; the fight against corruption of every kind on the African continent is crucial in its anti- poverty measures and goes a long way to provide a disincentive to violence. When individual who violate the law are prosecuted without any favor, there is a boost in the confidence of the institutions of the country leaving very limited reasons why individuals will have to take up arms

against government. This policy measure requires enormous investment in the legal security and administrative institutions that will maintain the rule of law without discrimination. As the regression results indicate, the control of corruption is no doubt very crucial to combat violent extremism.

II. **Diversification of Economy and provide opportunities for youths;** despite the insignificance of the resource variables in the regression model, most African nations that have had protracted armed conflicts are resource rich nations. The discovery and exploitation of oil in Nigeria for example led to the neglect of the agricultural sector and a near to total reliance on oil revenues. This greatly cripples the country's tax base leaving it with limited revenue sources and increases the vulnerability of the economy as it continues due to shaky international commodity prices. This was the case in the 1980s and recently with declining oil prices. If resource revenues are used to facilitate investment in agriculture, industry, tourism and financial services, such fluctuations in the global commodity prices will hardly affect these economies the way they do. Improvement in these sectors will provide sustainable jobs for the increasing youth population thereby reducing the number of those fighting in these conflicts. It will be a disincentive to violence, an opportunity to increase revenues and combat absolute poverty which in most cases is the motivating factor for armed violence. It is worth noting that another form of violence which even more dangerous is taking toll within the region. Religiously motivated violence

perpetrated by groups such as *book haram* in Nigeria, *ansardine* in Mali, *Alqaeda in the Islamic Magreb* have caused untold damage to the region. Such groups are very attractive to unemployed youths who have no hope that the current situation will get better and so they find solace in these groups who fight in the name of a god. Fighting an armed insurgency motivated by a religious ideology is far more difficult than fighting a simple rebellion. SSA is working against time to reverse this current trend and it can only be done by creating an atmosphere of hope, providing the necessary jobs and encouraging free enterprise by creating a business friendly environment.

III. **Combatting the flow of Arms;** prior to the colonization era, Africans had known war. People were being killed as rival ethnic groups battled for the control of territory. Most of these battles were fought with locally manufactured weapons such as machetes. Of course many people were killed but the number is negligible when compared to the devastation that an AK-47, a rocket propelled grenade and a machine gun can cause in a minute. Governments should respect and implement commitments in regional instruments and conventions in Sub-Saharan Africa for effective arms control. The United Nations Program of Action on Small Arms and Light Weapons (UNPoA) should be advanced and countries should also ratify the Arms Trade Treaty (ATT).

IV. **Victims and Survivors**; there should be an institutional approach to policy and provision to address the needs of victims of armed violence in the areas of health, justice and economic inclusion.

V. **Ratify the Kimberly process and other international agreements**; this will limit and prevent the illegal sale of mineral resources. This will greatly stem the flow of financial resources to these brutal rebellions and limit their ability to procure arms.

VI. **Ending the ever flowing, but arguably unproductive Aid regime to African Nations**; as controversial as it may sound, the continuous flow of financial aid from donor countries and organizations in the Western World to the governments of African Nations should be ended. Taking a simple example, the number of poor people rose from 210.2 million people in 1980 to 415.4 million people living under $1.25 dollars per day (WorldBank, 2015). Why is it that in spite of the billions of dollars flowing into the continent in aid, the set objective of poverty reduction has not been attained for decades? China which several decades back, had similar or even lower GDP figures compared to some African nations, has succeeded within a few decades to lift over 300 million people out of poverty and is boosting investments not only within its borders but also elsewhere in the world. Such growth and improvement is deeply dependent on its reliance on the three fundamental economic factors of production; capital, labor and productivity, and not by aid. Why then should any advocate of the free market, for any moment think that Africa's problems can be solved by pouring billions of aid dollars into the continent?

According to *Dambisa Moyo,* Harvard educated Zambian Economist, Africa's problems from political corruption, poverty, underdevelopment and conflicts are deeply

rooted in aid. In *Dambisa's* words, with the help of aid, corruption fosters corruption, provides already corrupt governments with freely usable cash. These governments interfere with the rule of law and limit the effectiveness of transparent civil institutions and the protection of civil liberties there by inadvertently or so making both domestic and foreign investment unattractive. Fewer investments imply slower economic growth, fewer job opportunities and rising levels of poverty which fuels conflicts or the resort to violence and the instinctive response to the rising poverty is even more aid, hence the *vicious cycle of aid* (Moyo, 2009). Such huge amounts have made government more attractive to rebels who by virtue of the prevailing situation believe, rightly so, that the government is the source of riches and wealth and will do whatever it takes to overthrow the government. Hope will definitely be restored if these nations are weaned off the aid disease which have so far wrongly appeared to be the cure of poverty.

If all these recommendations are not only signed but also put into action and enforced, there would be a glimmer of hope for the future of the region

4.2 Future research Prospects

This research study has only touched on certain aspects among the multiplicity of factors that play a vital role in the conflict equation. In the future, I intend to explore and exploit more conflict related data. Also, a comparison with other parts of the world that have experienced conflicts is worth-while as it will give a rather explicit appraisal of the situation in Sub-Saharan Africa. Also, future improvements in this paper will have to include the aid variable, to establish whether empirically countries that have had more aid have been worse of compared with countries that have had less aid.

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Appendix

List of Abbreviations

SSA	Sub-Saharan Africa
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
FDI	Foreign Direct Investment
ACLED	Armed Conflict and Event Data Base
DACS	Data on Armed Conflict and Security
IMF	International Monetary Fund
HDI	Human Development Index
Psavc	Political Stability and Absence of Violent conflict and terrorism
ppov	Percentage of Poverty
Popgrowth	Population Growth
TW	Total wealth
SEO	Sustainable Economic Opportunity

COC	Control of Corruption
PFI	Press Freedom Index
GNI Trade	Gross National Income
UNPoA	United Nations Program of Action on Small Arms and Light Weapons
ATT	Arms Trade Treaty (ATT)

List of Countries represented by the data

Countries Used in the Project
Angola
Benin
Botswana
Burkna Faso
Burundi
Cameroon
Cape Verde
central African Republic
Chad
Cote D'Ivoire
DR. Congo
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea Bissau
Kenya
Lesotho
Liberia

Madagascar
malawi
Mali
Mauritania
Mozambique
Namibia
Niger
Nigeria
Congo, Rep
Rwanda
Senegal
Sierra Leone
South Africa
Sudan
Swaziland
Tanzania
Togo
Zambia
Zimbabwe

Descriptive Statistics

Correlation Matrix:

	ppov	*PSAVCT*	*COC*	*PopG*	*HDI2*	*lnTW*	*lnNC*	*lnM*
ppov	**1**							
PSAVCT	**-0.17**	**1.00**						
COC	**-0.13**	**0.72**	**1.00**					
PopG	**0.35**	**-0.45**	**-0.54**	**1.00**				
HDI2	**-0.56**	**0.58**	**0.49**	**-0.50**	**1.00**			
lnTW	**-0.04**	**-0.20**	**-0.05**	**-0.02**	**-0.07**	**1.00**		
lnNC	**-0.04**	**-0.22**	**-0.09**	**-0.05**	**-0.01**	**0.98**	**1.00**	
lnM	**-0.28**	**0.00**	**-0.02**	**-0.09**	**-0.03**	**0.56**	**0.53**	**1.00**
lnSSA	**-0.21**	**-0.16**	**-0.16**	**-0.02**	**0.23**	**0.48**	**0.43**	**0.72**
lnO	**-0.23**	**-0.20**	**-0.37**	**0.09**	**0.21**	**0.23**	**0.28**	**0.09**
PFI	**-0.13**	**0.46**	**0.41**	**-0.20**	**0.31**	**-0.08**	**-0.10**	**0.04**
SEO	**-0.50**	**0.54**	**0.46**	**-0.49**	**0.86**	**0.07**	**-0.01**	**0.04**

lnSSA	*lnO*	*PFI*	*SEO*
1.00			
0.56	**1.00**		
-0.14	**-0.07**	**1.00**	
0.35	**0.21**	**0.22**	**1.00**

Summary Statistics

	ppov	*PSAVCT*	*COC*	*Popgrowth(%)*	*HDI2*	*lnTW*
Mean	**49.23**	**33.54**	**31.15**	**2.50**	**44.59**	**23.29**
Standard Error	**2.08**	**2.05**	**1.98**	**0.07**	**0.89**	**0.60**
Median	**51.40**	**33.81**	**29.05**	**2.68**	**43.80**	**24.84**
Standard Deviation	**20.07**	**22.08**	**21.42**	**0.71**	**9.59**	**6.46**
Minimum	**4.80**	**2.36**	**0.95**	**0.39**	**29.50**	**0.00**
Maximum	**87.70**	**88.15**	**80.48**	**4.30**	**68.30**	**29.03**
Sum	**4578.06**	**3891.01**	**3644.40**	**292.55**	**5217.40**	**2724.83**
	lnNC	*lnM*	*lnSSA*	*lnO*	*PFI*	*SEO*
Mean	**23.35**	**15.92**	**13.91**	**5.39**	**79.86**	**39.27**
Standard Error	**0.39**	**0.69**	**0.88**	**0.90**	**1.10**	**0.87**
Median	**23.96**	**17.23**	**16.96**	**0.00**	**81.96**	**39.21**
Standard Deviation	**4.14**	**6.09**	**9.53**	**9.77**	**11.93**	**9.45**
Minimum	**0.00**	**0.00**	**0.00**	**0.00**	**37.67**	**18.35**
Maximum	**27.63**	**24.23**	**27.05**	**26.94**	**100.00**	**63.50**
Sum	**2615.14**	**1225.47**	**1627.18**	**630.61**	**9343.20**	**4594.54**