University of the Witwatersrand: Department of International Relations

IMPACT OF POLITICAL INSTITUTIONS ON ELECTRICITY GENERATION OUTCOMES IN SUB-SAHARAN AFRICA

A Research Report Submitted to the Faculty of Humanities by:

Zamangwane Beryl Ngwane

Student No: 0705668X

In partial fulfillment of the requirements for obtaining the degree of

Master of Arts in International Relations

Under the supervision of:

Professor Rod Alence

DECLARATION

I declare that this research report is my own unaided work. It is submitted in partial fulfillment for the degree of Master of Arts (MA) in International Relations at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any other degree or examination in any other university.

_____

(Zamangwane Beryl Ngwane)

28 May 2015

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

Professor Rod Alence,

Thank you for your invaluable insight, guidance and constructive criticism throughout the stats and the writing process. Thank you also for you incredible patience with me and belief in my ability.

My Family,

I am truly grateful for your support throughout the studies, jokes for keeping me going and the unconditional love that you have given me.

My Friends and Discipleship group,

Thank you for your prayers, comments and soundboard for ideas.

Walter & Albertina Sisulu Scholarship funders,

Thank you for the scholarship which has made this MA degree possible.

"And we know that in all things God works for the good of those who love him."

-Romans 8:28

LIST OF ABBREVIATIONS

AU	African Union
DRC	Democratic Republic of Congo
EAC	East Africa Community
EAPP	East Africa Power Pool
EDPRS	Economic Development and Poverty Reduction Strategy
ERB	Electricity Regulatory Board
ERC	Electricity Regulation Commission
EU	European Union
EWSA	Energy, Water and Sewerage Authority
GDC	Geothermal Development Company
GNU	Government of National Unity
GW	Gigawatts
IMF	International Monetary Fund
IPP	Independent Power Producer
KANU	Kenya National Union
KENGEN	Kenya Generating Company Limited
KPC	Kenya Power Company
KPLC	Kenya Power and Lighting Company
KWH	Kilowatt Hours
MIGA	Multilateral Investment Guarantee Agency
MININFRA	Ministry of Infrastructure
MOE	Ministry of Energy
MoU	Memorandum of Understanding
MRND	National Republican Movement of Democracy
MWH	Megawatt Hours
NARC	National Rainbow Alliance

OAU	Organisation of the African Union
ODM	Orange Democratic Movement
OPIC	Overseas Private Investment Corporation
PDR	Parti Democratique pour le Renouveau Democratique
PNU	Party of National Union
PPA	Power Purchase Agreement
PRSP	Poverty Reduction Strategy Paper
RECO	Rwanda Energy Corporation
RPF	Rwanda Patriotic Front
RURA	Rwanda Utilities Regulatory Board
RWASCO	Rwanda Water and Sewerage Corporation
UN	United Nations

ABSTRACT

Africa's wave of democratisation since 1990 has transformed political institutions in the region. But while democracy is a desirable end in itself, considerable doubts remain about whether it is contributing to better development outcomes. This study investigates the impact of political constraints on electricity generating capacity, using cross-national data for 46 sub-Saharan African countries. It tests the hypothesis that institutions that restrain arbitrary executive authority result in higher levels of electricity generating capacity. The hypothesis is informed by the theory of credible commitment. This theory holds that political constraints provide a stable political and policy environment that reduces temptations for governments to renege on their commitments. Credible commitments are especially important in attracting investment with a long gestation period, such as investment in electricity generating capacity. In my method I use a combination of statistical analysis and nested case studies to probe the congruence of these outcomes with my hypothesis. For the nested analysis I use the statistically chosen countries of Rwanda and Kenya, which in themselves conform to the pattern of the hypothesis. My central finding is that the presence of democratic political institutions has led to improved electricity generating outcomes in African states. In this way the study contributes to the understanding of the developmental consequences of democratisation in Africa.

CHAPTER I

INTRODUCTION

Sub-Saharan Africa's[1] lag in the generation of electricity has been blamed for halting the progress of socio and economic development in the region. Foreign investors conducting business in the region have facetiously described the situation as one of "bring-your-own-infrastructure." [2] Underlying this statement is the fact that the region's electricity shortages translate into higher costs when doing business in Africa. The electricity crisis has been attributed to various factors notably Africa's political instability. Africa's political landscape is an assortment of political regimes and institutions resulting from the legacy of the recent wave of democratisation in the 1990s. This variation in polity has been interpreted as a high political risk factor for investors and has subsequently deterred potential investment into the region and especially into long gestation and high cost projects such as electricity generation.[3]

The central problem lies in there being a lack of credibility amongst African governments to honour their commitments in the long term horizon, therefore bringing forward the problem of credible commitment. The problem of credible commitment arises where an actor has an unrestrained power in their decision-making capacity and as such can use their discretion to make arbitrary decisions to: expropriate, change the terms of an agreement or renege on contractual commitments in the future. Credible commitment is particularly pronounced in utility sectors such as electricity since investment into these sectors is resource intensive and once made cannot be easily withdrawn by investors should a government renege.[4] The underlying logic of credible commitment informs us that private investment is unlikely to take

[1]Note: for the remainder of this paper I will refer to this as "Africa".
[2] The Economist. "Lighting a Dark Continent." *The Economist*, 27 September 2014, http://www.economist.com/news/middle-east-and-africa/21620245-power-shortages-have-been-holding-africa-back-are-last-easing-lighting .
[3] Sebastien Marlier. "Investing in African Infrastructure." *The Economist Intelligence Unit, 16 September 2014*, http://www.economistinsights.com/infrastructure-cities/opinion/investing-in-african-infrastructure
[4] Bergara,Mario, Henisz J. Witold, Pablo T. Spiller,"Political Institutions and Electric Utility Investment: A Cross Nation Analysis," *California Management Review,* 40, no.2 (1998): 19-20.

place where there is a lack of institutions or enforcement mechanisms that can place limits on the state's ability to renege on commitments.[5]

In Africa, the state-making and institution-building process under democracy has been varied. Much of the democratisation which has taken place in the region was externally imposed leading to the legitimacy of the African state and its institutions being challenged. African states are seen as having the framework of democracy and political institutions, however they are lacking in its substantive matter for various reasons.[6] As such the region's political institutions vary in their level of efficiency and ability to act as checks and balances on executive behaviour. Considering all of the above, this research report is concerned with answering the following question:

> Since the introduction of democracy in 1990, do democracies in Africa provide a better investment environment, with the potential to lead to higher electricity generating capacity, than non-democracies?

This question follows the logic that in a country where there are democratic political institutions in place, the executive of that country will be constrained in its decision-making activities. This gives the executive credibility when it concludes agreements and is a feature which attracts investors into projects such as generation. The expected outcome then becomes higher outputs of generating capacity in a country with political constraints in place.

To carry out this research, I use a combination of statistical analysis and nested case study design.[7] The statistical analysis will test for the plausibility that a relationship exists between the political constraints of a country and its electricity generating capacity, using a cross-national data sample of 46 countries in sub-Saharan Africa. The second component is the nested analysis which allows me to delve deeper into the unique traits of each case country to trace the extent to which the relationship between the dependent and independent variable exists. This is a powerful method that brings together the strength of statistical analysis to make inferences about larger sets of data and the richness of case study analysis to trace specific nuances. I also make use of

[5] Ibid, 18-20.
[6] Patrick Chabal and Jean-Pascal Daloz. *Africa Works: Disorder as Political Instrument.* (Indiana: Indiana University Press, 1999), 4.
[7] Evan S. Lieberman, "Nested Analysis as a Mixed-Method Strategy for Comparative Analysis." *American Political Science Review* 99, no. 3 (2005): 435–52, http://0-www.jstor.org.innopac.wits.ac.za/stable/pdfplus/30038950.pdf

the statistical analysis as the foundation to choose Rwanda and Kenya as my cases for comparative study.

My research is important for the broader debate on democracy and development because it zooms in specifically on the Africa region. It acknowledges that because it was one of the last regions to have undergone democratisation, there is a high likelihood for political regime variation. Africa's varied political landscape also offers a good natural platform to test the widely made assumption that democracy is essential for development. The research covers the time period 1990 through 2011, which is important for two reasons. First it traces the start at which many countries transitioned into democracy and experienced the initial political instability resulting from *teething pains.* Secondly because this is a lengthy time period the process to political and institutional consolidation in the various countries is accounted for. This research also picks up on an earlier study conducted by Bergara *et al* in 1998. [8] Their study finds a positive association between the presence of political institutions and electricity generating capacity for a worldwide sample based on data ranging from 1987-1994.[9]

The examination of the relationship between the institutional endowments of a country and the resulting impact this has on investment into generating capacity, forms part of a greater discussion on the developmental consequences of democratisation on the continent. It is hoped that this study will contribute some insights into the democracy and development discussion, especially with regards to development in the energy sector in Africa. This is one of the sectors that has been identified as impeding further economic growth on the continent due to the inadequate and unreliable electricity supply in the region.

The remainder of this paper is set out so that chapter two provides a high level overview of the literature central to this discussion. Chapter three presents the conceptual measures used in the study and sets out the statistical analysis component of the paper. Chapters four and five discuss the nested case studies of Rwanda and Kenya, these lead into the discussion of the significance of the findings and observations made in the study. Finally, chapter seven gives a brief conclusion.

[8] Mario E. Bergara *et al, op cit.*
[9] Ibid.

CHAPTER II

THE CREDIBLE COMMITMENT EFFECT

The aim of this chapter is to introduce the theoretical and causal approach which I have adopted to guide my study. I will also use this chapter to explore the various literatures around my theoretical approach, highlighting those which help to hold up or challenge my theory.

Democracy and its inherent political institutions have long been touted as the pillars of development in the international development discourse. This is mainly attributed to the belief that these instruments are able to induce a level of accountability upon the actions of a government operating in the public sphere. In Africa, however the instruments of democracy and political institutions of restraint are relatively new, as the region has only recently undergone a *wave of democratisation*. Accordingly the region has countries which are at various levels of democratisation and the consolidation of political institutions (if at all present). This heterogeneous political landscape raises concerns over the political risk for those interested in investing in the region. Investors are challenged by the uncertainty of whether or not their investments into the region, especially those made into utilities, are safe from the expropriation and arbitrary decision-making of governments. With the region rapidly growing and increasingly being considered as a favourable destination for international investment, it is important to tease out the ideas of political institutions and the extent to which they are able to make African governments credible to potential investment partners.

CREDIBLE COMMITMENT AND UNCERTAINTY

One of the main issues arising from the investment discourse is that of uncertainty. Investors have an uncertainty over the safety of their investments from peremptory changes by the government over the long term of their investment. As such I adopt a theoretical approach that at its core deals with the issue of *uncertainty* in the investment transaction process. Such a theory is

that of *credible commitment* which was initially introduced by Oliver Williamson under the school of the new institutional economics. [10] He first raised the theory in response to the problem of the incomplete knowledge and unforeseen inter-temporal contingencies that actors experienced in the firm when they were making contracts.[11] Williamson's theory has increasingly gained use in the political economy discourse through scholars such as North and Weingast.[12]

The theory of credible commitment can be said to have emerged out of the need to answer the basic question: "How to bind players to agreements across time and space."[13] In order for society to function optimally there needs to be a level of trust amongst the actors within the society, as well as established boundaries of interaction. Commitment enables trust and the creation of those boundaries, as it is a promise or pledge of intent to behave within a certain manner consistently. Commitment alone however is insufficient to guarantee behaviour, what is most valuable is a commitment that is reliable and one in which actors have the security that it will be carried out. Such a commitment is known as a *credible commitment*. According to Shepsle commitments are said to be credible in one of two scenarios: the *motivational* and the *imperative*.[14]

Motivational commitments are characterised by the following features: actors willingly commit to an agreement of their own accord, they follow through with the terms of the agreement at the time of performance and they do not renege on the contract agreement irrespective of the conditions ex post.[15] Commitments are credible in the imperative sense when actors commit to an agreement and act in line with it as a result of there being an external binding or enforcing mechanism which ensures compliance, even if the temptation to renege arises.[16] I highlight this distinction in the credible commitment literature to show that there are various accepted conditions on what leads to credible commitment. This research paper concentrates on credible

[10] Oliver Williamson. *The Economic Institutions of Capitalism.* (New York: The Free Press, 1985).
[11] Ibid, 10.
[12] North and Weingast develop the credible commitment theory in a political economy context in their 1989 paper *Constitutions and Commitment: The Evolution of Institutional Governing Public Choice in Seventeenth Century England.* The paper looks at the Institutional Revolution of 17th Century England.
[13] Douglass North. "Institutions and Credible Commitment." *Journal of Institutional and Theoretical Economics*, (1993),11.
[14] Kenneth A. Shepsle. "Discretion, Institutions and the Problem of Government Commitment*," Social Theory for a Changing Society* (eds) Pierre Bourdieu and James S. Coleman. (Colorado: Westview Press, 1991)
[15] Shepsle and Pitcher.
[16] Ibid.

commitment in the imperative sense and raises political institutions of restraint[17] as the external force limiting the discretion of actors and temptation to renege.

APPLICATION OF CREDIBLE COMMITMENT THEORY TO THE STUDY

This study takes as its starting point the hypothesis that the presence of political constraints within a country creates an environment of predictability and reliability, in which the government is made credible to potential investors. As such the independent variable identified in this study is *political constraints* and the dependent variable is *electricity generating capacity*.

The causal diagram below shows the hypothesised relationship between the dependent and independent variables in this study. Starting from the left, the political *institutions of restraint* (political constraints) within a country are what provide the framework within which exchanges of economic activity such as doing business and making investments amongst multiple stakeholders can take place.[18] Where the institutions are: independent, resilient to arbitrary changes and are able to constrain the opportunistic behavior of governments, then an environment of credible commitment exists. *Credible commitment* implies that government and policy-makers get into agreements in which they will not renege, as they are conditioned into cooperation by the enforcing institutional mechanisms.[19] Where credible commitments exist the transaction costs of doing business or investing into large sunk projects are reduced and the market is made attractive to investors who will invest in the otherwise high risk sectors, this in turn has a positive effect on infrastructure development such as the *electricity generating capacity*.[20]

[17] Note: For the remainder of this paper I will refer to this as "political constraints".
[18] Bergara *et al, op cit,* 18.
[19] Douglass, North 1984. "Transaction Costs, Institutions and Economic History." (in) *The New Institutional Economic: A Collection of Articles from the Journal of Institutional and Theoretical Economics*. Turbingen: J.C.B Mohr, p.204.
[20] Bergara *et al, op cit,* 20.

Figure 1: Causal diagram of the credible commitment effect

The current literature on the theory is divided into two areas: that which holds that institutions enhance credible commitment therefore creating an accountability mechanism between the state, citizens and investors. The second area of discussion is that institutions diminish credible commitment or have very little impact upon it.

Institutions enhance credible commitment

The credible commitment theory emphasises the role that political institutions play in constraining the unlimited power that a government or executive has within a country and the decision-making process.[21] North and Weingast in their eminent work on institutions argue that for a society to develop, the state's power must be constrained and furthermore political institutions such as: an independent judiciary, legislature and parliament are the mechanisms by which to achieve this. [22]

Leading on from the foundations set by North and Weingast, Henisz develops a practically useful index to measure the political constraints capacity of a country. In his index, Henisz specifically outlines the following characteristics of institutions that will lead to credibility within a polity: there must be several independent branches of government in place, within the government branches a system of veto points needs to be in place and finally the government

[21] Douglass North, 1984, 204.
[22] Douglass North and Barry Weingast. "Constitutions and Commitments." *The Journal of Economic History* 49, no 4 (1989): 803-832.

needs to be made up of a heterogenous composition of political parties.[23] I make use of Henisz's index within the study.

A country can theoretically have in place all the institutions which are said to lead to credibility; however this is not very useful if the application thereof does not exist *de facto*. In this context, I acknowledge Douglass North who raises the distinction that for institutions to be credible they must exist in both a formal and informal format.[24] The formal represents the rules made and the informal refers to the norms around the rules; essentially does the state's behaviour conform to the prescriptions of the institutions that have been set in place?

Within the discussion on credible commitment one of the tensions that exist is that of what type of political environment is most conducive to the outcome of a credible government. Since this study deals explicitly with an African sample in which there is a wide variation of regime types, this is a markedly important point to consider. Pitcher offers an interesting extension to the theory by adding to the discussion that regime type and the nature of party politics within a country matter. [25] Pitcher argues that regime type and the party system interact with the existing institutional mechanisms and together impact upon the effectiveness of institutions and their ability to create credibility.[26] Her theory is rooted in the democratic tradition whereby a country which has a high democratic quality and established institutions is more likely to be constrained by institutional rules and norms.[27] On the other hand a country with a low democratic quality but also having established institutions is less likely to allow itself to be constrained by institutions and the executive might use its discretion more arbitrarily.[28]

Consistent with the fact that many African states have only recently undergone democratisation is that these states are subsequently at different levels of democratic maturity and consolidation. Collier and Hoeffler like Pitcher promote sound democratic institutions as a means to realising credible commitment. They make a distinction between procedural democracy and a strong democracy: a strong democracy is one in which the presence of political institutions actively

[23]Witold J. Henisz. "The Institutional Environment for Infrastructure in Investment." *Industrial and Corporate Change* 11, no2: 355-389.
[24] Douglass North, 1993, *op cit.*
[25] Anne Pitcher. "*Party Politics and Economic Reform in Africa's Democracies*." (New York: Cambridge University Press,1999.)
[26] Ibid.
[27] Ibid, 4.
[28] Ibid, 4-5.

provides checks and balances.[29] They believe that these types of institutions only exist in a mature democracy.[30] Their contribution to the discussion is that the types of institutions that matter and are able to give rise to credibility and attract investment are those which have been developed over time and can therefore legitimately constrain executive discretion. Recently democratised African states might in this case struggle to qualify as meaningful democracies with strong institutional checks and balances. Van de Walle and Masaki come to similar conclusions in their study of the impact of democracy on economic growth and investment patterns in sub-Saharan Africa between 1982 and 2012.[31]

With regards to specifically linking the credible commitment theory with development, Alence makes the argument that democratic institutions enable development through the alignment of the executive's immediate interests with the long term developmental needs of a country.[32] He treats the institutions as not being valuable in themselves but rather they are the linkage between the government and developmental outcomes.

Institutions that diminish credible commitment

In opposition to the ability of political institutions to induce government credibility and subsequently promote development lie two key inter-related arguments. First is that of the developmental state and the second argument is that of the prevalence of the neo-patrimonial state.

Good governance coupled with sound political institutions has long been promoted as a pre-condition for economic growth in developing states. These constructs are said to create a stable, hospitable and credible environment for donors and investors to invest into the developing world. Contrary to this is the approach of the developmental state which advocates for a type of governance that is highly centralised. The developmental state is characterised by: a strong

[29] Paul Collier and Anke Hoeffler. "Testing the Neocon Agenda: Democracies in Resource-rich Societies." *European Economic Review,* 53 (2009), 299.
[30] Ibid.
[31] Van de Walle, N and Masaki, T., 2014, *The Impact of Democracy on Economic Growth in sub-Saharan Africa,* Wider Working Paper 2014/057.
[32] Rod Alence. "Political Institutions and Developmental Governance in sub-Saharan Africa." *Journal of Modern African Studies,* 42 no.2 (2004): 165.

leader (or political regime) with an absolute hold over power, a government that typically has long-term view and pursues pro-capitalist policies.[33] In Africa, there already exist a few countries pursuing this mode of development with varying outcomes; such countries include Kagame's Rwanda and Ethiopia. Mkandawire has also made the argument that the idea of the developmental state is not new to Africa and the region has in the past had authoritarian developmental states, although there is now a tendency to speak of *democratic developmental states* such as Botswana and Mauritius.[34] The Developmental state has been prescribed as an approach to development that may be helpful for developing states as was the case in South-East Asia.

Another criticism against the viability of political institutions as leading to credible commitment and development takes the institutions themselves as the starting point. Weak institutions that lack the ability to enforce restraint or control over the state lend themselves towards being the political instrument of the executive. This type of thinking alludes to the work of Chabal and Daloz who have advocated for the idea that the state in Africa has not been properly institutionalised.[35] States in Africa have adopted the framework and systems of traditional institutions associated with democracy however they have continued to run their patron networks within them.[36] As a result the principle of the rule of law has not been embedded nor adhered to in the African state. Politicians also use their discretion freely in decision-making and generally fail to distinguish between the private and public life, often redistributing public resources to personal gain. In such a situation the presence of institutions fails to create an environment of credible commitment, instead the institutions operate as a façade of true democratic tradition. Considering the varied interpretation of institutionalism that exists in African states post-1990, Chabal and Daloz contribute an argument worth considering in scope of this paper.

[33] Tim Kelsall *et al*. "Developmental Patrimonialism: Questioning the Orthodoxy on Political Governance and Economic Progress in Africa." *Africa Power and Politics.* (London, Overseas Development Institute, 2010.)
[34] Thandika Mkwandawire. "Thinking about Developmental States in Africa." *Cambridge Journal of Economics,* 25 (2001): 310.
[35] Patrick Chabal and Jean-Pascal Daloz. "W(h)ither the State." in *Africa Works: Disorder as Political Instrument. (*Indiana: Indiana University Press,1999.)
[36] Patrick Chabal and Jean-Pascal Daloz. "W(h)ither the State." in *Africa Works: Disorder as Political Instrument. (*Indiana: Indiana University Press,1999.)

Though not disregarding the value of political institutions for development entirely, Bates disputes the potential of these as having the ability to lead to government credibility.[37] His view is that political reform and the presence of political institutions might as a minimum introduce positive outcomes in government spending on public goods but overall democracy actually leads to greater political instability.

CONCLUSION

This chapter has explained the credible commitment theory and shown its usefulness as the theoretical approach to be used within this study. Furthermore, the chapter also highlights the tension that exists in accepting a default position that political institutions of restraint and credible commitment lead to development outcomes. Throughout my analysis of the case studies, I will also make use of the key arguments raised by the literature. In chapter three, I set out the method used in the study and present the findings from the cross-national statistical analysis, before discussing the countries selected for the case study analysis.

[37] Robert Bates. "Institutions and Development." *Journal of African Economies* 15, no.1 (2006): 10-61.

CHAPTER III

IMPACT OF POLITICAL CONSTRAINTS ON GENERATING CAPACITY

Over the two decades since 1990, African states have continued to be varied in their democratic and political features. This variation provides an interesting test for the hypothesis that countries with political constraints are able to attract investment into development infrastructure such as the generating capacity sector. The aim of this chapter is to set out the method and concept measures of my study and ultimately to analyse the empirical relationship that exists between political institutions and electricity generating capacity, whilst controlling for other variables. I conclude the chapter with the case selection for the nested case study.

CONCEPTS AND MEASURES

In this section I introduce and explain the variables used in the regression analysis. The dependent variable is the generating capacity of a country whilst the independent variable is the political constraints of a country. The regression analysis looks at the impact that the presence of political constraints has on generating capacity, whilst controlling for certain variables.

I have adopted a mixed methods approach in this study which includes an initial cross-national statistical analysis using a sample of 46 sub-Saharan African countries.[38] The empirical analysis is useful for the identification of an initial relationship between the political constraints variable and electricity generating capacity variable. Apart from providing an initial trend in the data, the outcomes of the statistical analysis are also used to make a selection of cases for the qualitative research component of my paper. The case study is intended to trace the extent of the association between the two variables in the case countries. By using this approach, I am able to provide a richer study that not only reveals the nature of the relationship between political institutions and

[38] Owing to a lack of data on the newly formed South Sudan and Somalia for the time period under review, I have excluded Somalia and included only Sudan in the study.

electricity generating capacity in Africa but one that also reveals specific trends and features when considered in the context of a case country.

Dependent variable: generating capacity

The dependent variable for this study is the electricity generating capacity in 2011, measured using kilowatt-hours (kWh) per capita. I use the premise that investments lead to increases in generating capacity therefore a lack in investments would lead to a decline in the generating capacity of a country. The converse is true for an incline in investments. I control for the effects of generating capacity circa 1990 therefore any changes that occur in the study period 1990-2011 on the generating capacity are indicative of the investment patterns taking place during that time only. Taking this into consideration, I conclude that the generating capacity is a measure of a country's ability to attract investment into the generation sector of that country. Thus the generating capacity variable is also seen as a proxy measure to illustrate the changes in investment taking place into the electricity generation of a country.

Using electricity generating capacity is especially challenging for the investment discussion because electricity exhibits features of development infrastructure that make it hard to attract investment. First, the type of equipment required in the sector is large and sunk, once invested it is hard to move or withdraw from a country.[39] Second, generating capacity is on a large scale and is widely consumed within a country, both features which make the sector highly politicised and vulnerable to government expropriation.[40] In the African context the power sector has traditionally been under the control of the state therefore predisposing it to politicisation. Other development infrastructure sectors that could be equally considered include water and telecommunications, as was done by Levy and Spiller.[41]

[39] Bergara *et al, op cit,* 19.
[40] Ibid.
[41] Brian Levy, and Pablo Spiller. T. "A Framework for Restoring the Regulatory Problem." In *Regulations, Institutions and Commitments.* Cambridge: Cambridge University Press, 1996.

The measure used in this study is the logarithm of total electricity net generation in kWh per capita for the year 2011. The data is sourced from the *US Energy Information Administration (EIA)* database.[42]

Independent variable: political constraints

Institutions are the formal and informal rules designed to constrain the potentially self-interested behaviour of individuals, especially those within decision-making positions.[43] Built into the institutional framework are procedures which identify deviation from the rules and enforcement mechanisms with which to respond to or prevent deviation.[44] Institutions are the tools by which society and individual actors can realise the gains from their economic activities because they give rise to: property rights, create enforcement mechanisms to protect these rights and their presence is likely to lead to credible commitment.

In the political sciences, political institutions are understood to refer specifically to the presence of an executive, legislature and judiciary framework. Apart from these features this study is also concerned with: the level of independence that each of these frameworks has and the resulting veto power that they have in order to place political constraints on leaders. To be independent institutions need: to be separate from the executive as a minimum, there needs to be a varied party composition of the members within these institutions and the interests of these parties should not be aligned to those of the executive.[45]

There are several instruments available to measure the polity of a country, I use the Political Constraint Index designed by Witold Henisz (Polcon III).[46] This index measures the restraints that are placed on the executive authority of a country by the political and institutional mechanisms in place.[47] In order to do this, the index looks at the number of independent

[42] EIA U.S Energy Information Administration., 2014. URL: http://www.eia.gov/electricity/
[43] Douglass North, 1984, 204.
[44] Ibid.
[45] Mario Begara *et al, op cit*, 21.
[46] Witold Henisz. "The Institutional Environment for Infrastructure Investment." *Industrial and Corporate Change* 11, no2 (2002): Forthcoming.
[47] Ibid.

branches of government (the executive and legislature) and how much power of veto each has.[48] The index also looks at the degree of heterogeneity of the political parties that sit within each branch of government and considers whether these parties are aligned to the government or not. Institutions with a high party composition that is aligned to the government, reduces the veto power of those institutions and makes policy change by leaders more likely.[49] Alence writes that the limitations that are placed on a government "become more restrictive as the veto players' political affiliations and those of the executive diverge." [50]

In the study I use Henisz's index to divide my sample of African countries into two groups: those in which the political and institutional restraints placed on the executive over the period 1990-2011 had a meaningful effect and those which did not. I do this in a two step process: first I look at the individual Polcon III score of a country for each year since 1990, countries meeting a minimum threshold of 0.1 are coded as having meaningful constraints in place and those failing to meet the threshold are coded as having zero constraints in place. Secondly, I average the scores for each country over the twenty-two year period to find a value between 0-1. This value represents the proportion of years during the study period that a country has had political constraints in place. The proportionate measure is then used as the independent variable in my study. Botswana, Mauritius, Namibia, Senegal and South Africa are all countries that score *one* whilst Cameroon, Chad, Equatorial Guinea, Liberia and Sudan are shown as having *zero* political constraints over the entire period.

Control variables

I measure the relationship between the dependent and independent variable whilst also controlling for the possible effect that other factors might have on the relationship. My interest is to trace the extent to which political constraints affect generating capacity of a country, since the nature of the observed world is such that other factors are also at play and may influence electricity generating capacity performance as well as the presence of political constraints. I control for these other eventualities, helping to identify a clearer causal link between the

[48] Ibid.
[49] Ibid.
[50] Rod Alence, *op cit.*

variables. In the research I control for: generating capacity in kWh per capita circa 1990 (logarithm), GDP per capita circa 1990 (logarithm), the population circa 1990 (logarithm) and the hydroelectric power potential of a country. The data for these indicators was sourced from the World Bank Development Indicators database.[51]

Africa's generating capacity is mainly comprised of hydroelectric power and fossil fuels although other sources of renewable energy are currently being explored and are starting to make-up a higher percentage of the energy mix in African countries. I control for the role that hydroelectric power potential could play in electricity generating capacity as it is a natural endowment that the high presence of within a country could lead to higher generation (if captured), versus a country that lacks that potential. The hydroelectric power electricity data is sourced from a 2008 study by Pokhrel *et al* in billion kWh which I then covert to kWh per capita.[52]

STATISTICAL ANALYSIS

The regression analysis whilst taking into consideration the effects of other variables reveals that there is a positive association between the presence of political constraints and changes in the generating capacity output of a country.

Relationship between political institutions and generating capacity

Table 1 shows the results of the various regression models run for this study. In column 1 of the table the bivariate relationship between the political constraints and 2011 generating capacity indicates a positive association with a high coefficient value of 0.94. The association does not however explain a lot of variance in the model since the R-squared value is a low 0.03. The second column adds the electricity generating capacity circa 1990 to the original bivariate

[51] World Data Bank, 2014. *World Development Indicators*. URL: http://data.worldbank.org/data-catalog/world-development-indicators

[52] Yadu, N. Pokhrel *et al*. "A Grid Based Assessment of Global Theoretical Hydroelectric power Potential." *Annual Journal of Hydraulic Engineering JSCE* 52 (2008): 7-12.

regression. The effect of this addition is that the political constraints coefficient is pushed up to 1.04, confirming a strong association between the constraints and generating capacity. The variable also pushes up the adjusted R-squared value from 0.03 to 0.59, indicating that the second regression model has a high explanatory power. The implication of this drastically positive change is that political constraints do a good job in accounting for the changes taking place in the generating capacity over 1990 through 2011. A country that had high generating capacity prior to 1990 is also more likely to develop political constraints and subsequently improve generating capacity.

In the third column, the addition of the GDP variable has a negative impact upon the coefficient bringing it down to 0.82 but the regression model remains statistically significant. The explanatory power of this model is also slightly increased to 0.64. This implies that countries which had a high GDP prior to the study period are likely to develop political constraints and expand their generating capacity over the period 1990 through 2011. The population circa 1990 variable in the fourth column and the hydro potential in column 5 effect very little change upon the overall model coefficients and R-squared.

Taking everything into account, the regression models depicted in Table 1 (especially column 5) show that there is a distinctly positive relationship between the political constraints of a country and the generating capacity outcomes of that country. The results remained consistently positive even when controlling for the effect of other variables such as: GDP per capita, total population and electricity generating capacity prior to the study period. The results are thus consistent with the hypothesis that countries with political constraints induce credibility in their government, helping it to make credible commitments to investors and expand generating capacity. I will now proceed to use the regression model outcomes from column 5 in table 1 to demonstrate what the association looks like graphically and with the sample of countries.

	Generating capacity (log, 2011)				
	(1)	(2)	(3)	(4)	(5)
Political constraints	0.94	1.04**	0.82**	0.82*	0.82*
	(0.64)	(0.41)	(0.40)	(0.41)	(0.41)
Generating capacity (log, circa 1990)		0.64***	0.49***	0.49***	0.47***
		(0.08)	(0.10)	(0.10)	(0.11)
GDP per capita (log, circa 1990)			0.50**	0.50**	0.48**
			(0.20)	(0.20)	(0.21)
Population (log, circa 1990)				0.01	0.02
				(0.09)	(0.10)
Hydroelectric power potential					0.06
					(0.10)
Constant	4.51***	1.50***	-1.39	-1.53	-0.67
	(0.40)	(0.47)	(1.24)	(2.08)	(2.51)
Observations	46	46	46	46	46
R2	0.05	0.61	0.66	0.66	0.66
Adjusted R2	0.03	0.59	0.63	0.62	0.62
Residual Std. Error	1.49	0.97	0.91	0.92	0.93
F Statistic	2.18	33.28***	26.89***	19.70***	15.60***
Note:				*p<0.1; **p<0.05; ***p<0.01	

Table 1: Regression Estimates of the effects of political constraints on generating capacity (1990-2011)

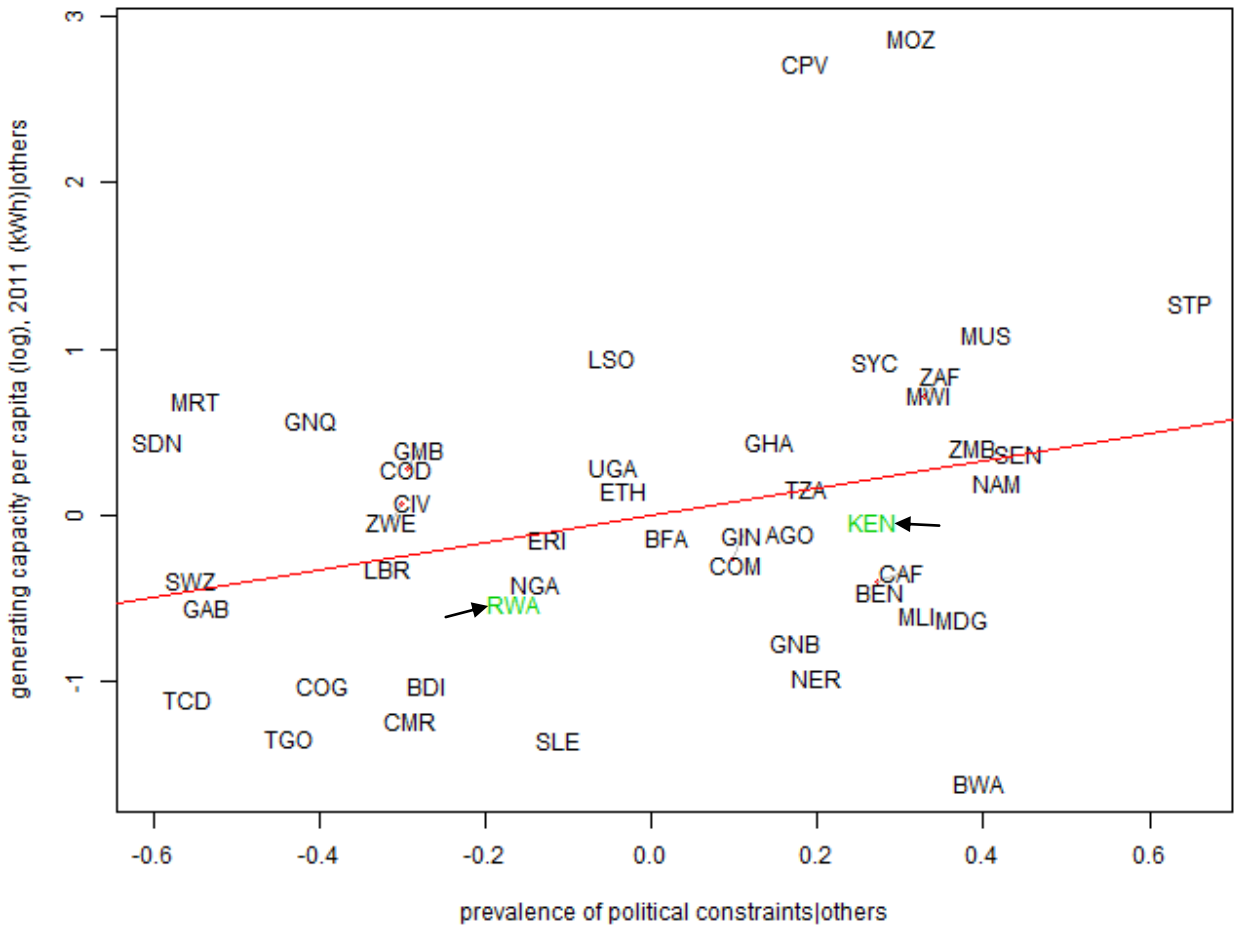

Figure 2: Regression plot showing the association between political constraints and electricity generating capacity per capita (2011)

Figure 2 is a partial scatter plot showing the relationship between the political constraints and generating capacity, whilst taking into account the control variables of the study. Since the scatter plot is a graphical representation of the regression model in column 5 of Table 1, the slope of the graph corresponds with the model's coefficient of 0.82. The slope is turned upwards towards the right hand corner, indicative of the highly positive association between the variables. The slope also indicates that countries which have had longer periods with political constraints in place will have larger increases in their generating capacity.

The countries in the plot are spread relatively evenly below and above the fitted line. Fitting the model precisely are Senegal (SEN) and Tanzania (TZA), with other countries such as Swaziland

(SWA), Gabon (GBN), Liberia (LBR), Eritrea (ERI) and Zambia (ZMB) being very closely related to the fitted line.

There are also several outliers in the scatter plot. Botswana (BWA) for example has performed well on its political constraints (matching Senegal that is on the fitted line) however, it has experienced very little growth in its generating capacity. Botswana's performance can be partially explained by the fact that the country has few sources of energy of its own to exploit and so it imports substantial amounts of electricity from other countries, notably South Africa. Mozambique (MOZ) is also an extreme outlier to the top right corner of the plot. The country's rate of growth in generating capacity far exceeds its expected level, taking into consideration the country's political constraint's index. The performance of Mozambique can be explained by the fact that the country generates high levels of electricity mainly for export and not use within the country. Mozambique has various foreign investor stakeholder groups who have invested in generating capacity in the country with the explicit purpose to exploit the rich hydro sources for export and not development of the country itself. Such investor profiles may not hold the same level of political risk concerns as typical investors looking to set up a market within the country. Mozambique despite being the third largest generator of electricity in the region in 2011 only has an electrification rate of approximately 15 per cent.[53] Even when the outliers: Mozambique and Cape Verde (CPV) were excluded from the regression model, the slope still remained positive indicating that these countries are not the only drivers of the relationship between electricity generation and political constraints.

Figure 3 takes into consideration the outcomes of the regression estimates and seeks to explain what the estimates say about the effects of political constraints on generating capacity in a sample of African states between 1990 and 2011. To do this the graph simulates the electricity generation capacity of two hypothetical African countries. It holds all other variables constant and assumes a difference only on political constraints. One of the countries has had political constraints over the entire period under review, whilst the other country has had no political constraints in place throughout the entire same period. These countries both start in 1990 with a generating capacity of approximately 100 kWh per capita; however what will their outcomes reflect after more than two decades?

[53] US Energy Information Administration (EIA). "Mozambique: Country Analysis Note." http://www.eia.gov/countries/country-data.cfm?fips=mz, 2015, 1.

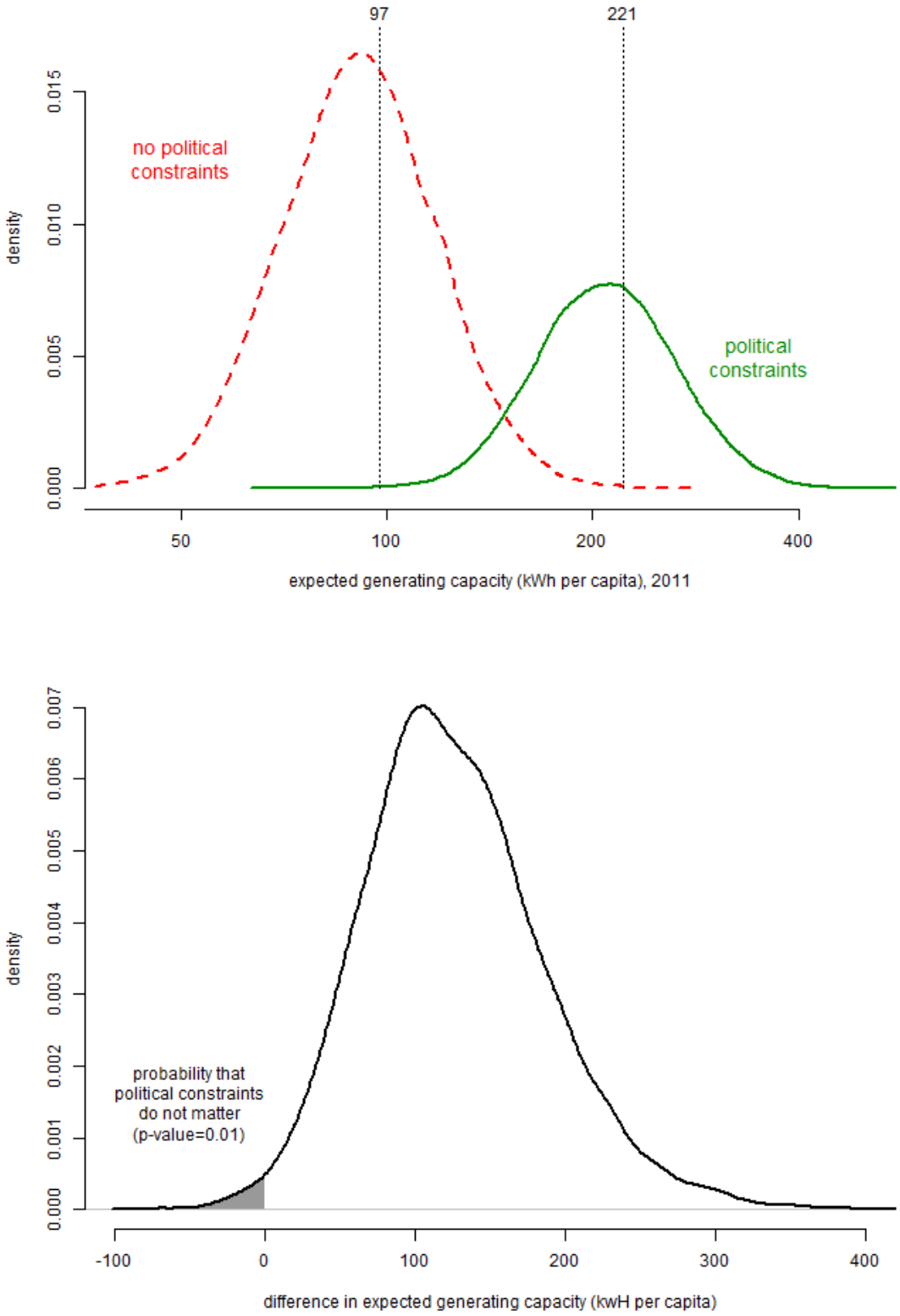

Figure 3: Regression-based simulation graph of the effects of political constraints on generating capacity in two typical African countries

The top panel in Figure 3 shows the results of the simulation exercise. There are two density curves in the graph;[54] each of them is made up of the results of 10 000 simulations and the curves peak where the simulation outcomes are most concentrated.[55] The dotted curve on the left represents the African country which all being equal had no political constraints in place and it peaks at approximately 97 kWh per capita. This indicates that a country with no political constraints in place fails to improve its generating capacity over time and may even regress in its generating capacity output. The solid graph on the right hand side represents the African country which had political constraints throughout the 22 year period. This curve peaks at 221 kWh per capita, indicating a more than doubling effect in the generating capacity of that country's performance. The graph shows that a country with political constraints performs more than two times better in its generating capacity over time than a country without any political constraints.

The second panel in Figure 3 represents the same information as in panel 1. The single density curve is the result of the difference of means test taken using the difference between the curves in panel 1, which represent the African country without political constraints and the country with political constraints. This new curve peaks at approximately 124 kWh per capita, which is also the difference in the means of the two countries. The grey shaded area on the curve in panel 2 represents the region in which the probability that democracy does not help improve generating capacity is true. This grey area accounts for only 1 per cent of all the simulations, which means that we can be 99 per cent confident that the presence of political constraints improves a country's generating capacity.

The empirical results from this study enable me to reject the null hypothesis and concur with the hypothesis that political institutions which enforce constraints on the political actors of a country play a positive role in increasing the level of electricity generating capacity within a country. Since the generating capacity variable is a proxy for investment performance into a country, the results also enforce the idea that African countries that have undergone democratisation outperform their authoritarian counterparts with regards to attracting investment into the

[54] Note: The area within a density curve is always equal to 1. The fact that these curves are shaped differently is a result of the logarithm scale used in the calculations.

[55] Gary King, Michael Tomz, and Jason Wittenberg, "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." American Journal of Political Science44, no. 2 (2000): 347–61, http://0-www.jstor.org.innopac.wits.ac.za/stable/pdfplus/2669316.pdf

electricity generating sector. More broadly these findings are important in highlighting the value of democracy and political institutions in Africa, which have long being criticised as ineffectual and as a façade masking political patron networks.[56] The fact that countries with political institutions of restraint outperform those without, challenges the school that rejects the value of democracy in Africa. Finally the findings in the quantitative analysis update those of the Bergara *et al* worldwide study, by confirming that the causal relationship which exists between the presence of political institutions and electricity generating capacity holds in sub-Saharan Africa too.

The statistical analysis in my study is useful for making the more generalized claim: institutions of political restraint impact on electricity generation capacity in Africa. This claim will be further strengthened through the use of a nested analysis to trace the direct causal relationship amongst the variables.

NESTED ANALYSIS AND CASE SELECTION

For the rest of my study I move away from the abstraction that is represented by the statistical analysis towards real-world application of the observed relationship between my variables. I use the statistical analysis to choose two cases which fit the profile of the countries examined in the simulation to test the theory. Rwanda is a country that has lacked political constraints for most of the years from 1990 through 2011. It is similar to the simulated case of an African country with no constraints in place. Kenya on the other hand has had political constraints in place for most of the same period; as such it is similar to an African country that has had full constraints. Given that the statistical analysis shows us that a country with a greater proportion of years with constraints will see greater improvements in generating capacity over time, we expect that Kenya will outperform Rwanda. Figure 2 in fact shows this to be the case. In Figure 2 Kenya (KEN) and Rwanda (RWA) are both near-the-line cases which have between them a similar slope as that of the fitted line in the graph. A calculation of the data itself indicates that over the period 1990-2011, Kenya managed to improve its generating capacity by 30.54 per cent and Rwanda

[56] Chabal and Daloz, *op cit.*

improved its generation by only 15.02 per cent. This is consistent with the statistical outcomes which predict that a country with a greater proportion of years with political constraints in place is likely to perform two times better than a country without.

Moving into a comparative case study of the two selected countries enables me to trace the extent to which the outcomes of my hypothesis are valid: do political constraints really make it easier for governments to overcome the problem of credible commitment and subsequently attract investors? The comparison between Kenya and Rwanda is especially interesting because Kenya is a weak democracy with an endemic corruption problem. Conversely Rwanda is a highly centralised state with a developmental executive. My hypothesis predicts that Kenya should find it easier to attract investors than Rwanda however the developmental characteristics of the country are in themselves attractive to potential investors.

CONCLUSION

The remainder of this paper seeks to provide answers for these questions. Chapters four and five provide the comparative case study analysis, whilst chapter six is a discussion of the findings. This is followed by a brief conclusion in chapter seven.

CHAPTER IV

RWANDA, A CASE OF AUTHORITARIAN DEVELOPMENT

This chapter introduces the first of the case study countries Rwanda. From the statistical analysis outcomes Rwanda is shown as having only moderately improved its generating capacity over the study period. The purpose of this chapter is to trace the progression of both the political constraints and electricity generating capacity in the country, in order to understand if the country's performance is in congruence with the hypothesis that political constraints lead to higher generating capacity outcomes. The chapter begins with a brief country overview, followed by an analysis of the country's political landscape through 1990-2011 and then an assessment of the electricity generation sector.

COUNTRY OVERVIEW AND HISTORY

Rwanda is a former Belgian colony which gained its independence in 1962. The landlocked country is situated between central and east Africa, and is a member of the East African Community (EAC). Rwanda is poorly endowed with natural resources, making it heavily reliant on the agricultural sector as a significant income generator (31 per cent of GDP) with tea and coffee being two of the country's most successful exports.[57] The country has also been plagued by deep ethnic tensions between two of the three main tribes: Hutu and Tutsi. In 1994 tensions reached climax, when almost 1 million people were killed in the Rwandan Genocide. During the country's Civil War and devastating Genocide, much of the country's infrastructure was damaged and destroyed, leading to poor economic performance and the exacerbation of poverty. Post-conflict however the country has shown a remarkable turnaround through steady flows of

[57] Central Intelligence Agency, The World Factbook, https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html, 2014, p.1.

foreign aid and national strategy planning. Despite its successes, access to electricity remains a serious challenge and it negatively affects the prospects of further economic development.

A great portion of Rwanda's political history has been tied up with ethnic divisions. Prior to the country's independence, Hutu militia killed thousands of Tutsis and overthrew the ruling Tutsi king in what has been called the *Hutu Peasant Revolution*.[58] This set the tone for the continued animosity that would exist between the two groups. Rwanda's first elected president at independence, Gregoire Kayibanda was a member of the majority Hutu tribe, he was deposed of through a coup d'état orchestrated by the military. [59] Juvenal Habyarimana of the National Republican Movement of Democracy (MRND) was then instated as the new president in 1973.[60] The new Hutu based government used ethnicity to consolidate its power and to discredit the Tutsi, especially those who held positions of power and formed part of the opposition. Furthermore, the Habyarimana government appointed only Hutus into government, subsequently sidelining the Tutsi and their political interests.

The oppression and violence against the Tutsi forced many members of the ethnic group to flee the country into neighbouring Uganda. Whilst in Uganda, the Tutsi mobilised together to form the Rwandan Patriotic Front (RPF) with the stated aim to re-instate displaced Tutsis in Rwanda and to push for a moderate political rule, which would include both Tutsi and Hutu members.

POLITICAL CONDITIONS IN RWANDA

Rwanda has undergone deep political turmoil and the country's political experience can be summed up as: *Rwanda undergoing conflict* and *Rwanda recovering from conflict*. This is the case as the incidence of violence has deeply characterised much of the country's political condition.

[58] United Nations. "Outreach Programme on the Rwanda genocide and the United Nations." http://www.un.org/en/preventgenocide/rwanda/education/rwandagenocide.shtml, 2014, 1.
[59] BBC News. *Rwanda Profile.* http://www.bbc.com/news/world-africa-14093322, 2014, 1.
[60] Ibid.

Political conditions of the 1990s

On 1 October 1990 the RPF launched attacks targeting Hutu civilians and the government. This marked the beginning of Civil War in Rwanda. By 1993, the Organisation of African Unity (OAU) and the United Nations (UN) had managed to convene meetings with both the RPF and MRND, which led to a power-sharing and peace agreement under the *Arusha Accord*.[61] Peace had been barely agreed to when the country was plunged into genocide on 6 April.[62] It is believed that the genocide was triggered by the assassination of president Habyarimana on his return to Rwanda from Tanzania. Civil War and genocide marked the political instability of the early 1990s in Rwanda. Inevitably during this time, the political institutional structure of the country was almost non-existent as a result of nearly two decades of authoritarian and violent rule. Any fragments of political institutions that were adopted at independence were also eventually destroyed through the on-going conflict.

The end of the genocide saw the RPF assume power under Pasteur Bizimungu and it established a transitional government which would be referred to as the Government of National Unity (GNU).[63] The GNU was tasked with the project of bringing peace between the warring factions and reconciliation into the post-genocide country. The government was also intended to serve as a temporary transition government from authoritarian rule, towards multiparty democracy within the country. This transition was however drawn out over a decade, as the country only held its first multiparty elections in 2003, where Paul Kagame was voted into the presidency.

The newly elected GNU was not without its challenges including an ill-experienced government which had little knowledge of the country, since the RPF party had been formed while in exile in Uganda and many of its members had never actually lived in Rwanda. The government was also faced with a collapsed institutional infrastructure resulting from years of conflict, coupled with a lack of social cohesion and a broken-down economy. The transitional government was however able to make political, economic and social gains through the assistance of the international community which has been instrumental in the country's reconstruction.[64]

[61] Ibid.
[62] Ibid.
[63] Ibid.
[64] Filip Reyntjiens. *Political Governance in Post-Genocide Rwanda (*New York: Cambridge University Press, 2013), 5.

Alongside its successes, the RPF led unity government has also been widely accused of carrying out various human rights violations against: civilians, political leaders and genocide survivors who occupy positions of power. The period between 1995 and 1999 was marred by politically motivated arrests based on accusations of being *genocidaires*[65] and assassinations orchestrated by the military.[66] Writers on post-genocide Rwanda often cite these events as the early signs of the country heading towards a dictatorship.

Political conditions from 2000

2000 was a year of political crisis for Rwanda as three key members of the GNU *resigned*: the National Assembly speaker Joseph Sebarenzi, Prime Minister Pierre Celestin (who both fled the country) and president Bizimungu. Bizimungu was arrested on charges of *political crimes* and sentenced to 15 years imprisonment under Kagame's presidency.[67] His arrest followed hotly on the heels of the criticisms he made regarding the operation of the GNU and RPF. He was succeeded by the then prime minister Paul Kagame.

In 2003 the country held its first multiparty presidential elections which were won by the incumbent Paul Kagame. International observers found the elections to be irregular and far from free and fair. In the lead up to the elections political parties were suppressed, whilst the two opposition parties: Parti Democratique pour le Renouveau Democratique (PDR) and the MDR were banned from running in the elections and their leaders were arrested.[68] Kagame won the elections with an unsurprising landslide victory of 95.05 per cent of the vote, reflective of the political suppression taking place in the country.[69] The second elections in 2010 followed much the same pattern as in 2003, leading political observers to describe Rwanda's electoral process as a mere consolidation of Rwanda's dictatorship.[70]

[65] The term *genocidaires* was used in reference to those guilty of carrying out crimes in aid of the 1994 Genocide. People accused of being *genocidaires* face the risk of prosecution and more informally the risk of physical harm.
[66] Filip Reyntjiens, *op cit,* 9.
[67] Filip Reyntjiens, *op cit*, 15.
[68] Ibid, 28.
[69] Ibid, 37.
[70] *Ibid,* 55.

Although Rwanda theoretically made the transition to a multiparty democracy in 2003, the state behaves like an authoritarian regime.[71]Legitimate political opposition has been suppressed in the country through the banning of parties and the detaining or assassination of opposition leaders. The government also has a strong hold on the types of political parties forming, especially at the grassroots level, for fear of ethnically based mobilisation.[72] The government has also used the fear of a relapse into the ethnic divisions that led to the 1994 genocide as a tool to repress opposing political views and to place restrictions on the type of political organisations allowed to mobilise. The political landscape in Rwanda has been definitively shaped by memories of the 1994 genocide and the goal to prevent the recurrence of violence.

Despite its lack of democratic political consolidation, the government of Rwanda has managed to re-build the nation and secure steady financial aid which accounts for almost half of the country's budget. Under Kagame's leadership, the country has favourably managed its fiscal policy and has set out several development initiatives, the most prominent being the country's blueprint for national development *Vision 2020.* Vision 2020 represents the goal for what Rwandans envisage their country to be by 2020. The plan was designed through several consultations with various stakeholder groups including civil society from 1998 and its overall objectives are to build a middle-income Rwanda.[73] The plan sets out 6 key pillars in order to achieve this:

- National reconstruction following *good governance* principles;
- Economic transformation of the country away from agricultural dependence towards a market economy;
- Private sector development;
- Promotion of tertiary sectors and skills development;
- Infrastructure development;
- Regional cooperation.[74]

[71]Bertelsmanns Stiftung, BTI 2014. "Rwanda Country Report." (Gutersloh:Bertelsmanns Stiftung, 2014). http://www.bti-project.org/reports/country-reports/esa/rwa/index.nc, 5.
[72] National Democratic Institute. *Assessment of Rwanda's Pre-Election Political Environmnet and the Role of Political Parties.* 2003, 4.
[73] Republic of Rwanda. *Vision 2020*, 4.
[74] *Ibid*, 4-5.

Vision 2020 was formally rolled out in 2000 and has been important in showcasing the country's commitment towards state-building. It has also been instrumental in showcasing Rwanda's commitment to development and attracting donor aid into the country.

Political institutions

Rwanda has undergone significant reconstruction in all areas of political life, including the establishment of new political institutions since the total collapse of political infrastructure in the country. The new 2003 constitution provides for the following institutions: an executive made up of a president and vice president with a 7 year term, a legislature made up of two branches (the senate with 26 seats and the chamber of deputies with 80 seats) and an independent judiciary in which the supreme court is the highest.[75]

Although these institutions exist in theory, their effectiveness and adherence to by the executive is questionable. Kagame has supreme power over parliament in the decision making process, he can elect members into parliament, choose the Supreme Court judges and in legal matters of political interest the judiciary needs to consult him. The members of his RPF party also make up more than half of the seats in the Chamber of Deputies, thus providing little political differentiation in parliament.[76] Rwanda is highly centralised and since power emanates from the executive and not the political institutions that have been constitutionally set out. The government of Rwanda cannot be constrained in its actions by the country's political institutions as they are empty vessels of power and enforcement mechanisms.

[75] Central Intelligence Agency, *op cit.*
[76] Bertelsmanns Stiftung, BTI 2014. "Rwanda Country Report." (Gutersloh:Bertelsmanns Stiftung, 2014). http://www.bti-project.org/reports/country-reports/esa/rwa/index.nc, 7.

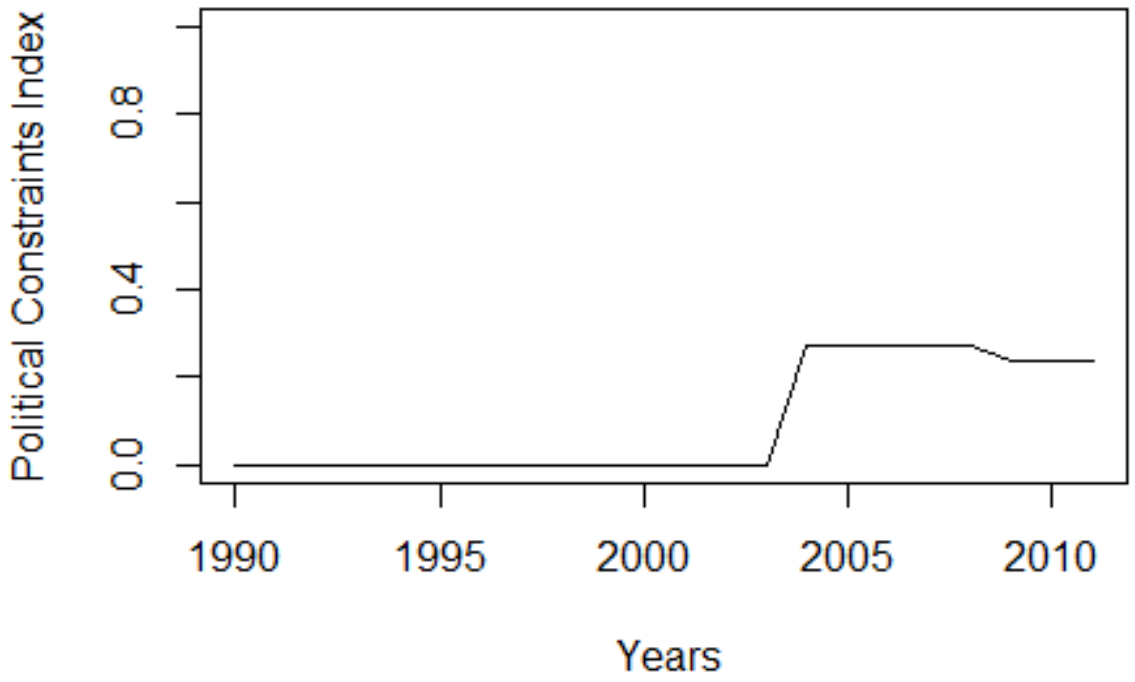

Figure 4: Political constraints ranking of Rwanda (1990-2011)

Figure 4 captures Rwanda's political constraints performance for each year from 1990-2011.[77] For most of the period (1990-2003) Rwanda was rated as having zero political constraints. This corresponds with the period of civil war under which the government could not exercise control over the state nor its institutions. It is only from 2004 that the country starts to record a higher political constraint index per year. On average throughout the entire period under examination, Rwanda has only had political constraints in place for approximately one third of the time; which is in contrast to the entire sub-Saharan Africa region which has on average had constraints in place for a little over half the period since 1990.

Overall, the political performance of Rwanda emanates from a deeply violent and ethnically fragmented history. Only a few years after independence the country succumbed to almost three

[77] Graphs are generated using information from Witold Henisz's Political Constraint Index data (Polcon III).

decades of ethnic violence and authoritarian rule by a Hutu government. During this time the weak political institutions that were in place, served only to re-enforce the dominance of the Hutus and suppress Tutsi citizenship. The national unity government of Kagame which came to power through the genocide and war did not completely shed off the violent tendencies and ethnically based discrimination synonymous with the country's history of governance. Although the country finally underwent multiparty democratic elections in 2003, these were not free or fair since in practice political opposition was barred from equally participating in the process. Rwanda's political performance and institutional organisation raise several questions on the government's overall ability for credible commitment.

ELECTRICITY SECTOR OVERVIEW

Rwanda has an extremely poor performance record when it comes to its electricity sector. Electricity only accounts for an estimated 5 per cent of the country's total energy consumption and most of the country relies on wood fuel.[78] The country's electricity infrastructure is old, broken down and in some cases is completely destroyed as a result of past conflict. To aggravate the situation, electricity costs in Rwanda are excessively high due to the frequent use of oil generation plants. The country's violent political history and under-developed state has meant that few private investors have been involved with the generation sector and the burden to fund the sector lies predominantly on the state.

The Rwandan government is critically aware of the challenges in this sector and has prioritised the development of the electricity generating sector in the country, especially if the country is to accelerate its economic growth. Over the last five years, improvement can be seen in the performance of the sector and ambitious goals have been set by the government to increase generation and to connect more of its citizens to the grid.

[78] Rwanda Development Board. *Energy: the Opportunity in Rwanda.* http://www.rdb.rw/uploads/tx_sbdownloader/Opportunities_Energy_Sector.pdf, 1.

Energy sources

The electricity sector in Rwanda has been historically made up of hydroelectric power; this is due to the favourable hydrological conditions within the region as is also seen in the neighboring Democratic Republic of Congo (DRC) which has proposed to build the world's largest hydroelectric power electric facility under the Grand Inga Dam Project. Over the years however additional sources of energy have been introduced into the country's overall generation mix, including: thermal generation through oil, methane gas, geothermal capacity and a growing interest in the renewable energies sector including: biogas, peat, solar and wind power (though still in early stages of development).

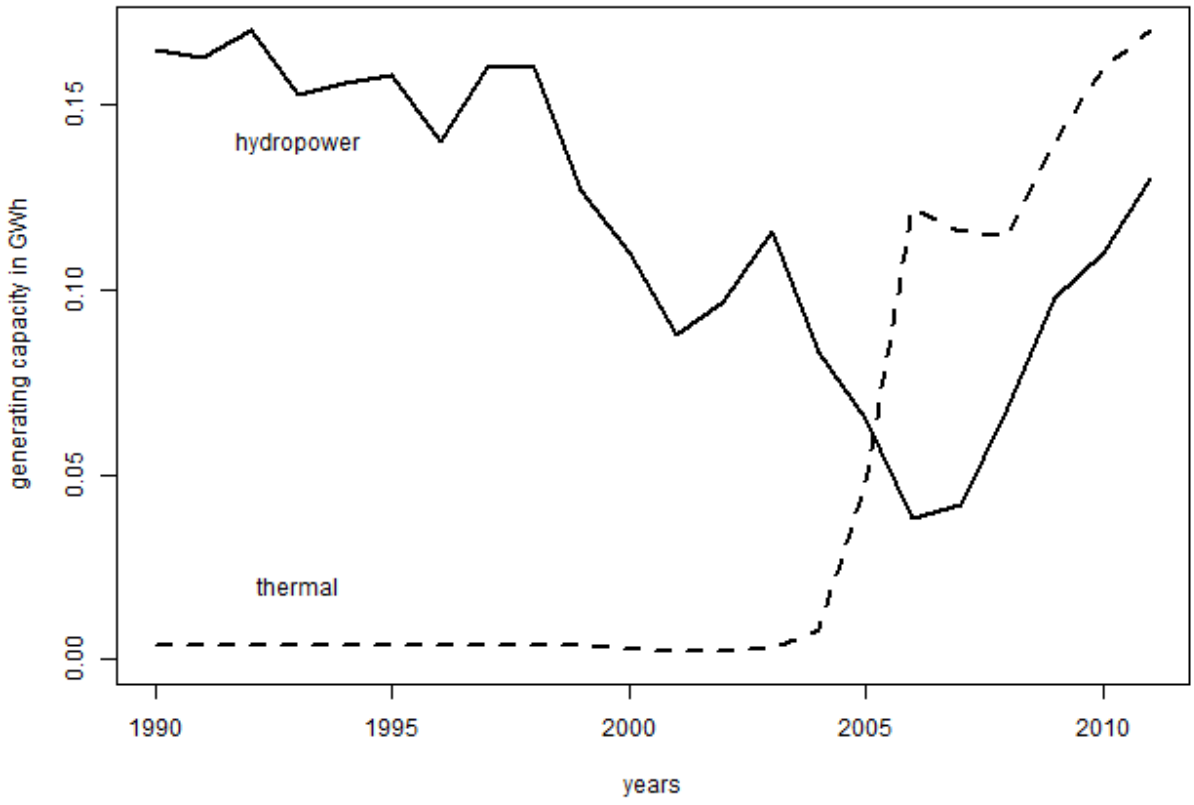

Figure 5: Graph showing Rwanda's generating capacity by energy source (GWh) [79]

[79] Note: Graph generated using data from the International Energy Agency. This database did not have data on methane gas, biomass and renewable energy sources for Rwanda.

Hydroelectric power

The primary source of electricity in Rwanda comes from hydro-electric power which accounts for approximately 59 per cent of the total energy mix.[80] By 2011 Rwanda had five hydro power plant sources: Ntaruka, Mukungwa, Gihira, Gisengy and Rukarara. [81] In addition to this, the country imports hydro-electric power from the neighbouring Rusizi plant which it shares with the (DRC). Apart from these the country has also been able to harness the use of micro-hydro power under the *PSP Hydro Project* particularly for rural electrification.[82] The abundance of rivers and availability of water in Rwanda makes hydro-electric power a natural option for the country however, it is also at high risk of drought. Over the period 2003-2005, Rwanda experienced extreme drought which saw the country default to oil generation as an immediate stop-gap solution to the energy shortages. Figure 5 shows the antithetical relationship between the two sources; as hydro-electric power drops from 0.116 GWh in 2003 to 0.065 GWh in 2005, oil usage increases from 0.003 GWh to 0.047 GWh over the same period. Incidents such as the drought have pushed the government of Rwanda to diversify its generating capacity sources.

Thermal electric power

Rwanda's use of thermal power is mainly through oil generation plants which account for approximately 40 per cent of the country's generation.[83] Taking into consideration Figure 5, it shows that oil generation starts to take off only in 2000. This is a result of the government introducing oil generation plants as an emergency source during the years of drought. Although still a significant part of Rwanda's energy mix, oil is not a sustainable source: Rwanda is not an oil producer and has to import its oil, since the country is landlocked it also has to absorb the high transport costs of bringing in the oil from Kenya's Mombasa port as well as subsiding taxes on the imported it to ensure consumer affordability. Alongside the challenges mentioned above,

[80] Rwanda Development Board, *op cit,* 1.
[81] African Development Bank Group. *Rwanda Energy Sector: Review and Action Plan.* (Belvedere: African Development Bank Group, 2013), 33.
[82] This is a form of small scale hydro power generation produced by private entities such as businesses, schools and healthcare facilities where plants generating between 100-500 kW are constructed for these isolated projects. Micro-hydro power can be connected into the national grid or may generate directly to the individual projects.
[83] Rwanda Development Board, *op cit,* 1.

the high price volatility of oil and foreign currency cost further exacerbates the unsustainable reliance on it as an energy source for generating capacity.

Geothermal electric power

Like its EAC counterpart Kenya, Rwanda has also been estimated as having a high geothermal energy potential in excess of 700 MW annually.[84] During the years 1990-2011 no geothermal power was brought on-stream, however studies had already revealed that potential for the energy source is concentrated in the countries northern region (Gisenyi, Kibuye and Cyangugu), which forms part of the Rift Valley in which volcanic activity contributes to the presence of geothermal energy.[85] The main constraint in developing this energy source has been the high costs required in the exploration phase of the project as the discovery of reserves is not guaranteed. The country also has a shortage of skilled workers and experts (often having to entice home Western educated ex-patriates), thus making it challenging to carry out explorations and further develop the geothermal sector. Despite these challenges however, the government under the Energy, Water and Sewerage Authority (EWSA) has prioritised the further development of geothermal energy and has partnered with the Nordic Reykjavik Geothermal company to facilitate exploration of potential reserves which would then be passed over to potential investors or the state to develop.[86] Although having partnered with the Nordic company, the costs of the project are being covered by the government of Rwanda.

Methane Gas

Methane gas is a unique and highly viable energy source for Rwanda, government-led studies have revealed that there is a potential 700 MW capacity of methane gas situated in Lake Kivu (which would have to be shared with the DRC).[87] In 2009 the government of Rwanda and Contour Global (a private American based energy company) concluded the first IPP deal in

[84] Energy Private Developers. "Geothermal Reserves in Rwanda." http://www.epd-rwanda.com/geothermal-energy-kigali.html , 2014, 1.
[85] I*bid*.
[86] Nordic Environment Finance Corporation. "Karisimbi Geothermal Prospect." http://www.nefco.org/financing/nordic_climae_facility/ncf)projects/karisimbi_geothermal_prospect , 2014: 1.
[87] Ibid.

Rwanda under the KivuWatt Project. Kivuwatt would be the first of its kind energy project in Africa to generate electricity through the extraction of methane gas from beneath Lake Kivu (which borders on Rwanda and the Democratic Republic of Congo (DRC)). [88] KivuWatt is expected to generate a total of 100 MW of power and was to be developed in two phases: phase 1 would supply 25 MW and phase 2 would supply 75 MW. [89] Phase 1 of the project has been financed by Contour Global, the Netherlands Development Finance Company, whilst the balance has been borrowed from the African Development Bank's Emerging Africa Infrastructure Fund.[90] The investment has also been protected from political risk through the World Bank's Multilateral Investment Guarantee Agency (MIGA).[91] The second phase of the project requires a further $260 million which has yet to be confirmed and has led to delays in project construction (which was scheduled for 2014).

Electricity sector reforms

Eberhard *et al* describe reform as the transition of enterprises that have been dominated by the state towards commercialisation, unbundling, privatisation and the creation of competition within a sector.[92] Reform of the electricity sector has been advocated for its potential to improve efficiency by shifting responsibility away from the state and encouraging private sector participation. Like most electricity sectors in Africa, the sector in Rwanda has been dominated by the state however since the late 1990s steps towards increasing the independence and commercialisation of the sector have taken place. In 1999 management of the state utility was placed under a private international company Lahmayer in an attempt to improve efficiency and management of the sector,[93] this lasted until 2008 when the management of the utility was relegated back to the government. The utility was then divided into Rwanda Energy Corporation

[88] Junior Isles. "Power of the Lake," *Twentyfour7 Magazine,* issue 1 (2012). http://www.twentyfour7magazine.com/en/search/?search=power+of+the+lake
[89] Ibid.
[90] African Development Bank Group, *op cit,* 11.
[91] Energy Private Developers. "Lake Kivu Methane in Rwanda." http://www.epd-rwanda.com/methane-gas-kigali.html , 2014:1.
[92] Isaac Malgas and Anton Eberhard, "Hybrid Markets in Africa: Generation Planning, Procurement and Contracting Challenges." *Energy Policy*, 39: (2011): 3191.
[93] African Development Bank Group, *op cit,* 25.

(RECO) and the Rwanda Water and Sewerage Corporation (RWASCO). [94] In 2011 the state again merged these entities leading to the creation of EWSA as the national body responsible for generating capacity, transmission and distribution in Rwanda. The policy-making and planning, as well as the development of the renewable energy sector is carried out by the Ministry of Infrastructure (Mininfra), whilst the Rwanda Utilities Regulatory Agency (RURA) was established in 2001 as the official regulation body for both electricity and petroleum in Rwanda.

Although there have been changes that have taken place, EWSA is still state run and dependent upon government financing and administration. The state subisidises various activities in the sector including: paying $6million in subsidies for the rental of fuel generation plants from Aggreko, as well as towards the cost of the importation of petroleum for thermal generation.[95] A great portion of the donor aid received by the government of Rwanda is invested by the state into the development of the electricity sector. Over the period 2009-2012 the European Union (EU) gave approximately €50 million towards the construction of photo-voltaic systems and micro hydroelectric power plants for improved rural electrification.[96] The United Nations Industrial Organisation has also funded the construction of three micro hydroelectric power plants.[97] These are only a few of the many initiatives funded by the state through donor aid. The resulting outcome has been EWSA's overreliance on the government and its lack of independence as a body.

Development of the electricity sector is inextricably linked with the government's overall growth strategy. Rwanda's Vision 2020 highlights the need to economically transform the country, improve private sector development and country's development infrastructure. In order for this to be accomplished, generating capacity and supply needs to be increased and made reliable. The country's second Poverty Reduction Strategy Paper (PRSP) in conjunction with the IMF for the period 2008-2012; sets out to increase generating capacity from 45 MW in 2007 to 130 MW by 2012.[98] In the country's own Economic Development and Poverty Reduction Strategy (EDPRS) 2013-2018, improved generating capacity is cited under priority 1, which strives to build the

[94] *Ibid*.
[95] *Ibid*, 60.
[96] *Ibid*, 58.
[97] *Ibid*.
[98] International Monetary Fund. "Rwanda: Poverty Reduction and Strategy Paper." *IMF Country Report 08/09 (*2008): 39-40.

Rwandan economy through investment into infrastructure.[99] The government aims to raise generating capacity to 563 MW by 2017 through the diversification of energy sources (especially renewable) and through further development of the legal and regulatory environment (to attract foreign investment).

In addition to this the government has also come up with an even more ambitious Electricity Development Strategy 2011-2017 in which it intends to enhance the country's generating capacity to 1000 MW of electricity by 2017 instead of 563 MW.[100] The planned energy mix is as follows: 333 MW of hydroelectric power, 310 MW geothermal power, 300 MW methane gas, 20 MW diesel and 5 MW generated from a mix of renewable energy sources.[101]

Despite the sector reforms, participation by the private sector and other potential investors has not grown substantially in the period under review. Generation projects are still largely publicly funded through the diversion of donor aid funding as mentioned above. This is not a sustainable model, especially as the government has limited financial resources. 2011 has however marked important changes for the institutional and legal framework of the energy sector in Rwanda. Apart from the establishment of EWSA as the national power utility in 2011, the Electricity Law was also adopted in June 2011. The law governs over generation, transmission, distribution and the trade of electricity and central to the law are four objectives:

- Liberalisation and regulation of the sector;
- Development of reliable electricity supply for consumers and the country's economic sectors;
- Creating an enabling environment for investment;
- Promotion of fair competition in the sector.[102]

Apart from the changes brought about by the Electricity Law there have been various other important legal changes. In 2006 Rwanda Investment Law to encourage greater private sector investment was introduced and in 2008 specialised commercial courts established to better

[99] Republic of Rwanda. 2012. *Economic Development and Poverty Reduction Strategy 2013-2018: Shaping our Development*, (2012): 20-21.
[100] *Ibid.*
[101] *Ibid.*
[102] Energy Private Developers. "Energy Laws, Policies and Enabling Environment." http://www.epd-rwanda.com/energy-laws-policies-and-enabling-environment-kigali.html , (2014):1.

facilitate the legal process around investment in the country at all levels.[103] Alongside the courts, the government brought in expert judges from Mauritius (one of the top performers with regards to attracting foreign investors on the continent) to further develop the commercial legal framework in the country.[104]

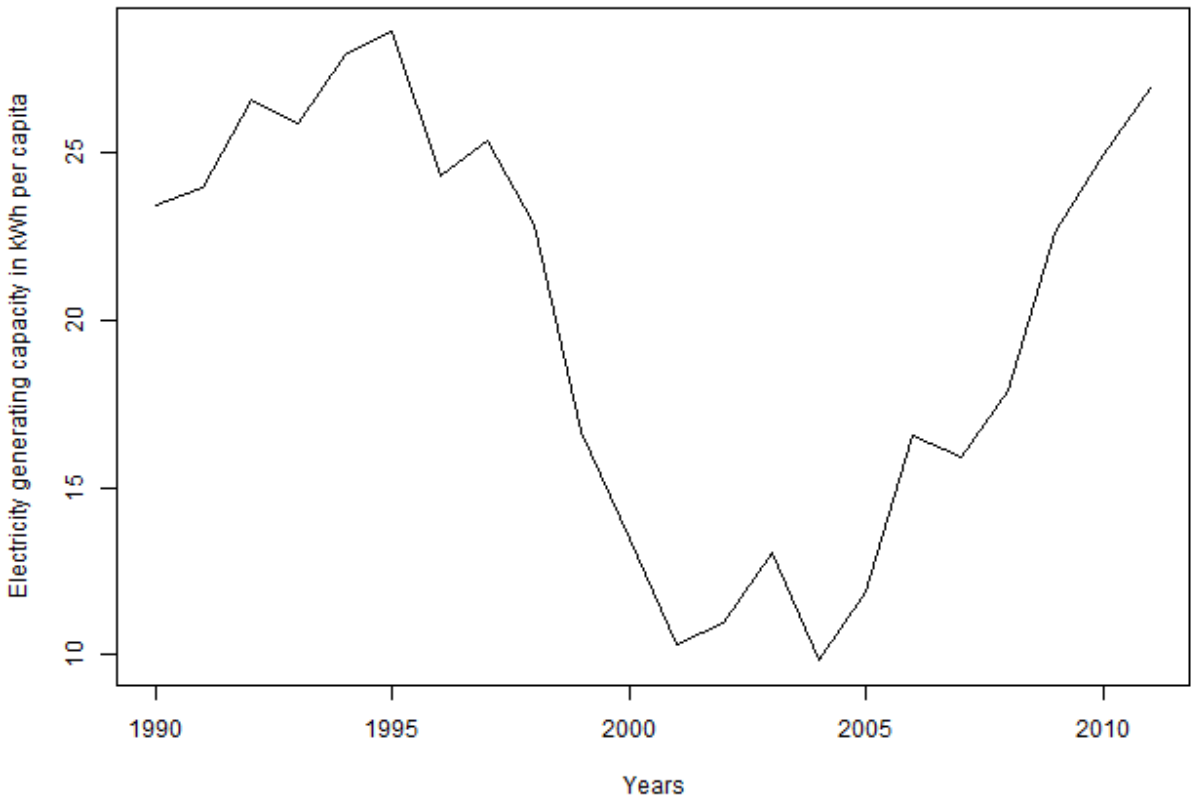

Figure 6: Generating capacity in Rwanda in kWh per capita

Figure 6 shows that the generation output of Rwanda starts to grow from the early 2000s, coinciding with the government-led initiatives to develop the electricity sector further. From 2005 the generating capacity per capita shows an undisturbed upward trajectory, capturing the on-going growth in the country. The gains made in the country's electricity generating capacity

[103]Moussa Traore *et al.* "Rwanda: Fostering Prosperity by Promoting Entrepreneurship." *Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises.* (Washington: World Bank Group, 2013): 39-40.
[104] Ibid.

appear to be exceptional however this needs to be tempered with the fact that the country was in essence recovering to its generating capacity level in 1990, prior to the knock on effects of the Civil War and Genocide. Prior to this Rwanda's generating capacity had not shown a stable record since 1990, although a general pattern of decline from 1995 is observed with the generation falling from a peak of 28.60 kWh per capita in 1995 to an all time low of 9.83 kWh per capita in 2004. The decline of the country's generating capacity between 1995-2004 mirrors the time in which Rwanda's political institutions were fragmented and under-developed as a combined result of the Civil war in the country which underminded both the executive authority and the rule of law in Rwanda. During this period much of the international support coming into Rwanda, was linked to relief donor aid.

Rwanda's generating capacity pattern over the period under study has to a great extent corresponded with the political climate in the country. During the years of political conflict and resultant lack of institutional organisation, generating capacity was volatile and then sharply declined. After the country's first "democratic" elections and the introduction of a new constitution, the generating capacity responded in growth a few years later. Rwanda's generating capacity although not exceptional has been steadily growing, disturbed only by periods of drought. What is notable about the generating capacity growth in Rwanda is that it has not been driven by private investment but rather it has been driven by foreign donor and investment by the government itself- which may contribute to explaining why the growth has been moderate. The institutional reforms that have been taking place in the country from mid 2000s may eventually also start to yield higher generating capacity as investors start to respond to the credibility that these reforms might bring.

CONCLUSION

Chapter four has traced the progression of Rwanda's political constraints and electricity generating capacity. The country's political dispensation has been largely informed by a history of political and ethnic violence. The impacts of authoritarian rule have also not yielded high

generating capacity outputs for the country. Chapter five will provide an equally informative analysis of the situation in Kenya.

CHAPTER V

KENYA, A MARRIAGE OF CORRUPTION AND INVESTMENT

Kenya has been a democracy since 1992 although it has not been considered as a model democratic state in Africa owing to reasons of political violence and rife corruption. In spite of this, the statistical analysis in chapter 3 showed the country to be doing relatively well in its electricity generating capacity. This chapter traces the country's political constraints and electricity generating capacity variables to test the country's performance against the study's hypothesis. I begin the chapter with a brief country overview, followed by an analysis of the country's political landscape through 1990-201, followed by an assessment of the country's generation sector. The outcomes of this chapter and those presented in chapter 4, on Rwanda will be used to conclude overall study findings in chapter 6.

COUNTRY OVERVIEW AND HISTORY

Kenya is a former British Colony situated in East Africa. The country is well-endowed with areas of arable land that are well suited to farming; this is evident in agriculture being a high income generator for the country and the success of the country's tea, coffee and horticultural commodities.[105] The services and industrial sectors are other prominent sectors in Kenya's economy. Apart from these the country is not rich in other natural resources. Kenya is an important player in the East Africa region and boasts the largest economy in the EAC. With regards to electricity, Kenya has managed to grow its electricity sector since the 1990s however large gaps still exist and more needs to be done to secure the country's supply, especially since electricity drives economic activity. The country is also a member of the East Africa Power Pool (EAPP) which was established in 2005.

[105] Central Intelligence Agency World Fact Book. , https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html, 2014, 1.

Kenya gained its independence in 1963 after a decade long violent liberation struggle, fought between the colonial rulers and the Mau Mau activists. Under colonialism the country had a large white settler population which led to the dislocation of native Kenyans from their land, the *land question* in Kenya has significantly shaped the political landscape of the country and has also deepened the ongoing ethnic divisions within the country. In 1964 Kenya became a republic with a new constitution under Jomo Kenyatta. By 1964, president Kenyatta had amended the 1963 constitution to enhance his power and that of the Kenya Africa National Union (KANU), as well as transforming Kenya into a one party state.[106] These steps marked the beginning of a 14 year authoritarian and predatory Nairobi government under Kenyatta and other future leaders.

In 1978 Daniel arap Moi assumed presidency after the death of Kenyatta. During his rule, Moi like his predecessor continued to make constitutional amendments that protected his role as president and banned the formation of any political opposition to the one party state. Moi's reign was characterised by high levels of corruption in which state resources were distributed amongst his party loyalists (political and business elites, as well as members of his own ethnic group the Kalenjin).[107] President Moi also made use of private gangs and brutal force as a source of private protection and a deterrent against any political opposition; scholars such as Susanne Mueller have argued that this has been one of the factors that have contributed to the political violence in the country.[108] Moi's hold on power was extreme and even after calls for political reform in the early 1990s (as the wave of democracy swept across Africa) Moi clung to power and was reluctant to open Kenya up to multiparty democracy.[109]

POLITICAL CONDITIONS IN KENYA

During the 1990s, Kenya underwent several political changes as the country attempted to implement multiparty democracy. This form of governance was promoted as the key to improved

[106] Mukau, M., *Kenya's Quest for Democracy*, (Colorado: Lynne Rienner Publishers, 2008).
[107] Ibid.
[108] Susanne Mueller. "The Political Economy of Kenya's Crisis." *Journal of Eastern,* 2, no 2(2008).
[109] Mukua, M., *op cit.*

economic performance, increased foreign investment and donor agency support.[110] The decade was marked by significant political chaos as the old guard clung to power, whilst emerging parties seeking change emerged and mobilised.

In 1992, after much international pressure from civil society groups and coercion through the withdrawal of donor aid into the country; Kenya took part in only its second multiparty elections since 1964. The much anticipated elections were won by the incumbent president Moi and proved to be of limited victory for the country's political liberalisation as Moi continued to repress true political transformation throughout the 1990s. The introduction of multiparty democracy in Kenya failed to bring about institutional consolidation. Kenya's transition to democracy was marred by the heightened looting and expropriation of state resources by Moi and his senior cabinet members, as their political futures grew uncertain. Although corruption and expropriation of public resources had always featured in Kenyan political life the Goldenberg Scandal under Moi's presidency between 1990 and 1993, highlights the peak of corruption.[111] Up to US$600 million, the equivalent of 10 per cent of the Kenyan GDP at the time was looted by senior government members under the pretense of exporting diamonds and gold.[112] Nasong'o (2007) puts forward the argument that Kenya is an example of a country that has undergone political liberalisation, however, it has failed to transform its political institutions and processes accordingly, resulting in the continued authoritarian and corrupt rule of the government.[113]

After the elections there was a large internal and international call for a review of the constitution to be made since under the current constitution Moi had absolute authority over the country. The country's democratic institutions including the judiciary, legislature and parliament had also effectively collapsed with regards to: their independence, administration and the enforcement of rules.[114] The events taking place in Kenya during the 1990s were reminiscent of the argument

[110] Multiparty democracy was associated with good governance and market-enhancing economic growth as promoted by the liberal economists.
[111] Peter Warutere. "The Goldenberg Conspiracy: the Game of Paper, Gold, Money and Power." *Institute of Security Studies* Paper 117, September 2005.
[112] Ibid, 3.
[113] Nasong'o, S.W., 2007, "Political Transition without Transformation: The Dialectic of Liberalization without Democratisation in Kenya and Zambia," *African Studies Review 50: 83-107*.
[114] Daniel Branch and Nic Cheeseman. "Democratisation, Sequency and State Failure in Africa: Lessons from Kenya." *African Affairs*, 108 no. 430 (2008)*: 1-26*.

advanced by Bates that political liberalisation has a somewhat de-stabilising effect upon countries often leading to more political disorder.[115] In the case of Kenya however the lack of genuine support by the president for full political liberalisation is probably a more accurate reason for the continued political disorder and predation of state resources. Moi's *acceptance* of multi-partyism was strongly linked to his fear of losing power should he not concede to political reform albeit even just the procedural minimum.[116] In 1997 again, the KANU party under Moi was re-elected. This would be Moi's final term in office as he was constitutionally barred from running for a third term in the upcoming 2002 election; he later ceded leadership of the KANU party to Uhuru Kenyatta.

Political conditions from 2000

The decade starting in 2000 has been characterised by change in political leadership and the consolidation of political reform, amidst an environment of electoral violence, dissent in leadership and high party turnover.

The 2002 Kenyan elections were a landmark moment for the country, as for the first time in its history power would be held by another party other than KANU. Mwai Kibaki of the National Alliance of Kenya, alongside Raila Odinga of the Orange Democratic Movement (ODM) won the elections under their coalition party the National Rainbow Alliance (NARC). The two politicians had signed a Memorandum of Understanding (MoU), which stated that should the party win the elections the constitution would be amended to include the role of prime minister, which Odinga would accede to.[117] A year into the coalition however, Kibaki and Odinga could not reach agreement on the constitutional review process, a point which led Odinga to leave the coalition party and create tension between the two leaders.

During his tenure Kibaki moved the country towards economic recovery as he advanced liberalist policies that were aimed at attracting local and international investment into the country. Economic growth was experienced in the services, agriculture and infrastructure sectors. Under Kibaki Kenya became the leading East African economy and managed to expand its

[115] Robert Bates. "Institutions and Development." *Journal of Africam Economies,* 15 no 1 (2006): 57.
[116] Daniel Branch and Nic Cheeseman, *op cit.*
[117] Geir Sundet and Eli Moen. "Political Economy Analysis of Kenya." *Norad Report,* 19 (2009):9.

business presence into neighbouring countries. In spite of the country's substantial gains economically, political corruption continued to undermine the Kibaki government. Corruption has been an enduring feature of Kenyan politics since independence and since the spoils of presidential incumbency are equated with benefits to members of the same ethnic group, politics is a high stakes and ethnically divided game in Kenya. Kibaki's tenure was no different in this regard and eventually led to some of the country's donors and financers withdrawing funding into the country over corruption allegations.[118]

In the aftermath of the 2007 elections, violence broke-out across the country after Kibaki was declared president again in a highly contested and irregular election campaign. Kenya has always had a history of post-election violence since 1992 with the exception of its 2002 elections. It is noted however that none of the previous incidents of violence were comparable to the months of chaos going into 2008. The violence left approximately 1000 dead and another 100 000 people internally displaced from their homes.[119] The violence was finally ended when Mwai Kibaki of the Party of National Unity (PNU) and Raila Odinga of the ODM signed the 2008 Kenya National Accord which brokered peace between the two leaders and resulted in a power sharing government.

Political institutions

Much of the focus on Kenya's democracy has been placed on the electoral process and less attention has been paid to the substantive nature of democracy, for example the presence and quality of political institutions, as well as to what extent these institutions are effective. This could be said to stem from the 1992 electoral process whereby Kenya finally adopted a multiparty system, however, very few changes were made constitutionally or institutionally to reflect the changes. The failure to make constitutional and institutional changes that reflected the new political dispensation meant that "democratic ideals" and the plethora of newly emerging political parties operated parallel to the prevailing one-party ideology. Khadiagala says of the

[118] Gray Phombeah. "Corruption Haunts Kenya's Leader." *BBC News,* 23 February 2005, http://news.bbc.co.uk/2/hi/africa/4288595.stm

[119] Peter Kagwanja and Roger Southall. *Kenya: A Democracy in Retreat?* (New York: Routledge, 2010).

state in Kenya that "despite the multiparty dispensation, executive dominance continued to impede the maturation of parliamentary democracy."[120]

After a long and tumultuous process of constitutional review and reform, which in 2005 led to the split between Kibaki and Odinga, a new constitution was finally established in 2010. Important features of the new constitution include: a greater separation of powers between the executive, judiciary and legislature; improved checks upon the executive; increasing the role of parliament and the devolution of power to the country's 47 counties.[121] The constitution is structured as follows: there is a bicameral parliament made up of a senate and a national assembly; a judiciary which is elected by the judicial services commission (pointing towards a level of independence from the executive) and a multiparty society, with several opposition parties contesting elections freely.[122] Overall the democratic constitutional reforms which have taken place in Kenya have created an environment in which the rule of law and government policy take precedent and provide a framework for government credibility over the long term. This is in spite of the tendency of political parties in Kenya to form and break weak coalitions, which in itself is a practice that has a de-stabilising effect on party politics and consolidation.

Figure 7 traces the path of political constraints in Kenya. From 1990-1992 the graph shows Kenya as being rated with zero constraints which correspond with the period in which the country was still a one party state under Moi. From 1993 the country's rating rises to 0.43 and again in 1998 to 0.4, again these changes correspond with the introduction of multi-party democracy. There is a slight decline in 2003 lasting through to 2008. When calculating the proportion of years that the country has had political constraints in place through 1990-2011, Kenya scores a high of 0.87, much higher than the regional average of 0.53.

The political events of Kenya in the 1990s moving into the 2000s highlight the disorder, tendency towards politico-ethnic violence and predation of public resources in Kenyan politics. Furthermore, politics in the country have always been framed under the personality of the incumbent leader. Branch and Cheeseman, expose the lack of institutional safeguards within

[120] Gilbert Khadiagala, *op cit,* 71.
[121] United Nations Conference on Trade and Development. "An Investment Guide to Kenya." http://www.unctad.org/en/PublicationsLibrary/diaepcb2012d2_en.pdf , 2012, 7.
[122] Central Intelligence Agency, The World Fact Book.

Kenya as a result of the despotic rule of political leaders who benefit from the lack of formal institutions that would otherwise constrain their political actions.[123]

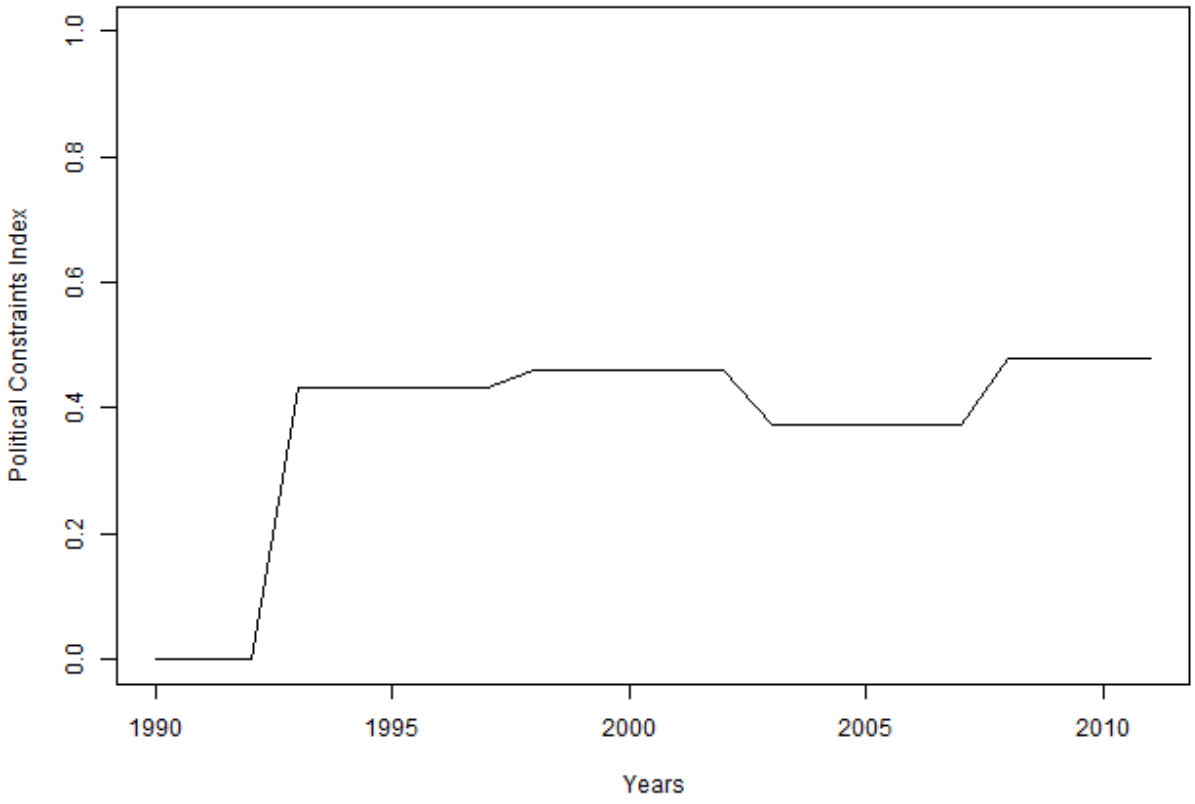

Figure 7: Political constraints ranking in Kenya (1990-2011)

ELECTRICITY SECTOR OVERVIEW

Like most African countries Kenya suffers from low electrification rates and it is estimated that more than 70 per cent of the population is without electricity.[124] The majority of those connected were in the urban areas. The energy sector and particularly electricity is a focal point for the

[123] Daniel Branch and Nic Cheeseman, *op cit.*
[124] Climate and Development Knowledge Network. "Harnessing Geothermal Energy: The Case of Kenya." January 2013, 2.

Government of Kenya's *Vision 2030* which aims to attain 'middle income' country status through pushing for higher levels of industrialism. Electricity is the driver of industrial growth as well as overall economic growth and social upliftment. The demand for reliable and affordable electricity is high in the country, especially with a burgeoning urban population. The country's electricity mix is made up of: hydroelectric power, geothermal energy, thermal energy and increasingly renewable energy sources such as: biomass, solar and wind power. The increase in renewable energy sources in the Kenyan power sector are owing to a push towards cleaner energy sources that are environmentally conscious and the growing presence of Independent Power Producers (IPPs) in the country post 1997.

Hydroelectric power

Hydroelectric power contributes almost 50 per cent of Kenya's electricity mix and by the end of 2011, it was estimated that it accounted for 767 MW (47.8 per cent) of installed generating capacity.[125] The country's hydroelectric power is located in: Lake Victoria, the Rift Valley, Athis River, Tana River and Ewaso Ng'iro North River.[126] Apart from the currently known sources of hydroelectric power, it is estimated that a further 1449 MW has yet to be developed, which could translate to approximately 5605 MWh of electricity annually.[127] Although often promoted as a good source or renewable energy in renewable energy discourse, hydroelectric power also poses great risk for developing countries such as Kenya. Kenya is a semi-arid and drought prone country, an over-reliance on hydroelectric power by the country could lead to electricity shortages during dry weather spells. This has already been witnessed over the period 1998-2000 and again in 2008 when drought struck the country. Investing into hydroelectric power is also very costly due to the expensive type of equipment and hydrology exploration needed upfront and the long lead times on the development of a hydroelectric power plant (estimated to be 7-10 years in Kenya).[128] Having considered these challenges, the Government of Kenya has made

[125] Republic of Kenya: Ministry of Energy. "National Energy Policy (Third Draft)", Nairobi, Kenya, 2012.
[126] Ibid.
[127] Ibid.
[128] Ibid, p72

plans to concentrate on other energy sources and reduce the country's reliance on hydroelectric power to 5 per cent of total generating capacity by 2030.[129]

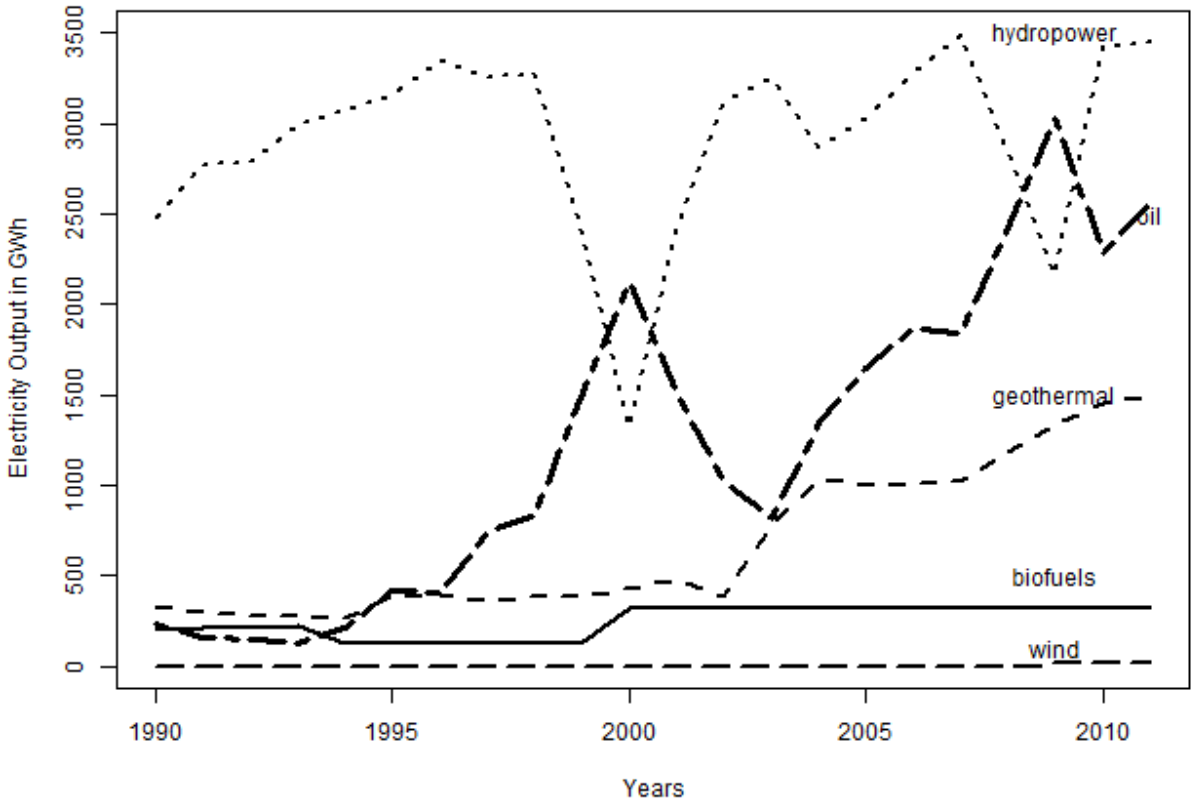

Figure 8: Graph showing Rwanda's generating capacity by source

Geothermal electric power

The development of geothermal electric power has been prioritised by the Government of Kenya as a sustainable energy source which is found in abundance in the country's Rift Valley. They have set the goal of making 530 MW of geothermal energy available to come on-stream by 2030. It is estimated that approximately 700 MW of geothermal energy are to be found within the region, currently the country is only using 198 MW of this type of energy, making up only 13 per cent of the total installed generating capacity mix.[130] There are currently 5 geothermal power

[129] Ibid, p71.
[130] Ibid, p74.

stations in the country, 4 of which are owned by the parastatal KenGen and the IPP Orpower 4. In line with its ambitions for greater geothermal capacity the government has set up the Geothermal Development Company (GDC) to lead exploration and drilling projects in the sector. Like hydroelectric power, geothermal energy shares a high capital investment requirement upfront particularly as exploration is costly and does not always lead to the discovery of reserves. The country also lacks in skilled labour to carry out explorations activities in this sector.

Olkaria 1 was the first geothermal plant to be built in Africa. Exploration and drilling for reserves started in 1986 and were halted in 1993 due to a lack in funds to carry out the construction of the plant.[131] Through the co-finance of KenGen and international development agencies (World Bank, the European Bank Investment Bank and KfW Development Bank in Germany) the plant was built with a capacity of 45 MW in 2000.[132] Olkaria 2 generates 105 MW and was commissioned in 2010. [133] Olkaria 4 is expected to generate 140 MW when it is completed and is also being co-financed by KenGen and development agency partners. [134] Olkaria 3 is unique in that it is wholly operated and owned by the IPP OrPower 4, a subsidiary of the Israeli owned Ormat Technologies. [135] The company was able to secure US$310 million from the Overseas Private Investment Corporation (OPIC) to finance the project which has also been insured by the Multilateral Investment Guarantee Agency (MIGA).[136]

Thermal electric power

Thermal generating capacity through the burning of petroleum or natural gas has been in use for a long time in Kenya. In 2011 it made up approximately 37 per cent of the country's total installed capacity. Although this type of electricity infrastructure is relatively easy to develop or rent from private developers, it is not seen as sustainable for a developing state. Fuel-based generation plants require petroleum or diesel and Kenya currently has to import its petroleum

[131] Mega Projects Kenya. "Olkaria Geothermal Expansion Project." *Mega Projects Kenya,* https://www.megaprojects.co.ke/projects/11/details/olkaria-geothermal-expansion-project/ , 2015: 1.
[132] Ibid.
[133] Ibid.
[134] Ibid.
[135] Ibid.
[136] Multilateral Investment Guarantee Agency. "Project Brief." http://www.miga.org/projects/index.cfm?pid=504

and natural gas, thus making it an expensive fuel source.[137] Large imports of petroleum and gas also place the country's generation sector in danger of market volatility. Kenya's strict leaning towards cleaner energy and environmental preservation, makes this form of fuel highly undesirable and in conflict with the country's status as a beneficiary of the *Programme for Scaling Up Renewable Energy in Low Income Countries.*[138]

Electricity sector reforms

Prior to 1996, the electricity sector was controlled entirely by the government under the Kenya Power Company (KPC) which had been established in 1954. The country's power generation had in the past been funded through international multilateral and bilateral donors, development finance institutions and the World Bank Group. Consider for example the Turkwel Hydro-plant that was financed entirely by the French Development Agency in 1991 and remains one of the country's most important sources of hydroelectric power.[139]

During the early 1990s a succession of reasons led to the withdrawal of donor aid to the country, some of these included: the end of the Cold War (which saw a general decline in aid to Africa as a whole), the reluctance of president Moi to move Kenya towards a multiparty democracy, heavy state corruption and politically motivated human rights violations. The withdrawal of aid to the country put pressure on an already poor electricity sector and by the mid-1990s the government saw the urgent need to introduce new measures to improve the country's generating capacity output. Consequently over the period 1995-1997, the electricity sector underwent reform under the Electricity Act of 1997, whereby the state sold much of its ownership rights in KPC and sought ways in which to increase private-sector investment into generating capacity.

The reforms led to the unbundling of the state utility KPC, therefore giving birth to:

- The Ministry of Energy (MOE), responsible for all policy-making on energy issues including electricity and petroleum;

[137] Note: The recent discoveries of oil wells and offshore gas could lead to changes in the country's outlook on thermal electric generation in the future.
[138] Climate and Development Knowledge Network. "Harnessing Geothermal Energy: The Case of Kenya." 2013.
[139] Anton Eberhard. "Kenya: Enabling Private-Sector Participation in Electricity Generation." http://www.gsb.uct..ac.za/files/kenya .pdf , 10.

- Electricity Regulatory Board (ERB), responsible for the monitoring and regulation of pricing/tariffs, licenses and consumer protection;
- Kenya Generating Company Limited (KenGen) a majority state-owned entity which provides approximately 80 per cent of Kenya's generation needs using various fuel sources;
- Kenya Power and Lighting Company (KPLC), a fully owned state entity responsible for purchase, distribution and transmission of electricity;
- The participation of six IPPs in the generation of electricity.[140]

Most considerably the reforms saw the Kenyan government opening up the generation of electricity to private investors both locally and internationally for the construction, ownership and operation of power plants under the IPP system. In 1996 the Nairobi government sent out a tender for two diesel power plants of a 46 MW and 44 MW capacity, this led to the introduction of Kenya's first two IPPs: Westmont (Malaysian owned private investors) and Iberafrica (Spanish owned private investors).[141] These agreements were made under the new Energy Act.[142] By 1998 a second round of tenders was opened for the construction of a 100 MW geothermal power plant, which was won by OrPower4 and a second 75 MW diesel generating power plant, which was won by Tsavo Power in 2000.[143] The Kipevu, plant under Tsavo Power came on-stream in 2001, coinciding with the country's recovery from electricity shortages as a result of the 1998 drought.[144] The Kipevu power plant is also seen as one of the most successful IPP plant projects in Kenya as funding for it was endorsed by the World Bank and the European Investment Bank. This was a showcase of the possibility of collaboration on investment into costly utilities and highlighting investor confidence in the credibility of the Kenyan government and IPP system. Less favoured was the third round of IPP tenders issued in 1999 as an urgent response to the 1998 drought in which hydroelectric power scarcity led electricity shortages and subsequent blackouts. This round of IPPs was for three diesel fueled power plants to

[140] Ibid.
[141] Anton Eberhard and Gratwick. "The Kenyan IPP Experience," Program on Energy and Sustainable Development: Stanford University, 2005.
[142] Note: these agreements where made under the new Energy Act but prior to the establishment of the Energy Regulatory Board. It has been said that later IPPs under the ERB have been in more favourable conditions.
[143] Anton Eberhard and Gratwick, *op cit.*
[144] Ibid.

immediately start feeding into the national grid and was not well-received due to the high tariff costs that were associated with this type of generation.

Over the period 1996 to 2013, Kenya has conducted twelve power purchase agreements with IPPs amounting to the value of 1194 MW of electricity from varying fuel sources.[145] The introduction of the IPP process has helped to improve Kenya's generating capacity, especially as the demand for electricity intensifies with the country's growing economic status. Much of the IPP success would not have been possible without the institutional reforms and enabling environment set out by the ERB. Kenya's political instability, high levels of corruption and substantial financial requirements for investment have all aggravated the risks to potential investors. Despite these circumstances however, the country has been able to secure private investment through the IPP model and necessary sector reform which has diminished the role of the state in the energy sector. The IPP process that has emerged out of the energy sector reform's process has been central to the overall growth of generating capacity in the country. In 2013, Norton Rose Fulbright acknowledged Kenya as having one of the "most well-established power sectors in sub-Saharan Africa" and IPP procurement programme.[146]

The new coalition government under Mwai Kibaki and Raila Odinga in 2002 was under immense pressure to improve economic growth after years of a stagnant economy under Moi. One of the ways in which they initiated economic growth was through further improvements to the electricity generating sector, as it is the key to unlocking economic productivity. In 2004 the government produced *S*essional Paper 4, which lays out a deeper reform policy framework for the country's energy sector. In 2006 this policy was realised under the Energy Act of 2006. The act has three 3 pillars: to reduce the cost of generating capacity and therefore make electricity more affordable, improve electricity service (including a higher rollout of rural electrification) and to increase private sector participation in the generation sector.[147] The 2006 Act also saw the dissolution of the ERB, which was replaced by the Electricity Regulatory Commission (ERC).

[145] World Bank Report No: 83923-KE, *Addendum to Project Appraisal Document on the Private Sector Power Generation Support Project.*

[146] Norton Rose Fulbright. "Investing in the African Electicity Sector: Kenya Ten Things to Know." *Norton Rose Fulbright*, http://www.nortonrosefulbright.com/knowledge/publications/100605/investing-in-the-african-electricity-sector, July 2013.

[147] Government of Kenya, Ministry of Energy. *Sessional Paper 4.* May 2004, www.renewableenergy.go.ke/sessional_paper_4_on_energy_2004.pdf

Most importantly the Energy Act is the principal law governing the electricity sector and its work is independently carried out by the ERC.

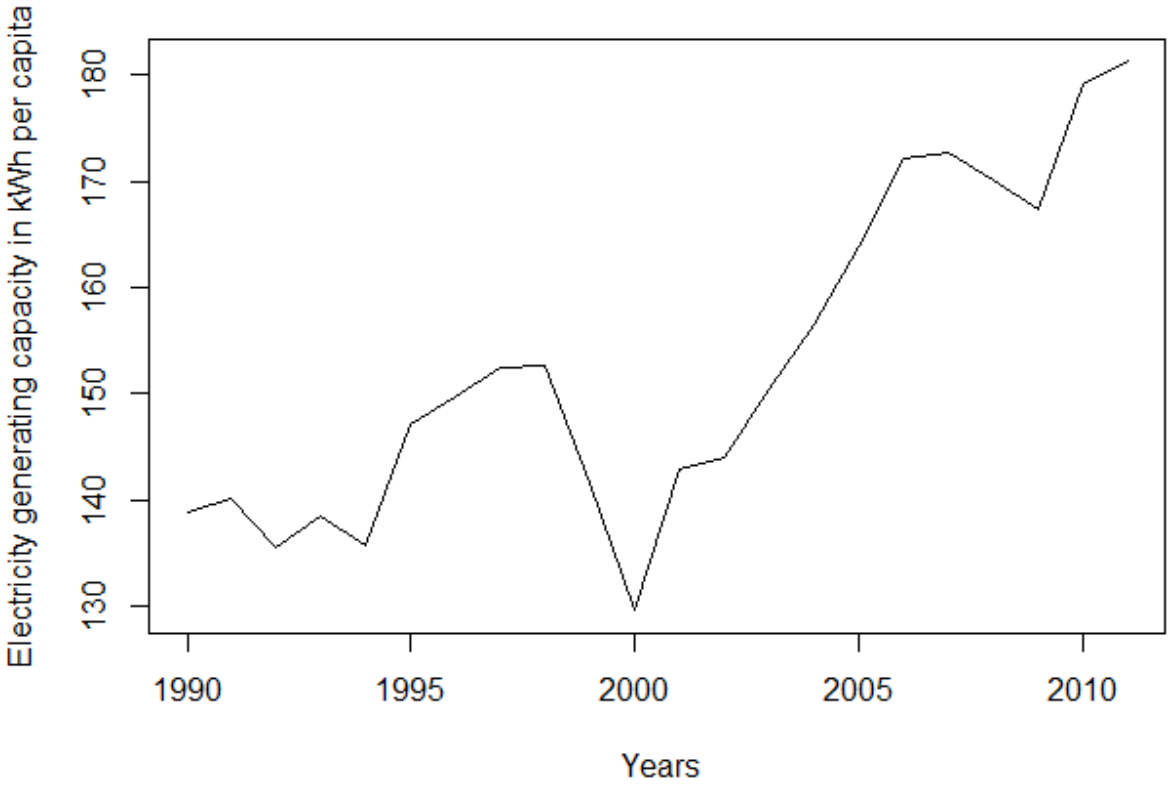

Figure 9: Generating capacity in Kenya in kWh per capita

Despite there being mixed sentiments regarding the performance of Kenya's electricity sector over the past few years, the generating capacity has certainly been on an upward trajectory and has far surpassed the 1990 starting point of the average per capita 138.85 kWh to 181.26 kWh in 2011.[148] Figure 9 shows that prior to 1995 generating capacity in the country was not stable, however from 1990 it starts to take off fairly steadily until 1998, when drought strikes and leads to a sharp decline. The year 2000 is the turning point for generation and from there significant

[148] Note: these figures are based on data available from the IEA database.

gains are made, coinciding with the new political leadership under Kibaki and his aggressive liberalist development plans to increase private sector participation in the economy. By about 2005 the country has surpassed its pre-drought levels and continues to grow steadily. Kenya's high performance in generating capacity comes amidst a challenging political climate.

Kenya's generating capacity over the period 1990-2011, has been impressive and shown immense resilience in the midst of heavy state corruption and sporadic political violence (especially after the 2007 elections). These events have challenged the fibre of Kenya's democracy and have weakened the position of the political institutions in the country which through these challenges have been shown as unable to fully constrain the behaviour of the executive. The presence of the institutions, even if weak has contributed to the prevention of an overt disregard for the rule of law and temptation for authoritarian practice in the country. Thus the institutions though weak have contributed to the government gaining a moderate record of credibility, which goes some way into explaining Kenya's impressive ability to attract investment into the country and see meaningful generating capacity growth to the tune of 30.54 per cent over the period under review.

CONCLUSION

Chapter five has traced the progression of both the political constraints and electricity generating capacity of Kenya, highlighting key reasons for the country's positive performance. In chapter six I bring together the evidence from both chapter five and six in a discussion over the implications for the findings which have been made.

CHAPTER SIX

COMPARING RWANDA AND KENYA

The aim of this research paper has been to tease out the discussion that the presence of political institutions within a country impacts upon the electricity generating capacity of that country. In this chapter I bring together the statistical analysis and qualitative case study outcomes of the paper in order to consider the significance of the research findings and determine the implications thereof.

FINDINGS ON RWANDA

Rwanda has managed to pull itself out of the brink of state failure, to emerge as an important economy within East Africa alongside Kenya. The country's economic success is attributed to Kagame's tight state control and developmental aims. In 2012 *The Economist* labeled Rwanda "Africa's Singapore" in response to president Kagame's ambitious developmental policies.

During his tenure Kagame has steered the Rwandan economy towards impressive economic growth through various national development strategies such as: Vision 2020. In return the country has come to be highly rated on the World Bank's *Ease of Doing Business* indices, has achieved significant levels of economic growth (8 per cent in 2011) and remains a *darling* of foreign aid donors. Kagame has embedded a culture of development by modernising the African state (pushing for growth in the tertiary sectors and pulling away from agriculture), as well as through aggressive jostling for private sector participation in the economy. Kagame's government holds economic growth as the key to an improved quality of social life in Rwanda.

At the level of the electricity generation sector, the central control employed by president Kagame seems to have provided a moderately stable and guided environment for the growth of this critical sector. Chapter 5 traces the state led reforms that have been made to create a more investor friendly environment in the energy sector through the introduction of PPAs, commercial legal reforms, clearer contract agreement terms as well as potential tax incentives for foreign

investors. Although the country has not experienced high levels of private investment into generating capacity, it has secured some meaningful projects such as the KivuWatt power plant; a first in its kind methane extraction project to the sum of more than US$100 million with the American based Contour Global. KivuWatt was Rwanda's first IPP in 2009 and remains one of the country's largest.

In the face of all of its accolades, Rwanda still remains a sizeable political risk to potential and current investment partners. The country is an authoritarian state in which the executive has absolute control over public affairs, to the point of overshadowing the political institutions which were put in place with the new constitution in 2003. Rwanda's constitution provides for the presence of an independent and separate executive, judiciary and legislature, however the *de facto* reality is that all of these institutions fall under the influence of president Kagame. The Kagame administration goes unhindered in the exercise of its discretion and political will, evoking North and Weingast's concern that if a state has a comparative advantage over political power, there is no measure of control to prevent it from acting unreliably and extracting all available resources.[149] The lack of genuine political institutions in Rwanda is squarely at odds with the prospect of government credibility and investment attraction.

Apart from the clear ineffectual presence of democratic political institutions under the Rwandan constitution, another factor contributing to the country's poor political stability is the lack of multiparty participation in the political life of the country. Since the country's first "democratic" elections in 2003, official party opposition has been suppressed through the use of political violence, the assassination of political figures has also been rife and the covert use of persecution under the suspicion of being a *genocidaire* (a political tool against dissenters). The lack of political party participation and variation within Rwandan government institutions strips away another of the veto points that Henisz has set out as being useful in determining the degree of political constraint that a country is able to exercise over its executive. For both investors and donor agencies the suppression of democratic participation and the human rights violations emanating from this oppression are unfavourable for ongoing support to the country.[150]

[149] Douglass North and Barry Weingast, *op cit*, 806.
[150] David Smith. "Paul Kagame's Rwanda: African Success Story or Authoritarian State?" *The Guardian,* 10 October 2012, http://www.theguardian.com/world/2012/oct/10/paul-kagame-rwanda-success-authoritarian .

Under a developmental authoritarian system, investors lack the certainty of a long term security that is found in an institutionally sound democracy, this is due to the fact that institutions once established and appropriately functioning are far more difficult to change or break-down since institutional reform is a long and gradual process. The presence of democracy creates a system in which the power of the government is dissolved across the institutions within that democracy, therefore making policy change and reneging on prior commitments especially difficult.[151] Contrary to this, rules and norms stemming from a political figurehead tend to have less longevity and are highly subject to change since as Olson rightly argues authoritarian states are vulnerable to succession issues as well as short time horizon incentives; these are both ends that inhibit investor confidence.[152]

Rwanda is highly dependent upon foreign aid assistance which makes up in the range of 30 per cent-40 per cent of its budget;[153] such a reliance on aid highlights the country's own inability to raise sufficient levels of income to meet the country's budgetary requirements. Heavy foreign aid is also often accompanied by a concentration of donor agency policies and requirements, which may or may not undermine the political and domestic strategies of a country, depending on whether a government is able to harmonise donor agency policies with the country's own objectives. In the case of Rwanda, the country has been able to work closely with its donors; the threat however of the loss of aid is an ever present reality. In 2011, the country started to experience a reduction in foreign aid income and the lagged effects of that are starting to become evident in the decline of economic growth to 4.7 per cent in 2013.[154] This declining trend is not favourable in the eyes of investors.

Within the electricity sector itself many reforms to strengthen the performance of the sector and to create a more investor friendly environment have yielded some results, however, one of the greatest challenges is that the legal framework around commercial (and in this case energy) investment is still being developed. It was only in 2011 that the country adopted the Electricity Law and started to review the legal commercial environment in Rwanda. Untested legal policies

[151] Anne Pitcher, *op cit,* 69.
[152] Mancur Olson. "Dictatorship, Democracy and Development." The *American Political Science Review,* 87 no.3 (1993): 567-576.
[153] The World Bank. "Rwanda Overview." *The World Bank,* 22 October 2014, http://www.worldbank.org/en/country/rwanda/overview
[154] Ibid.

and procedures pose a heightened risk to investors as the framework is unclear and there are no precedents set against which to evaluate the credibility of the legislative and judicial institutions of the country; North and Weingast (1987) and Shepsle (1991) highlight in their works that a country's precedence of behaviour is one way in which to determine the existence of credible commitment and Rwanda lacks such a precedence.

A legal debacle between Dane Associates Limited (Dane) and the government of Rwanda provides a good example of the uncertainty of the country's legal framework around energy sector investment. In 2005 the Rwandan government concluded a contract with Dane (trading as Kibuye Power 1 Limited in Rwanda) for the production of a methane gas extraction power plant with a generating capacity of 35 MW.[155] The plant was to be built at Kibuye, along Lake Kivu and was to be the first plant to generate electricity from methane gas; the first stage of the project would be a 1.2 MW pilot plant to prove the feasibility of the project. After the completion of the pilot plant however, the government terminated the contract with Dane without any compensation being made to the company, furthermore Dane has also accused the Rwandan government of expropriating technological intellectual property regarding generating capacity from methane gas. [156] In 2009 the government of Rwanda subsequently entered into a new contract with the American based Contour Global with the same project specs, this time under the KivuWatt Project.[157] After a lengthy case before the International Chamber of Commerce, the government of Rwanda won the case for terminating the contract with Dane Associates Limited on the grounds that the company had not disclosed full terms of the project plans. [158] Although the ultimate ruling was in favour of the government of Rwanda the procedure has cast a shadow over the predictability and reliability of investment into the country's electricity sector.

Another glaring challenge for potential investors into the country's electricity sector is the strong presence of the state within the sector. The electricity sector has traditionally been under state control in Africa and many other developing states, owing to the large economies of scale and massively consumed outputs of the sector, both factors that have motivated government interest,

[155] Martin Doevnspeck. "Lake Kivu's Methane Gas: Natural Risk or Source of Energy and Political Security." *Africa Spectrum* 42 no.1 (2007): 102.
[156] "The Opinion of Lord Drummond Young in the cause Kivuwatt Limited Agains Dane Associates Limited" 2011 CSOH 118. http://www.scotscourts.gov.uk/opinions/2011CSOH118.html .
[157] Ibid.
[158] Ivan Mugisha. "Rwanda: Government Wins Dispute with Dane Associates." *All Africa*, 10 August 2014. http://www.allafrica.com/stories/201408111394.html

making it particularly vulnerable to the problem of credible commitment.[159] The underlying logic of credible commitment informs us that private investment is unlikely to take place where there exists a strong unchecked government control over resources. In Rwanda the state centralization makes government involvement inevitable and both EWSA and RURA remain fully under the control of the state financially and in the policy-making process.

Rwanda's lack of democracy and adherence to its own constitutionally set institutions raises questions in the country's credibility to keep commitments; the executive is unchecked and his political influence is present across all state levels. Although there has been private sector participation in the electricity sector, it has been limited and possibly reflective of the uncertainty around the country's own long term political stability and the uncertainty of the legal framework and avenues to recourse in the country. Despite the country being able to record a growth of 13 per cent over two decades, at approximately 27.93 kWh per capita in 2011 this is still very poor.

FINDINGS ON KENYA

Over the period 1990-2011 Kenya underwent significant changes in its political landscape. At the start of the period the country was under the authoritarian rule of Daniel arap Moi and a one-party state. By the end of the study period, Kenya had evolved into an active multiparty democracy under the joint leadership of Mwai Kibaki and Raila Odinga. Kenya's remarkable political transformation has not been a smooth one however, especially if recalling the instances of political violence in the 1992, 1997 and most seriously in the 2008 elections. Despite the challenges that exist for the country's democracy, Kenya has been widely viewed as a "haven of stability and prosperity in eastern Africa."[160] The country has performed well economically and is the largest economy within the EAC, representing 40 per cent of the regional body's GDP.[161] Kenya enjoys its influential role as a result of high levels of private sector investment and

[159] Ibid, 19.
[160] The Economist. "For All its Flaws, an Example to Others." The Economist, 19 December 2007. http://www.economist.com/node/10328986
[161] MWangi Kimenyi and Josephine Kibe. "Africa's Powerhouse." *Brookings.* 6 January, 2014. http://www.brookings.edu/research/opinions/2013/12/30-kenya-economy-kimenyi

participation in the economy and the presence of a sound banking system; all of which are features that were introduced through Kibaki's liberal market approach adopted in 2002.

Kenya's economic success and favourable position as a leading east African economy is bundled together with a somewhat "messy" political track record. Kenya has been an active multiparty democracy since 1992, with a record of regular and relatively free elections. In 2002, the first political transfer of power from KANU to the coalition government under Kibaki and Odinga took place. These peaceful elections, confirmed Kenya's status as committed to democracy and the rule of law. Most importantly the country has a well defined constitution which has clearly set out the political institutions of the country and has actively sought to minimise the discretion of the executive. As a bare minimum, Kenya meets the requirements of Henisz's political constraint's index through the presence of political institutions, a clear separation of powers and evidence of a moderate culture of adherence to the prescriptions of these institutions and the rule of law.

Unlike its Rwandan counterpart, Kenya has embraced the active participation of political parties within the country's political life. In fact it might be said that the country's openness to political parties has been somewhat too liberal as nearly 300 political parties emerged on the eve of the 2007 elections.[162] This is indicative of a more deeply seated problem in the political party environment of Kenya. Parties in Kenya have traditionally mushroomed prior to election periods and have gone on to form weak coalitions amongst each other with the aim of securing presidency. More than just a political outcome, this is reflective of the high stakes placed on politics in the country as is discussed in chapter four. This phenomenon has a distinctly de-stabilising impact upon the country's political life and has been described as impeding on democratic consolidation by Khadiagala.[163] So although Henisz speaks of political variation being a desired feature of a government that is able to exercise political constraints, in the case of Kenya it is evident that too much variation (of especially weakly formed political parties) is also a hindrance to political performance.

Despite a framework for political institutions in place, a political landscape open to competition and more than two decades since the inception of multiparty democracy, Kenya has struggled to

[162] Electoral Institute for Sustainable Democracy in Africa. "Kenya: Political Party Registration." Updated July 2010, http://www.content.eisa.org.za/old-page/kenya-political-party-registration
[163] Gilbert Khadiagala, *op cit,* 71.

distinguish itself as truly governed by its institutions and laws. This is notably evident in the country's struggle with corruption and politically motivated violence.

Throughout the country's history, the expropriation of public resources has plagued the Nairobi government. This has been a culture which was embedded through the leadership styles of Kenyatta and Moi who both cultivated ethnically based patronage systems as a means to garner support and appease political elites. Although there have been no further cases of corruption on the scale of the Goldenberg Scandal in the early 1990s, the country continues to rank poorly on international corruption scales. The fact that politics in Kenya is viewed as a high stakes game in which the *winner* is able to amass significant wealth for himself and his patron clients is deeply problematic for the consolidation of the rule of law. Chabal and Daloz's interpretation of African states being run as extensions of personal life where the executive of a country fails to distinguish between personal and public redistribution of resources, rings true in part for Kenya.[164] Although having political constraints in place, these are paired with a weak democratic culture in the country which has the overall result of failing to restrain government behaviour. Instead of being constrained and guided by its institutions, members of Kenya's executive have worked within the institutional framework of the weak democracy to secure political spoils for themselves and party elites as suggested by Chabal and Daloz analogy of a neo-patrimonial state.

Although the history of serious politico-ethnic violence is behind the country with the last major uprising being the 2008 post election violence, ethnic tension still exists and continues to be a feature of political life as many of the country's parties still mobilise along ethnic lines. In spite of all of these inhibiting political factors, Kenya has managed to develop a sound power sector, even labeled as the most well established in sub-Saharan Africa by Norton Rose Fulbright.[165]

From the case study analysis, the defining feature for the success of the Kenyan power sector thus far has been the IPP system whereby private investors tender for bids set out by the Ministry of Energy. Investors then build, operate and own the projects over the agreed contractual terms. The IPP sector has been seen as successful in Kenya because the regulation of the sector has been clearly defined through the Sessional Paper No.4 in 2004, subsequently followed by the

[164] Patrick Chabal and Jean-Pascal Daloz, *op cit.*
[165] Norton Rose-Fulbright, *op cit.*

Energy Act of 2006.[166] Kenya's broader liberal market approach has also substantially helped to promote the sector to external investors, alongside the precedent of having concluded twelve PPAs between the period 1996 and 2013. What's more is that the Kenyan government although not directly involved in generating capacity, partially owns KenGen which has an 80 per cent market share in generating capacity and promotes competition with IPPs in the country. Though not concluded as yet, KenGen has also hinted at the possibility of going into generation partnerships with IPPs, especially in geothermal energy procurement as it is a high risk and cost sector.

The political performance and identity of Kenya is a complex one, which has led to the Kenyan government gaining a moderate level of credibility in the eyes of investors though the issues around corruption and sporadic political violence do temper investor confidence in the country. In spite of its challenges, the executive has been able to put in place a sound power sector which has set a precedent through the numerous PPAs commissioned and with the strong participation of financial development agencies. Kenya's generation performance though falling short of where it is estimated to rank according to the empirical analysis is still fairly impressive and further qualitative findings suggest that the sector is set to improve over the coming years.

CONCLUDING REMARKS

The research findings from both the empirical and qualitative analysis show that countries that have political institutions in place will perform up to two times better than countries that lack in these institutions completely. The case study countries of Kenya and Rwanda presented a particularly tough test for the hypothesis that the presence of political institutions leads to higher electricity generating capacity. Kenya although a democracy with political institutions in place, is inconsistent with its political performance and is battered by state corruption and sporadic political violence. Rwanda has a developmental political approach which has enabled economic gains but it lacks the presence of meaningful political institutions. Essentially both cases have

[166] Government of Kenya, Ministry of Energy. *Sessional Paper 4.* May 2004.

less than perfect consolidation of their political institutions and the executives of each country do not seem to be adequately constrained by the presence of these institutions.

Kenya as a democracy of weak institutions and with a higher proportion of years with political constraints in place outperforms Rwanda both statistically and when traced in the nested analysis. Kenya has concluded several PPAs with private investors in the generation sector and has also managed to establish a widely successful IPP process and environment which has been endorsed by international financial institutions. The IPP environment of Kenya has also set a precedent for itself as reliable and investor friendly through established legal frameworks. In spite of its political challenges, the weak democratic institutions of Kenya have managed to paint the Nairobi government as a credible partner with which investors can engage with. This has subsequently led to gains in the generating capacity of the country and confirmed the hypothesis that political constraints lead to higher generating capacity.

By contrast Rwanda's authoritarian leadership though with its highly developmental outlook, which some will argue is far more useful to investors than just the state of political institutions, has performed weakly in generating capacity. Throughout the period 1990-2011, the country has only recorded KivuWatt as a financially significant private investment into the electricity sector- all other projects have been aid funded or through the Kagame government. This is in line with the statistical finding that countries with little or limited political constraints are most likely to fall up to two times behind countries such as Kenya which have institutional restraints in place in their generating capacity. Rwanda's authoritarian regime has mostly failed to gain credibility as a reliable investment partner, a factor reflected in the country's low generating capacity.

The evidence suggests that political institutions which are able to constrain the behaviour of their executive lead to higher generating capacity. What is interesting is that these institutions need not be particularly strong or with a high record of success as is the case in Kenya but merely having them in place, improves the credibility rating of a country. Before this can be concluded definitively, however more studies around this and including a wider selection of case study countries could provide a more insightful answer.

CHAPTER VII

CONCLUSION

This paper has analysed the relationship between the presence of democratic political institutions and electricity generating capacity outcomes in sub-Saharan Africa, in order to address the question whether or not the presence of these institutions contribute to higher generating capacity regionally. The analysis has been informed by the theory of credible commitment emerging from the new institutional economics. The theory views political institutions as a regulatory and enforcement mechanism to limit the discretion held by governments to make arbitrary choices and to hold governments accountable to their contractual agreements with investors. In essence a government that is credible creates an environment that is conducive to investment by minimising the range of political risk, therefore reducing transactions costs for investors and attracting greater investment.

The initial cross-national statistical analysis shows that there is a positive and statistically significant relationship between the presence of political constraints and electricity generating capacity in sub-Saharan Africa. Countries that have institutions which are able to constrain the behaviour of the executive are expected to generate up to two times more electricity than other countries. Using the statistical analysis as a guide for country selection for further case study analysis to test the validity of my initial findings, I selected two East African countries: Kenya and Rwanda.

The countries varied on their political constraints with Kenya exhibiting the presence of democratic political institutions over a greater proportion of years in the period 1990-2011. Rwanda on the other hand lacked institutions for most of the same period. Tracing the relationship of the independent and dependent variables in the case study, confirmed the results of the statistical analysis and consequently the hypothesis that countries with political constraints induce credibility in their government, helping it to make credible commitments to investors and expand generating capacity.

The case study analysis also revealed that commitment to the democratic electoral process and the presence of genuine multipartyism in a country alongside political institutions (even if only moderately entrenched into the society as in Kenya), improves a country's credibility.

The outcomes of my study give reason to support the theory that democracy goes some way into improving the development outcomes of a country. Democratic political institutions as a result of their ability to limit the discretion of a government and put in place enforcement mechanisms against reneging enhance a country's reputation for being reliable and trustworthy in contractual agreements. These are all factors that reduce political risk and help to make a country more attractive to investment which is positively linked with economic growth and development.

Other issues of interest raised by the study that could potentially lead to further research include the extent to which partnerships with regional and international financial and development agencies could work to enhance the investment profile of a country. Both Kenya and Rwanda have relationships with these types of agencies, however Kenya seems to have successfully capitalised on these partnerships through its IPP process.

Finally with regards to the discussion on democracy and development, there seems to be a clear case for democracy as leading to development outcomes because even if moderately adopted and enforced, as has been the case in Kenya, democracy still delivers a higher level of development outcomes than the absence of it. This finding is especially important in Africa with its assortment of democratic culture. It suggests that African states even if not having in place the full prescription of democratic political institutions as promoted by the Weberian understanding of statehood and institutions, could still derive developmental benefit from having in place a hybrid variant of democracy.

SELECTED BIBLIOGRAPHY

African Development Bank Group. *Rwanda Energy Sector: Review and Action Plan.* (Belvedere: African Development Bank Group,2013),

Alence, Rod. "Political Institutions and developmental governance in Sub-Saharan Africa." *Journal of Modern African Studies* 42, no.2 (2004): 163-187.

Anton Eberhard and Gratwick. "The Kenyan IPP Experience," *Program on Energy and Sustainable Development: Stanford University*, 2005.

Anton Eberhard. "Kenya: Enabling Private-Sector Participation in Electricity Generation." http://www.gsb.uct..ac.za/files/kenya .pdd , 10. accessed: 11 November 2014.

Bacon, R.W., Besant-Jones, John E. 2002. "Global Electric Power Reform, Privatisation and Liberalisation of the Electric Power Industry in Developing Countries." *Energy and Mining Sector Board Discussion Paper.*

Bates, Robert. "Institutions and Development." *Journal of African Economics*, 15, no1 (2006): 10-61. Doi: 10.1093/jae/ejk005.

BBC News. *Rwanda Profile.* http://www.bbc.com/news/world-africa-14093322, 2014, 1.

Bergara, Mario, Henisz Witold, Pablo, Spiller. "Political Institutions and Electric Utility Investment: A Cross-Nation Analysis." *California Management Review*, 40, no.2 (1998): 18-35.

Bertelsmanns Stiftung, *Transformation Index.* "Rwanda Country Report 2014." http://www.bti-project.org/reports/country-reports/esa/rwa/index.nc, 2015. Accessed: 30 January, 2014.
Besant-Jones, John E. 2006. "Reforming Power Markets in Developing Countries; What have we learned?" *Energy and Mining Sector Board Discussion Paper.*

Bhengu, Nozipho. "Navigating Power Purchase Agreements for the African Continent." *Werksmans Attorneys.* http://www.werksmans.com/legal-briefs-view/navigating-power-spurchase-agreements-for-the-african-continent/ Accessed: 3 January, 2015.

Booth, David and Golooba-Mutebi, Frederick. “Developmental Patrimonialism: The case of Rwanda.” *Africa Power and Politics,* Working paper 16 (2011).

Branch, Daniel and Cheeseman, Nic. “Democratisation, Sequencing and State Failure in Africa: Lessons from Kenya.” *African Affairs,* 108, no 430 (2008): 1-26. Doi: 1093/afraf/adn065.

Central Intelligence Agency, The World Factbook, https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html, 2014,1.

Chabal, Patrick and Daloz, Jean-Pascal. *Africa Works: Disorder as Political Instrument.* Indiana: Indiana University Press, 1999.

Climate and Development Knowledge Network. “Harnessing Geothermal Energy: The Case of Kenya.” 2013, http://ckdn.org/resource/harnessing-geothermal-energy-the-case-of-kenya/ Accessed: 19 November, 2014.

Collier, Paul and Hoeffler, Anne. “Testing the Neocon Agenda: Democracy in Resource Rich Societies.” *European Review,* 53 no.3 (2009): 293-308.

David Smith. “Paul Kagame’s Rwanda: African Success Story or Authoritarian State?” *The Guardian,* 10 October 2012, http://www.theguardian.com/world/2012/oct/10/paul-kagame-rwanda-success-authoritarian Accessed: 23 December, 2014.

Doevenspeck, Martin. “Lake Kivu’s Methane Gas: Natural Risk, or Source of Energy and Political Security.” *Africa Spectrum,* 42, no1 (2007): 95-110. URL: http://www.jstor.org/stable/40175169. Accessed: 12 December, 2014.

Eberhard, Anton. “Kenya: Enabling Private-Sector Participation in Electricity Generation.” http://www.gsb.uct..ac.za/files/kenya .pdf , Accessed: 11 November 2014.

Eberhard, Anton and Gratwick, Katharine. “The Kenyan IPP Experience.” *Program on Energy and Sustainable Deevlopment,* Working Paper no 49 (2005).

Eberhard, Anton, Foster, Vivien, Briceno-Garmendia,Cecilia, Ouedraogo,Fatimata, Camos, Daniel, Shkartan , Maria. “Underpowered: The State of the Power Sector in Sub-Saharan Africa.” *Africa Infrastructure Country Diagnostic* ,2008.

Eberhard, Anton., Rosnes, Orvika., Shkaratan, Maria., Vennemo, Haakon. 2011. "Africa's Power Infrastructure." *World Bank*

EIA U.S Energy Information Administration., 2014. *Electricity*.
URL: http://www.eia.gov/electricity/, Accessed: 7 May, 2014.

Energy Private Developers. "Energy Laws, Policies and Enabling Environment." http://www.epd-rwanda.com/energy-laws-policies-and-enabling-environment-kigali.html , (2014):1. Accessed: 28 January, 2015.

Energy Private Developers. "Geothermal Reserves in Rwanda." http://www.epd-rwanda.com/geothermal-energy-kigali.html , (2014):1. Accessed: 28 January, 2015.

Evan S. Lieberman, "Nested Analysis as a Mixed-Method Strategy for Comparative Analysis." *American Political Science Review* 99, no. 3 (2005): 435–52, http://0-www.jstor.org.innopac.wits.ac.za/stable/pdfplus/30038950.pdf, Accessed: 3 May, 2014.

Gary King, Michael Tomz, and Jason Wittenberg, "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." American Journal of Political Science44, no. 2 (2000): 347–61, http://0-www.jstor.org.innopac.wits.ac.za/stable/pdfplus/2669316.pdf Accessed: 13 February, 2015.

Geir Sundet and Eli Moen. "Political Economy Analysis of Kenya." *Norad Report*, 19 (2009).

George, Alexander and Bennett, Andrew. *Case Studies and Theory Development in the Social Sciences.* Cambridge: MIT Press, 2005.

Government of Kenya. *Kenya Vision 2030.* (2007), www.vision2020.go.ke/cms/vds/Popular_Version.pdf. Accessed: 19 November, 2014.

Government of Kenya: Ministry of Energy and Petroleum. *Sessional Paper No.4 on Energy* (2004), www.renewableenergy.go.ke/sessional_paper_4_on_energy_2004.pdf. Accessed: 19 November, 2014.

Gray Phombeah. "Corruption Haunts Kenya's Leader." *BBC News*, 23 February 2005. *http://news.bbc.co.uk/2/hi/africa/4288595.stm*. Accessed: 8 February, 2015.

Henisz, Witold. "The Institutional Environment for Infrastructure Investment." *Industrial and Corporate Change*, 11 no.2 (2002): Forthcoming.

Henisz, Witold. "Political Institutions and Policy Volatility." *Economics and Politics*, 16, no 1 (2004): 1-27.

Henisz, Witold. "The International Environment for Infrastructure Investment." *Industrial and Corporate Change*, 11, no2, (2002): 355-389.

Imai, Kosuke, King, Gary and Lau, Olivia, "Least Squares Regression for Continuous Dependent Variables." *Everyone's Statistical Software.* http://gking.harvard.edu/zelig

International Monetary Fund. "Rwanda: Poverty Reduction and Strategy Paper." *IMF Country Report 08/09 (*2008): 39-40. https://www.imf.org/external/pubs/ft/scr/2008/cr0890.pdf, Accessed: 27 December, 2014.

Junior Isles. "Power of the Lake," *Twentyfour7 Magazine,* issue 1 (2012), http://www.twentyfour7magazine.com/en/search/?search=power+of+the+lake, Accessed:

Kagwanja, Peter and Southall, Roger. *Kenya: A Democracy in Retreat?* New York: Routledge, 2010.

Kelsall, Tim., Booth, David., Cammack, Diana., Golooba-Mutebi, Frederick. "Developmental Patrimonialism: Questioning the Orthodoxy on Political Governance and Economic Progress in Africa." *Africa Power and Politics.* (London, Overseas Development Institute, 2010.)

Kenya Electricity Generating Company Limited. *Information Memorandum.* 2009, www.kengen.co.ke/PIBO/KenGen%20PIBO%20IM.pdf. Accessed: 19 November, 2014.

Kenya's Power and Petroleum Sectors*." Investment Climate and Business Environment Research Fund,* report no 19/11 (2011).

Khadiagala, Gilbert. "Political Movements and Coalition Politics in Kenya: Entrenching Ethnicity." *South African Journal of International Affairs* 17 no.1 (2010): 65-84.

KPMG. “Sub-Saharan Africa Power Outlook.” *KPMG Global Infrastructure & Projects Group Africa.* (Johannesburg: KPMG, 2011).

Levy, Brian and Spiller, Pablo. T. “A Framework for Restoring the Regulatory Problem.” In *Regulations, Institutions and Commitments.* Cambridge: Cambridge University Press, 1996.

Lieberman, Evan S. 2005. “Nested Analysis as a Mixed-Method Strategy for Comparative Research.” *The American Political Science Review* 99(3): 435-452.

Malgas, Isaac., Eberhard, Anton. “Hybrid Markets in Africa: Generation Planning, Procurement andContracting Challenges,” *Energy Policy,* 39 (2011): 3191-3198. Doi:10.1016/j.enpol.2011.03.004. Accessed April 19, 2014.

Mancur Olson. “Dictatorship, Democracy, and Development." *American Political Science Review* 87, no. 3 (1993): 567-576, http://0www.jstor.org.innopac.wits.ac.za/stable/10.2307/2938736. Accessed: 12 February, 2015.

Mega Projects Kenya. “Olkaria Geothermal Expansion Project.” *Mega Projects Kenya,* https://www.megaprojects.co.ke/projects/11/details/olkaria-geothermal-expansion-project/ , 2015: 1. Accessed: 17 January, 2015.

Miller, Gary. “Above Politics: Credible Commitment and Efficiency in the Design of Public Agencies,” *Journal of Public Adminstration Research,* 10, no 1(2000): 289-327.

Mkandawire, Thandika. “Thinking about Developmental States in Africa.” *Cambridge Journal of Economics,* 25 (2001): 289-310.

Mueller, Susanne D. “The Political Economy of Kenya’s Crisis.” *Journal of Eastern,* 2, no 2 (2008): 185-210. DOI: 10.1080/17531050802058302. Accessed: 20 November, 2014.

Mugisha, Ivan. “Rwanda: Government Wins Dispute with Dane Associates.” *All Africa,* 10 August 2014. http://www.allafrica.com/stories/201408111394.html Accessed: 28 January, 2015.

Multilateral Investment Guarantee Agency. “Project Brief.” http://www.miga.org/projects/index.cfm?pid=504. Accessed: 28 January 2015.

Mutua, Makau. *Kenya's Quest for Democrcacy: Taming Leviathan,* Colorado: Lynne Rienner Publishers,2008.

Nasong'o, S.W. "Political Transition without Transformation: The Dialectic of Liberalization without Democratization in Kenya and Zambia," *African Studies Review,* 50 (2007): 83-107.

National Democratic Institute. *Assessment of Rwanda's Pre-Election Political Environment and the Role of Political Parties.* 2003 https://www.ndi.org/files/1642_rw_assessment_092203_0_pdf. Accessed: 19 November, 2014.

Newbury, Catharine. "Ethnicity and the Politics of History in Rwanda." *Africa Today,* 45, no 1 (1998): 7-24. URL: http://www.jstor.org/stable/4187200.

Nordic Environment Finance Corporation. "Karisimbi Geothermal Prospect." http://www.nefco.org/financing/nordic_climae_facility/ncf)projects/karisimbi_geothermal_prospect , 2014: 1. Accessed: 17 January, 2015.

North, Douglass and Weingast, Barry. "Constitutions and Commitment: The Evolution of Institutional Governing Public Choice in 17th Century England." *The Journal of Economic History,* 49, no 4 (1989): 803-832.

North, Douglass. "Institutions and Credible Commitment." *Journal of Institutional and Theoretical Economics,* 149, no 1 (1993): 11-23. URL: http://www.jstor.org/stable/40751576. Accessed: 19 April, 2014.

Norton Rose Fulbright. "Investing in the African Electicity Sector: Kenya Ten Things to Know." *Norton Rose Fulbright*, July, 2013, http://www.nortonrosefulbright.com/knowledge/publications/100605/investing-in-the-african-electricity-sector.

Onyango, Christopher, Njeru, Grace, Munga, Boaz."Regulatory Reforms and Competition Related Reforms in Kenya's Power and Petroleum Sector," *ICBE-RF Research Report No. 19/11*.

Oxford Business Group. "Recent Discoveries in Kenya Highlight Oil and Gas Potential." *Oxford Business Group.* 4 November 2013, http://www.oxfordbusinessgroup.com/news/recent-discoveries-kenya-highlight-oil-and-gas-potential. Accessed: 6 December, 2014.

Pitcher, Anne M. 2004. "Conditions, Commitments and the Politics of Restructuring in Africa." *Comparative Politics* 36(4): 379-398. Url:http://www.jstor.org/stable/4150167. Accessed:1 May 2014.

Pitcher, Anne. *Party Politics and Economic Reform in Africa's Democracies.* Cambridge: Cambridge University Press, 2012.

Republic of Kenya: Ministry of Energy and Petroleum. *Draft National Energy and Petroleum Policy.* 2014.

Republic of Rwanda. *Economic Development and Poverty Reduction Strategy 2013-2018: Shaping our Development*, (2012), http://www.Edprs.rw/content/edprs-2. Accessed: 27 December 2014.

Reyntjens, Filip. *Political Governance in Post-Genocide Rwanda.* Cambridge: Cambridge University Press, 2013.

Rwanda Development Board. *Energy: the Opportunity in Rwanda.* http://www.rdb.rw/uploads/tx_sbdownloader/Opportunities_Energy_Sector.pdf. Accessed: 7 November, 2014.

Safari, Bonfils. "Review of Energy in Rwanda." *Renewable and Sustainable Energy Review*, 14 (2010). DOI: 10.1016/j.rser.2009.07.009. Accessed: 27 December, 2014.

Sebastien Marlier. "Investing in African Infrastructure*." The Economist Intelligence Unit, 16 September 2014* , http://www.economistinsights.com/infrastructure-cities/opinion/investing-in-african-infrastructure. Accessed: 1 November 2014

Second Division Inner House Court of Session."The Opinion of Lord Drummond Young in the cause Kivuwatt Limited Agains Dane Associates Limited" 2011 CSOH 118. http://www.scotscourts.gov.uk/opinions/2011CSOH118.html Accessed: 4 February 2015.

Shepsle, Kenneth, A. "Discretion, Institutions and the Problem of Credible Commitment." In *Social Theory for a Changing Society,* edited by Pierre Bourdieu and James Coleman, 245-262. Colorado: Westview Press, 1991.

Sundet, Geir and Moen, Eli. "Political Economy Analysis of Kenya." *Norad Report 19/2009.*

The Economist. "Lighting a Dark Continent." *The Economist*, 27 September 2014, http://www.economist.com/news/middle-east-and-africa/21620245-power-shortages-have-been-holding-africa-back-are-last-easing-lighting .

Traore, Moussa, Gonzalez, Adrian, Chaparro, Yedro, Lobet Jean-Michel and Bailey Jonathan. "Rwanda: Fostering Prosperity by Promoting Entrepreneurship." *Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises.* (Washington: World Bank Group, 2013): 37-41.

United Nations Conference on Trade and Development. "An Investment Guide to Kenya." (2012) http://www.unctad.org/en/PublicationsLibrary/diaepcb2012d2_en.pdf. Accessed: 8 January, 2015.

United Nations. "Outreach Programme on the Rwanda genocide and the United Nations." http://www.un.org/en/preventgenocide/rwanda/education/rwandagenocide.shtml, 2014, 1.

US Energy Information Administration (EIA). "Mozambique: Country Analysis Note." http://www.eia.gov/countries/country-data.cfm?fips=mz, 2015, 1.

Van de Walle, Nicolas and Masaki, Takaaki. "The Impact of Democracy on Economic Growth in sub-Saharan Africa 1982-2012." *World Institute for Development Economics Research,* working paper 2014/057.

Warutere, Peter. "The Goldenberg Conspiracy: The Game of Paper, Gold, Money and Power." ISS Paper 117 (September 2005). http://www.issafrica.org/uploads/Paper117.pdf. Accessed: 17 January, 2015

Weingast, Barry. "The Economic Role of Political Institutions: Market Preserving Federalism and Economic Development." *The Journal of Law, Economics and Organisation,* 11, no 1 (1995): 1-31.

Williamson, Oliver, E. *The Economic Institutions of Capitalism.* New York: The Free Press, 1985.

World Bank Report No: 83923-KE, *Addendum to Project Appraisal Document on the Private Sector Power Generation Support Project.*

World Data Bank, 2014. *World Development Indicators*. URL: http://data.worldbank.org/data-catalog/world-development-indicators, Accessed: May 7, 2014.

Yadu, N. Pokhrel, Oki, Taikan, Kanae, Shinjiro. "A Grid Based Assessment of Global Theoretical Hydropower Potential*." Annual Journal of Hydraulic Engineering JSCE* 52 (2008): 7-12.

Yuko, David. "The Status of Renewable Energy in Kenya: A Study into the Status and Potential of Power Generation from Biomass Waste in Kenya." *Institute for Research in Sustainable Energy and Development.* 2004.