

**INFRASTRUCTURAL DEVELOPMENT AS A DETERMINANT OF KENYA –  
CHINA ECONOMIC RELATIONS**

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## DECLARATION

This research project is my original work and has not been presented for the award of any degree in any other university.

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This research project has been presented for examination with my approval as University Supervisor.

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**DEDICATION**

For my family....again

More than ever .

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## **ABBREVIATIONS AND ACRONYMS**

<b>AFDB</b>	- African Development Bank
<b>AU</b>	- African Union
<b>BCR</b>	- Benefit Cost Ratio
<b>CAGR</b>	- Compound Annual Growth Rate
<b>CARI</b>	- China-Africa Research Initiative
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>CUTS</b>	- Consumer Unity and Trust Society (CUTS)
<b>DCF</b>	- Discounted Cash Flows
<b>EAC</b>	East African Community
<b>EPZ</b>	- Export Processing Zone
<b>EU</b>	- European Union
<b>FDI</b>	- Foreign Direct Investment
<b>FOCAC</b>	- Forum on China-African Cooperation
<b>GATT</b>	- General Agreement on Tariffs and Trade
<b>GDP</b>	- Gross Domestic Product
<b>IFIs</b>	International Financial Institutions
<b>IMF</b>	- International Monetary Fund
<b>IRR</b>	- Internal Rate of Return
<b>LAPSSET</b>	- Lamu Port South Sudan Ethiopia Transport Corridor Project
<b>NPV</b>	- Net Present Value
<b>NSA</b>	- Non-State Actor
<b>ODA</b>	- Overseas Development Assistance
<b>OFDI</b>	- Overseas Foreign Direct Investment
<b>PPPs</b>	- Private-Public Partnerships
<b>RECs</b>	- Regional Economic Communities
<b>SAPs</b>	- Structural Adjustment Programmes
<b>SGR</b>	- Standard Gauge Railway
<b>SMEs</b>	- Small and Medium Enterprises
<b>SOEs</b>	- State-Owned Enterprises
<b>UK</b>	- United Kingdom
<b>USA</b>	- United States of America
<b>USD</b>	- United States Dollar
<b>WTO</b>	- World Trade Organization

## ABSTRACT

This study sought to establish if Kenya's purposeful infrastructure investment anchored largely on Chinese financial support has led to improvement and modernization of Kenya's infrastructure network, economic growth and has been the single determining factor in Kenya-China economic relations. The study was based on a Rational Choice Theory as the guiding theoretical framework, and used longitudinal research design to determine the effects of infrastructural development on economic growth and intensified Kenya-China economic relations. It was also anchored on a qualitative design technique and applied case study approach to analyze the causality of processes at all levels. The study adopted multiple sources of information ranging from primary data to secondary data. The study found that foreign direct investment was an essential stimulant to economic growth. It also found that for Kenya to improve and expand its infrastructure network it needed massive resources that it was unable to provide autonomously, forcing the country to resort to external support. In this regard, China has become a major source of financial support to Kenya. The study found that compared to methods applied by other bilateral donors in development projects, the Chinese approach was starkly different. The speed of completion stands out and this is attributed to the fact that project cycles are relatively shorter. In the Chinese case, identifying the project to completion and handing over never goes beyond five years, whereas in the European Union or Japanese cases the process could take up to 10 years. The study further found that Chinese companies were discriminate providers of employment as they tended to employ mainly non-professionals and casual workers, thus affecting expected technological spillovers. China's FDIs also distorted local saving potential which could render Kenya perpetually dependent and hostage to China's conditionality. The approach to local content was also spurious. The study also established that as far as cost performance measure was concerned most projects suffered cost overruns because standard economic parameters that underpin viability of projects seem not to have been met. The study concludes that poorly managed infrastructure investment manifests economic and financial woes bedeviling Kenya today. Unless Kenya adopted investment growth policies targeting high-quality but less debt - dependent infrastructure investment model Kenya was bound to experience economic and financial instabilities. The Chinese infrastructure investment model must be tempered by archetypes embraced by progressive market-based economies. This notwithstanding, Kenya-China economic relations have been on the rise.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

The Organization for Economic Cooperation and Development (OECD) (2002) conceptualizes infrastructure as a holistic composite network of public utilities in any given state or region which encompasses roads, railways, ports, airports, state and private buildings, energy system, water provisioning, including drainage systems and sanitation as well as telecommunication facilities that include landline and cellphone coverage. Inderset (2010) regards infrastructure as a whole set of transportation and energy. To him, consequently, public infrastructure takes the form of educational and health institutions and other core amenities.

Kenya's Economic Recovery Strategy (2003) points out that the poor network of infrastructure has occasioned the depletion of bio-diversity through irresponsible extraction of raw materials, contributing to increased levels of nitrous oxide. The Economic Recovery Strategy (2003) further notes that degradation of the road infrastructure has greatly contributed to poor living standards and negatively impacted businesses in the country. The railway system has dilapidated to unprecedented levels, lacking modern equipment and made worse by dysfunctional communication facilities. It further notes that air transport was limited by shrinking capacity and old equipment and poor facilities have also affected accommodation of 2 million tourists and export volume growth. The efficacy of the Port of Mombasa was wanting, and was a serious impediment to Kenya's realization of its competitive edge in industrial performance, leading to loss of revenue to its competitors.

Inadequate telecommunication services had dampened Kenya's business environment, hampered emergence of modernized service base undergirded by new technology. Kenya's electricity supplies were unreliable and expensive, a situation exacerbated by extremely high tariffs of privately generated power, affecting industrial output and the main problem in the petroleum sector was the inflated production costs resulting from an inefficient refinery system, unnecessarily overburdening consumers (Journal of Infrastructure Development, India 2016 8(2) 1-18).

The World Development Report (WDR) (1994) stresses that developing countries dedicate two hundred billion US dollars (US \$ 200 billion) in any given year to upscale infrastructure that translates to four (4) percent of Gross National Product (GNP) which represents one fifth of their entire economies. As a result, this has spurred infrastructure growth in such vital sectors as transportation, sewer facilities and telephone cell coverage. And in a short span of just fifteen years sanitation standards have been recalibrated, electricity connectivity as well as telephone coverage have also doubled. In essence, this informs improved standards of living and higher production levels that have been the organic outgrowth of such investments. In spite of this impressive growth, World Development Report (2014) notes that close to a billion people in less industrialized countries continue to experience inadequate and depressing levels of sanitation and almost two billion people worldwide continue to wallow in pathetic and deplorable health conditions as a result of poor sanitation. Women and children in the rural areas trek long distances in search of water from rivers and polluted water pans shoving for the same commodity with cattle.

World Bank (2010) states that Kenya needs to spend close to \$4 billion yearly on infrastructural development, improvement and maintenance. The World Bank (2010) further indicates that Kenya will need to inject close to \$ 1 billion per year to generate substantial amount of clean power and increase countrywide connectivity. Water and sanitation will need an investment of \$ 2 billion to be able to achieve the Millennium Development Goals (World Bank, 2010). This capital investment represents a major portion of the country's infrastructure budget and the country dedicates 9 percent of her Gross Domestic Product (GDP), which manifests a significant financial injection in infrastructure funding. Further, Kenya has prioritized electricity compared to spending on telecommunication and upgrading of sanitation (World Bank, 2010).

Ehizuelen and Abdi (2017) note that China has been substantially involved in infrastructure development in Kenya and the Standard Gauge Railway (SGR) costing US \$ 3.8 billion is one of China's signature projects in Kenya. China provided 90% while Kenya contributed 10% of the cost of the Standard Gauge Railway (SGR). The other notable infrastructure project funded by China is the Lamu Port, which is being upgraded

and expanded to provide several berths. The berths are being undertaken by China Communication Construction Company at a cost of US\$ 480 million.

The study intended therefore, to evaluate the level to which enhanced infrastructure network has contributed significantly to Kenya's economic growth. This includes the level of industrial production, job creation, poverty reduction, access to markets, efficiency of ports and airports, energy and water provisioning, decongesting of roads among other economic activities, factors that would stem further economic deterioration.

## **1.2 Statement of the Research Problem**

The salience of infrastructure in the development of Kenya cannot be underrated or glossed over as the architecture of Kenya's entire prosperity hinges on an efficient and functioning infrastructure system. Infrastructure development manifests a wide-ranging meaningful and gainful economic activities (Wekesa, *et al.*, 2016). The Second Medium Term Plan (2013-17) stated that infrastructure occupies a central role and forms the pivot, if not the motor of development.

Deteriorating infrastructure, long known to be a public safety issue has had a cascading impact on Kenya's economy, negatively affecting business productivity, gross domestic product, employment, personal income and international competitiveness. Dependable, efficient and sufficient infrastructure system will stimulate economic activity, reduce cost of production, enhance living standards of people, scale up the country's ability to compete both regionally and globally, stimulate inflow of foreign direct investment and aid in the modernization of the economy, (Republic of Kenya, 2013).

Evidently, Kenya needed sufficient funds to scale up efficiency of its infrastructure network yet funds to backstop the development efforts were neither autonomously available nor would be forthcoming from the traditional Western development partners. The Structural Adjustment Programmes' stringent conditionality of the Western financial institutions led to deprivation of developing countries of global capital, which also affected Kenya. As this situation unravelled, China's emergence as an important donor

player was manifesting itself in the African continent. By 2006 China had established impressive footprint in commerce and capital injection in and with several African states.

The emergence of China as a prominent player in supporting economic development efforts in Africa prompted Kenya to source its much needed development funds from China, especially for its infrastructural development needs. This decision underlines and has become a determining factor in Kenya-China economic relations.

Rasiah and Gachio (2003) stated that bottlenecks stifling growth of aggregate economics (macro-economic) arose mainly from the devastating effects of Structural Adjustment Programmes of the International Monetary Fund (IMF) leading to steady decline in Western development support. In this respect, intensified and deepened Kenya-China economic relations would be the necessary antidote as steady Foreign Direct Investment (FDIs) from China would boost and anchor Kenya's sustainable infrastructure network which is instrumental to a healthy investment environment.

China's development support would also be very crucial because for a considerable length of time Kenya's Foreign Direct Investment (FDI) inflows (as a percentage of GDP) have been trickling at a marginal rate as the country recorded US\$178 million, US\$335 million, US\$259 million and US\$514 million between 2010-2013, falling far short of the anticipated figure of US\$1.3 billion yearly (UNCTAD, 2011). In addition, Foreign Direct Investments' (FDI) level of expansion as a percentage of GDP and Foreign Direct Investment (FDI) per capita have been fluctuant for quite some time (Wekesa, et al., 2016).

This study therefore, aimed at analyzing the impact of Foreign Direct Investment (FDI) on public works network in the country, bearing in mind that efficient public works network mirrors an array of measures (Wekesa et al., 2016). It is also aimed at examining whether Kenya's infrastructural development has been the sole determining factor in Kenya-China economic relations, the relations which if natured well could lead to increased donor support to help in forestalling and reversing further deterioration of Kenya's infrastructure network.

### **1.3 Research Questions**

#### **1.3.1 Overall Question**

Has Kenya's infrastructural development been the main determining factor in Kenya-China economic relations?

#### **1.3.2 Specific Questions**

- (i) How has infrastructural development determined Kenya-China economic relations?
- (ii) How has China's financial support impacted Kenya's infrastructural development?
- (iii) How has Kenya-China convergence of elite interests militated for excesses in the infrastructure sector?

### **1.4 Objectives**

#### **1.4.1 Overall Objective**

The overall objective of the study is to examine whether Kenya's infrastructural development has been the determining factor in Kenya-China economic relations.

#### **1.4.2 Specific Objectives**

- (i) To examine how infrastructural development has determined Kenya-China economic relations.
- (ii) To evaluate how China's financial support has impacted Kenya's infrastructural development.
- (iii) To examine how the convergence of Kenya - China elite interests has militated for excesses in the infrastructure sector.

### **1.5 Justification of the Study**

#### **1.5.1 Academic Justification**

The research contends that infrastructure is a major driver in economic growth and poverty reduction. It argues that to sustain this growth Kenya needs to invest massively in infrastructure development. The study contributes to the existing literature on infrastructure development by demonstrating how rational decisions inform investment in



infrastructure to spur macro-economic growth, an area which continues to attract attention of scholars thus improving on knowledge repository.

Foster *et al.* ([www.ppiaf.org](http://www.ppiaf.org)) argue that the rising of China together with other growing economies that dispense development financial support have rekindled hope in Africa and by extension Kenya, given the magnitude of Africa's and Kenya's continued need for funds to revamp infrastructure projects. The financial support coming from these new players are massive and target extensive infrastructure projects.

Agenor (2010) on his part argues that public infrastructure anchors growth. Together, these scholars contend that infrastructure forms the basis of production and that prudent utilization of resources earmarked for infrastructural development will spur economic growth as services and factors of production become more established and sustainable. The availability of efficient transport services counter market fragmentation and boost productivity, propelling growth and development of the economy along the lines envisaged by the Big Push Theory of Rosenstein – Rodan (1943), further developed by Agenor (2010). There is evidence that at the macroeconomic level, transport infrastructure may engender palpable and positive effect on economic development (Agenor, 2010).

This study therefore intends to vindicate the relevance of Rational Choice Theory in as far as Kenya's decision to lean towards China for investment funding for infrastructural development and improvement is concerned. A rational actor has to weigh between a status quo disposition or a shift to meet desired goals that cannot be met under prevailing situation. Most importantly convergence of elite interests precipitated Kenya's leading towards China for financial support for this sector of the economy.

### **1.5.2 Policy Justification**

Kenya's economic shortcomings are a reflection of the weak economic performance which has negatively impacted capital formation, affected steady improvement in power generation and weakened the overall performance of the transport sector. These sectors, undeniably are the backbone of a thriving commerce and a revamped free enterprise. Kenya's diversification of investment funding for development continues to facilitate the

building of resources to support growth in both power and transport sectors, at the same time collaborative financing with other donors have provided much needed capital to boost key social sectors, thus facilitating access to education, health and sanitation, as well as reliable power for both commercial and domestic use. The study contends that this policy diversification with its emphasis on securing sufficient funding for infrastructural development and expansion will anchor overall economic growth and productivity. The year 2009 marks the intensity and high point in the weakness of Kenya's economic performance resulting from deteriorated state of infrastructure, while the year 2019 marks the cutline.

### **1.6 Scope and Delimitation of the Study**

The researcher's central focus is the infrastructural development as a determinant of Kenya-China economic relations. The study intends to work with both primary and secondary data. It will carry out a comprehensive coverage of documented information on the study in order to present cogent results from which appropriate conclusions and recommendations can be drawn. As for primary data an interview guide (schedule) will be pivotal. It involves a series of questions the researcher will direct to participants during the interview. It will be designed in a way that gives the interviewees enough space to tell their stories and provide meaningful data. It also provides the researcher with prompt and a general direction. The interview can be structured, semi – structured or unstructured. Often open-ended questions are preferred in this kind of interview (msu-edu); <https://managmeenthelp.org>interview>).

The study evaluates China's involvement in Kenya's infrastructural development efforts and how that has determined Kenya-China economic relations, and will cover the period between 2009-2019. The year 2009 marks the intensity of Kenya-China relations, diversification of sources of Foreign Direct Investment and Kenya leaning towards China for development support and export markets. The year 2019, on the other hand is the cutline. The study will focus on infrastructural development as a determinant of Kenya-China economic relations. It will also address the change in policy favouring China together with the impact it will have on relations between Kenya and her time – honoured development and trade partners in the west.

### **1.6.1 Limitation of the Study**

As primary data sourcing involves personal interviews with various respondents, the major challenge envisaged could be obtaining timely appointments. The failure to secure appointments with respondents may adversely affect timely completion of the study. To mitigate the anticipated inordinate delays, the researcher will fast-track the process of engagements with the respondents.

Some respondents may be reticent and circumspect in their response due to the sensitivity of certain required information. It is incumbent upon the researcher, therefore, to convince the respondents that information sought is for purely academic exercise and its security is guaranteed. The likelihood of getting biased information cannot be gainsaid; and the researcher would be well advised to countercheck suspect information particularly secondary data. Notes will have to be taken in the event respondents are opposed to tape recording.

As study involves massive financial outlays, financial constraints is likely to be experienced. It is therefore desirable that a desk top study be resorted to in order to complement key informant interviews as a way of reducing costs. Where respondents decline to be personally interviewed, document analysis will be the answer so as to mitigate the challenge. Recommendations, suggestions and findings emanating from this study will undergird crucial policy formations, limitations cited above notwithstanding.

The study therefore addresses itself to trenchant investigation and empirical analysis of how infrastructural development, upgrading and maintenance have contributed to Kenya's economic growth and poverty reduction and also evaluates policies the government has put in place to diversify sources of investment to recalibrate the infrastructure architecture. It will also act as a reference point to foreign policy actors keen to understand China's emerging economic dominance and its effects on the relations of Africa, and particularly Kenya, with the traditional western development partners.

## **1.7 Literature Review**

### **1.7.1 Introduction**

This section of the project examines the various contemporary discourses in academic literature concerning infrastructural development as a determinant of Kenya-China economic relations and is presented under three thematic areas conforming to the study objectives. The literature review underlines how modern scholars have conceptualized economic relations (cooperation) among states and more specifically the morphing and impact of Kenya-China economic relations anchored by infrastructural development in Kenya.

### **1.7.2 Kenya Economic Relations as Determined by Infrastructural Development**

Szatlach (2005) contends that the foreign policy of any state refers to deliberate and strategic approaches adopted by a country to promote, protect and project the strategic interests so as to attain a country's desired results in the global context. The Foreign Policy of a country defines the set approaches and aims, delineating the manner in which a country sets to cross-pollinate with other countries in economic, political, social and military terms, and in a less pronounced way, how it will interact with nongovernmental agencies and institutions.

Mason and Robert (2012) assert that foreign policy basically addresses states' external frontier and their local milieu which entails an array of group predispositions. They further argue that the preeminent concern of foreign policies is the protection of the country's *raison d'Etat*. (reason of state) which can be expressed as the state's desired aims and stated goals in terms of economic, military, cultural, societal or political considerations. This could take place through peaceful coexistence or through beggar-thy-neighbour policies.

Generally, Mason and Robert (2012) affirm that various aspects of foreign policy that tend to prevail are: geo-political positioning of a country, its location globally, terrain of the country, boundaries, immediate neighbours and the extent of its territory, demography, economic status and the kind of governance. Anne and Austin (2012) argue that states' foreign policies are almost always a conflation of local and international group interests.

When evaluating government leaders, several influencing issues can be singled out which inform the basis of decision making. Personal idiosyncrasies, local politics as well as global interest exert a degree of influence in policy formulation and eventual implementation.

Anne and Austin (2012) note, nonetheless, that given the above factors, what stands out as a predominant, impacting factor is the local political setting which guides the whole architecture of the country's decision making and which also impacts the international order. Consequently, in their view foreign policy of a country significantly determines the state of a country's security and development.

Huma (2014) posits that China utilizes economic aid strategy as a springboard for its diplomatic economic engagement designed to secure lucrative commercial gains and to elicit and galvanize the backing and support for China's policies from key trade partners. China, according to Huma (2014) utilizes its autonomous wealth funds for investment in the global multinationals as well as sovereign debt tools for non-commercial and internationally beneficial geopolitical commitments. China has also ramped up its cultural ties with African development partners including Kenya as a way of cementing relations. The mushrooming of Confucius Centres throughout Africa including Kenya is an incontestable testimony in this regard.

Huma (2014) does not indicate how China and Kenya have separately succeeded in promoting, projecting and protecting their respective strategic national interests, whether the military, economic, political as well as cultural interests have been more exigent in their relations. The intended literature review aims to pinpoint preponderance regarding these variables and the effect such variables have on these countries' foreign policies.

Chege's (2008) work on Kenya –China relations provides a notable trajectory in Kenya-China relations. In his work, Chege (2008) demonstrates that the nature of interaction between the two states has been meteoric if not mercurial. He argues, however, that despite the impressive start immediately after independence the relations have been a roller-

coaster, especially at the behest of political polarization in the Horn of Africa during East-West power play.

Chege (2008), however, fails to pinpoint the basic fault lines in the relations. This study argues that in the millennium and particularly during the administrations of Jintao and Mwai Kibaki at the turn of the century, economic statecraft began to take center stage in shaping the relations between the two countries. This study notes that Presidents Uhuru Kenyatta and Xi Jinping have set these relations even a notch higher by establishing closer economic ties through mega infrastructural projects.

In his study on 'Foreign Policy,' "Economic Diplomacy and Multilateral Relations," Mwangi (2000) critically examines the emerging economic dimension in Kenya's external relations. He concludes that the eastward focus of Kenya's foreign relations is not a policy position, but an approach. He has summoned sufficient evidence that depicts Kenya's Foreign Policy as weak and hence cannot be substantively used to conclude that a reified, objectively driven policy regarding relations with emerging East Asian economies exist. This study faults Mwangi's stance as today Kenya-China relations have deepened substantially through massive infrastructure investments from China, although in terms of balance of trade in general China seems to be the beneficiary.

Okumu (1973) on his part asserts that economic relations with China is spearheaded bilaterally by direct engagements on a needs basis rather than by a deliberately well woven long-term engagements hinged on strategic interests. He states that bilateral and multilateral engagements with China through international bodies such as the World Trade Organization (WTO) have not been prominent not only in the case of Kenya, but for a majority of Sub-Saharan Africa countries.

Okumu (1973) further contends that although China and Sub-Saharan African countries have staged a number of international fora, they were more of ad hoc and exploratory in nature and used to weave generic policy positions which could then be incubated for bilateral relations. This study argues that Okumu's position is no longer tenable as according to Kamau (2007) China has today established an enduring platform of

cooperation dubbed the Forum on China-Africa Cooperation (FOCAC) inaugurated eighteen years ago. The seventh FOCAC summit meeting took place between 3<sup>rd</sup> and 4<sup>th</sup> September, 2018. FOCAC as routine gathering focuses on cementing China-African links.

The guiding principles of FOCAC are mainly four, namely, first, building a strong partnership; second, writing a new chapter backstopping the Belt and Road Initiative (BRI) with African development partners; third, setting a new path for China-Africa cooperation towards a higher level; fourth, is people-to-people diplomacy. The Standard Gauge Railway (SGR) (Mombasa – Nairobi on to Suswa) and the upgrading of the Lamu port as part of the Lappset Corridor project are major segments of China's engagement with Kenya on an enduring basis. China has also, since November 2001, secured membership in World Trade Organization (WTO), the international trading system. Today China's architecture for dialogue with Africa, Kenya included rests on the triple pillars of the Belt and Road Initiative, the Forum on China-Africa Cooperation (FOCAC) and the China-Africa Institute (CAI) launched in April 2019, [Asia Journal of Comparative Politics 2018, vol. 3 (4) 285-310].

Ayalew (2018) argues that the main factor guiding China's foreign investment policies is the local economic situation that needs buttressing through export markets and acquisition of necessary food imports for her bulging population. By 2007, China is reported to have become a net food importer and today it is also a net oil importer. These developments may impose challenges that also create opportunities for Africa's agricultural subsector growth as well as other natural resources. China's rising urbanization will necessitate increased importation of agricultural and other consumer products.

Literature on this fails to indicate whether this development would occasion the reversal in the current trading balance which works in China's favour. This study will attempt to examine whether African countries in general, and Kenya in particular have had any significant gains arising from this development.

According to Mavlanov and Ibrahim (2008) concerns coming from the Western world paint a negative picture of Chinese interest in Africa, Kenya included. The concerns relate

to China's interest as being predicated upon exploitation of energy sources and expansion of trade opportunities which borders on the advancement of China's geopolitical interests per se. The western competitors further accuse China of being intent on dominating the developing world capital market, a hitherto preserve of the West and in the process promoting a zero sum-game agenda to undermine the West.

Mavlanov and Ibrahim (2008) however fail to confirm to what extent these concerns are real in as far as China's behaviour is concerned. This study argues that rational actors weigh costs and benefits in their business engagement and intends to examine the extent to which rational actor thesis informs China behaviour.

The rational actor model sprung from the work of Von Neumann and Morgensten – Utility Theorem (1947). It posits that decision-making is predicated on rationality, the goal of which is to optimize the advantages associated with such decision-making. The overarching assumption is that decision-makers are persons who make rational choices on the basis of existent cost-benefit analysis (<https://www.cambridge.org/>). Their evaluation then determines choices they make which reflect their goals and objectives, (<https://www.cambridge.org/>).

This study therefore concurs with the argument that both Chinese and her beneficiaries would have to be guided purely by utility maximization leading to respective advantages. It all depends, however, on who commands comparative advantage, a matter that has eluded Von Neumann and Morgenstein (1947).

### **1.7.3 The Deteriorated State of Kenya's Infrastructure and Causes Thereof by 2009**

Kenya's economic free fall in the waning years of the Moi regime around the late 1990s spiked as a result of drying up of external financing. The most hit sector in this respect was the infrastructure with serious effects on the economy. Puentes, (2015) argues that most cities, counties and urban centres in Africa and the world at large face serious economic, societal, financial and environmental challenges that require both public and private sectors to reassess modalities regarding corporate business (Puentes, 2015).



Puentes (2015) further argues that these incredibly diverse pressures share the inescapable necessity of having up to date, properly organized, systematized and reliable infrastructure network. Incontestably, infrastructure is the cornerstone of a thriving economy. It facilitates and promotes business, provides access to places of work, uplifts the fortunes of less privileged through public facilities and guards against environmental erosion and degradation.

Infrastructure spans an array of related and mutually inclusive sub-sectors that anchor economic development ranging from road and rail to energy telecommunication, water supply, factory buildings, public amenities to airports and harbours (Puentes 2015). Puentes (2015) does not seem to provide a cushioning strategy in the wake of the deteriorating and feeble infrastructure network to stem the inexorable weakening of Kenya's economy.

Wekesa, *et al.* (2016) stated that Kenya was characterized by a dilapidated road system, erratic and expensive power supply, substandard communication network, and disregard for role of infrastructure technology including insufficient and low quality water provisioning. Dilapidation of public works system (infrastructure) had been occasioned by dearth of resources dedicated to building, refurbishing and maintaining present stock, substandard performance, spiraling urbanization, rising rate of population and inauspicious climate patterns. The resultant negative impact of these elements were aggravated by impropriety relating to acquisition of public works facilities including suffocating penury in the country. Hence, policy prescriptions to mitigate inadequacy in the supply of public works facilities will be needed to provide a favourable climate to undergird procurement of services that are cost effective and in the process elevating the role and integrity of public works sector (Wekesa, *et al.*, 2016).

To this effect, if Kenya were to make an impact and compete effectively globally, its economy had to be structured around public works services (infrastructure) that were of high-efficiency; that add value for money expended in their construction, expansion and maintenance. Consequently, public works network is an indispensable cornerstone for economic resuscitation (Journal of Infrastructure Development, 2016).

This study argues that the feeble state of Kenya's economy, therefore, necessitated a radical policy shift that threw Kenya into China's orbit away from the traditional development partners. Kenya sought alternative sources of development aid including foreign direct investment in infrastructure in order to resuscitate and sustain the economy.

Zhao, *et al.* (2018) have analyzed the rationale of aid support and concluded that donors' own interests play a significant role in addition to acquiescing to needs of the recipients. There are several factors that determine donor funding ranging from societal needs to per capita income levels of a particular recipient country. They, however, fail to prioritize these variables. This study will therefore look at empirical analysis that reveal the characteristics of these broad categories or factors that may influence Overseas Development Assistance (ODA) portfolio.

Zhao *et al.* (2018) further intimate that matters to do with voting polarization at the UN and other international organizations tend to shape how donor countries allocate their development resources. Indeed those recipient countries who vote along with donor countries enjoy favourable aid allocations. The Washington Consensus prescriptions of liberalization, privatization and stabilization play a significant role in shaping the manner donor funds are allocated by Western development partners. Compliant states tend to achieve higher levels of aid allocation.

Foster *et al.* (2009) contend that China's development support is mediated by South-South economic relations and shared common interests with the developing countries. The guiding principles for China's economic aid are basically anchored by absolute gain considerations. They further argue that these principles differ considerably from Western official development aid conditions. The funds are disbursed by China's Exim Bank whose principal role is to promote trade between China and developing aid recipients.

Foster *et al.* (2009) further argue that the rising of China and other major Asian economies have changed the ground rules and are more accommodating to Africa development needs, more accessible and more generous, and they mainly target extensive infrastructure establishments. The emergence of new players and new approaches necessitate

adjustments in bilateral negotiating techniques to derive maximum benefits from such cooperation arrangements, and set appropriate standards for the development and execution of various projects.

Foster, *et al.* (2009) have not clearly indicated the direction the preeminent challenge facing African governments in the wake of these new sources of funding should take to best utilize total external resources meant for infrastructure development. These include those funds from the rising donors to derive maximum development and mitigate spiraling poverty in the continent of Africa. This study will attempt to prescribe approaches that recipient countries should adopt in order to maximize the benefits accruing from such support so as to forestall debt trap.

#### **1.7.4 The Role and Magnitude of China's Support for Kenya's Infrastructure Development**

Ashauers (1989) notes that the prevailing doctrine behind conventional economics narrative states that enhanced public-sector investment in infrastructure, especially in transport stimulates efficacy which energizes and bolsters private business sector performance. Munnell (1990) contends that countries that have invested in infrastructure have been able to generate greater productivity, attract private participation in the economy because of resulting efficiency and have realized greater job creation. This affirmation buttresses outcomes emanating from previous scholarly works, and these verifiable studies also appear to show that public investment triggers economic acceleration. Peligan (1998) contends that a large infrastructure package will stimulate the economy and reduce production costs which ultimately levels business swings.

This study notes that there is an overwhelming unanimity among these scholars on the overarching role of infrastructure in a country's economic growth and development. It is also their considered conviction that substantial investment in infrastructural development guarantees its expansion, improvement and sustenance.

This study argues, however, that these scholars fail to appreciate the fact that if infrastructure investment are purely debt-funded as is the case in most developing

economies infrastructure projects may fail to generate adequate returns to render them self-sustaining as substantial part of revenue generated are dedicated to debt redemption. This study concludes that only infrastructure projects that have undergone cost-benefit appraisals and found viable should be undertaken.

Charlot (2000) intimates that the prevailing economic models (micro and macro) indicate that increased and dependable infrastructure reduces transport costs. He imputes the premise to economist Paul Samuelson's idea of "iceberg" costs of transportation which is to say one supposes that portions of goods "melt" in transit between regions. Arimah (2017) contends that highly developed infrastructure facilities would provide indispensable instrument to governments in their endeavor to improve and maintain cities including human habitation therein that is all embracing, secure, pliant and tenable. In spite of crucial role of infrastructure in the smooth and seamless operation of cities, little effort has been made to explore its role from a city standpoint.

The major ingredients of infrastructure namely – water provision and road and telecommunication complexes are of the greatest significance. Acute deficiency of water is manifested by a whopping 79% in African cities and urban centres. The dilapidated state of roads in these cities constitutes considerable impediment to their growth. Juxtaposed against other components of infrastructure, telecommunication turns out as the most advanced type of infrastructure. This is ascribable to the breathtaking development in the mobile phone production and distribution spanning a few decades now (Arimah, 2017).

Arimah (2017) states further that if expanded and competently handled, infrastructure can subscribe immensely to the affluence of African cities by spurring economic growth, expediting movement in the urban areas, stimulating healthcare and education facilities, scaling up safety and security, leading to urban development, uplifting environmental standards, slum dwelling conditions and reducing inequality among urban dwellers.

### **1.7.5 Impact of the Improved Infrastructure on Kenya's Economy and Kenya-China Economic Relations**

Kenya-China economic relations have grown by leaps and bounds. Most of Kenyan flagship projects that have been funded by China range from roads, railroads, airports, ports, power generation to water and sewerage. These projects inevitably propel growth (National Treasury of Kenya, 2015).

The study concurs with the argument that Kenya-China bilateral relations, which is underpinned purely by economic considerations are likely to transform Kenya's economy, and put it back on a steady growth trajectory but only if projects undertaken undergo return on investment evaluation strategy for their viability, an issue that has been deliberately ignored by planners ([www.iosrjournals.org](http://www.iosrjournals.org)).

The projects expected to stimulate economic growth are various transport infrastructure, telecommunication facilities, building and construction and the health service sectors. Energy and transport sectors are critical components of development and continue to need steady and massive investment. The continued improvement in infrastructure and their recalibrated construction have attracted a continued inflow of foreign multilateral corporations whose participation in Kenya's economy would provide employment opportunities. Such investments would also increase property value ([www.iosrjournals.org](http://www.iosrjournals.org)).

The current literature has not explicitly stated whether this cooperative arrangement has led to absolute or relative gains. The study argues however, that the loans that Kenya has continued to receive spark serious debt overhang. On the positive side the literature posits that aid is expected to impact positively on community life and improve living standards of non-urban areas as they relieve pressure on debt repayment, channeling freed resources to more worthy courses ([www.iosrjournals.org](http://www.iosrjournals.org)), a pointer to the possibility of absolute gain.

Mugendi (2011) contends that, perception to the contrary, Chinese loans have had conditions attached to them as restructured aid policy has led to conversion of interest free

loans to discount loans, while aid grant have become joint venture capital, which inevitably have exacerbated Kenya's debt burden. The result, this study, avers would negatively impact the economy, leading to relative gain on the part of China.

Edinger and Lebuschagne (2019) echo China's proverb which forcefully states that "If you want to prosper, first build roads". They argue that obviously this is the case pertaining across Africa and by extension Kenya; they also contend that the continent needs a good stock of transport network to underpin steady growth of the economy. They further argue that to attract continued flow of investment, the African continent needs at least between US\$ 130 bn to 170 bn yearly to refurbish old infrastructure networks. Capital injection in modernization of infrastructure network would underpin diversification of the economy, spur business performance, scale up industrialization and create sound opportunities to absorb millions of struggling young job seekers annually.

Despite having enunciated the role and salience of infrastructure in African countries' economic growth, Edinger and Labuschagne (2019) have not stated exactly which particular countries' economies in the continent have registered appreciable growth rates as a result of up-scaling of infrastructure. To a large extent this study argues that Edinger and Labushagne (2019) seem to be dwelling on generalities as the plausibility of their argument should have been supported by clear and incontestable evidence of growth levels occasioned by improved infrastructure network, which also refers to Kenya.

Zafar (2007) argues that China's rise has occasioned a reform in the international economy and a departure in certain fundamentals that have been underpinning the world trading architecture. Regarding the sub-Saharan African region, Zafar (2007) argues that the reverberation of China's economy has been a mixed bag of blessings. China's unequivocal support has triggered economic development in Africa by spurring substantial level of merchandize growth as reflected in the increased prices of extractive commodities that many African countries have exported to China.

China's engagement with Sub-Saharan African countries has also accelerated trade and investment potential of most African countries that have suffered marginalization arising

from dwindling investment funds and unfavorable trade arrangements. Notably, China has and continue to invest heavily in Africa's transport, educational and energy infrastructure network (Zafar, 2007). Further, Zafar (2007) contends that this manner of engagement by China has afforded many African countries an important window to acquire fairly priced consumer products.

Sachs (2006) posits that China's engagement with Africa is characterized by less stringent conditions, especially in loans that it offers to African countries as long as recipient African countries support the One-China policy. He contends further that China's emergence as a new donor has generated increased competition in the donor market and bolstered Africa's bargaining stance with donors. This could buttress growth in the African continent, rendering it less susceptible to manipulation by traditional development partners.

There are a host of misgivings and threats associated with China's development policies. The first concern is that Chinese investment in Africa are directed mainly to extractive commodities which are likely to undermine job creation and much hoped for economic growth and development (Sachs, 2006). China's highlighted demand for world energy and oil supplies could trigger price wars for nascent African oil exporters and distort terms of trade, (Zafar, 2007).

China's rise as a prominent player in the global economy would affect the potency of the Western donor support and completely distort development assistance environment (Zafar, 2007). Completely re-engineered mechanisms among donors would have to be reworked, and traditional Western lenders would have to come up with entirely different lending conditions, more enticing to Africa if they were to effectively compete with China in the African continent (Sachs, 2006).

#### **1.7.6 Synthesis of the Literature Review**

From all the literature reviewed it was established that improved, expanded, reliable and adequate infrastructure in all its forms-communication infrastructure, transportation systems, water and sanitation systems including energy systems are important

determinants of economic growth as they help in attracting Foreign Direct Investment (FDI) into the country. As such, Foreign Direct Investment (FDI) inflows into Kenya would be bolstered by a reliable infrastructure network that fosters growth in the economy.

## **1.8 Theoretical Framework**

### **1.8.1 Overview**

The study utilized Rational Choice Theory as the Theoretical Framework. It formed the central mental frame of the study. The theory traces its roots to the work of Cesare Beccaria during the 18<sup>th</sup> century, and Adam Smith, the initiator of the invisible hand in economics in the mid 1770s is also considered as a proponent of the Rational Choice Theory. The Rational Actor Model which is associated to Rational Choice Theory and which is a rational approach used in Foreign Policy Analysis sprang from the work of Von Neumann and Morgenstern in the 1940s. Rational Choice Theory also echoes Systems Theory which considers the scrutiny of the society as a nexus arrangement of components, individuals and their belief systems as they relate to a unit such as a country (Braziller, 1968).

Social Systems Theory that developed in the 20<sup>th</sup> century as a cross-disciplinary body of scientific knowledge has an important scheme for description but less cogency in explanatory efficacy. Consequently the study will adopt rational choice theory, especially given Wallerstein (2001) contention that the only theory that is sufficiently powerful and elaborate to mediate a unified theory is Rational Choice Theory (Wallerstein, 2001, p.1). Similarly, Coleman (1990) posits that Rational Choice Theory can explain everything in Social Science. In this context, Rational Choice Theory anchors the evaluation of Kenya's leaning towards China for infrastructure development funds. Equally important to note in this regard is Robert Cox's singular contention that theory is always purposeful (Cox, 1981 p.128).

### **1.8.2 Assumptions of Rational Choice Theory**

The assumptions of Rational Choice Theory are that individual actors have certain preferences among possible alternative choices and that those choices are guided by the principle of cost benefit analysis. The rational agent is guided by the information at hand,



and the events based on probabilities and careful evaluation of cost and benefits. Rational Choice Theory equally assumes that actors attempt to effectively optimize their benefits and minimize all losses (Frank, 1997). The basis of the theory is that everybody, as a rational actor make their decisions on the basis of carefully articulated rational calculation to yield maximum benefits (Frank, 1997).

The theory addresses why an entity chooses to effectively optimize their gains in a given situation and attempts to always minimize their losses. It was, therefore, a useful tool in explaining why China and Kenya have a strong economic relationship, as both countries were out to exploit every available opportunity to boost their respective economic growth (Frank, 1997). Rational Choice Theory thus explained why Kenya chose to lean towards China at a time when her economy was in a free fall and needed resuscitation.

### **1.8.3 Application of Rational Theory to the Study**

Rational Choice theory is seamlessly applicable to this study as it befittingly encapsulates political actors' dispositions (mental frame). Oslon (1965) articulates, in his seminal "Logic of Collective Action Publication" three main premises that undergird Rational Choice Theory. He posits that politically disposed actors exhibit almost identical deportments in both political and economic contexts. In both situations politically predisposed actors behave rationally, are driven by self-interest and are opportunity maximizers, whose centripetal and centrifugal operational forces – centres of gravity – are anchored purely by cost benefit analysis.

Secondly, Oslon (1965) argues that when decision makers gravitate around some intersecting concerns, their preeminent motivation is to secure a common good – shared interests – for the society at large, for a select elite club over and above an oligarch. Thirdly, Oslon (1965) states that common good presents a satisficing situation rather than satisfying incentives as cooperating countries tend to pull and haul in the quest for relative gain. Hence Kenya's decision to lean towards China for infrastructural development financial support is rational in the wake of stringent aid conditionality from the traditional western development partners – leading to a near freeze in the inflow of Foreign Direct Investment, Loans and Aid Funds.

This study could have conveniently lent itself to realism as the theoretical framework. But although a derivative of Rational Choice Theory, realism mirrors multiple conceptions of the world derived from a variety of branches and is grounded on the centrist disposition of power politics. In this context, Rational Choice Theory, whose central consideration is utility maximization is preferred to naked realism. Whereas Rational Choice Theory focuses on individual political actors, realism tends to confine itself to the state despite animating the same assumptions of Rational Choice Theory. Political actors are invariably rational decision makers. Kenyan leaders' decision to diversify sources of investment funds to buttress the economy mirrors national interest which manifests society's common goals and interests of its political leaders, individually and collectively.

## **1.9 Definition and Operationalization of Key Concepts**

### **Foreign Policy**

#### **Conceptual Definition**

The term Foreign policy may be understood as an avenue through which a nation pursues its dealings with other states in the realization of national interests. Foreign policy of any given state addresses various aspects of activities related to her national interests in a given space and time. Such activities and actions will inevitably impact on other states, aims and purposes regarding their national interests. (<http://www.differencebetween.net/miscellaneous/politics/difference-between-international-relations-and-foreign-policy/#ixzz5VDglQ8cj>).

#### **Operational Definition**

In this study, foreign policy is conceptualized as a tool that defines a country's strategic operations with other states in regard to political, economic, military and social aspects, i.e. the state's national interests.

### **Foreign Direct Investment**

#### **Conceptual Definition**

Foreign Direct Investment is conceptualized as simply acquiring and controlling new facility and assuming an enduring management concern in a business existing in a foreign economy rather than that of the investor ([www.ukessays.com/economics/v...](http://www.ukessays.com/economics/v...)).

### **Operational Definition**

Foreign Direct Investment in operational terms entails a foreign business or a foreign government participating in foreign business.

### **Economic Relations**

#### **Conceptual Definition**

Black (2002) conceptualizes economic relations as the way different states conduct their economic trade and other cooperative initiatives to improve living standards of their population, creating sufficient employment opportunities, increasing income volumes, spurring demand in the economy, increasing the level of production, making optimum resource utilization with the aim of anchoring sustainability in overall development efforts. The way they do so is dictated by different levels of needs and development concerns.

#### **Operational Definition**

Economic relations involve the ability of policy elites at the state level to influence events in the country's global interaction which entails trade, industrial specialization, bilateral foreign direct investment that support growth and job creation, industrial partnerships in technology and an enabling climate for investment destination (receptive to international subsidiaries).

### **Infrastructure**

#### **Conceptual Definition**

OECD (2002) considers the public works system in a country or area as infrastructure that encompasses an array of services such as railroads, roads, telecommunication (broadband) networks, energy and public buildings, among others.

#### **Operational Definition**

In operational terms we can understand infrastructure as a whole set of services that form the backbone of a state's economic development. These services range from railways, roads, electricity, water and sanitation, without which no meaningful development can take place.

## **Dyadic Relationship**

### **Academic Definition**

The Dyadic Relations Model is conceptualized as a resilient (durable) discourse between interested parties communicating on societal issues. Such societal issues manifest actions that are deliberately designed to affect a recipient either in a positive or negative way. The Dyadic Relations Model is an intersubjective process impacting two individuals or nations for a considerable length of time or an intensified and deepened footprint. It also reflects any manner of allegiance, close-dual association, which could be based on a lop-sided social or economically stratified framework, such as borrower-lender relationship. Mutual state interactions could as well be predicated upon self-serving interests or could be underguided by factors that are mutually impacting. (<https://www.ncbi.nlm.nih.gov/pmc/> a).

### **Policy Definition**

Dyadic Relationship Model entails the process of two agents interacting through social actions. A social action corresponds to any action intentionally targeting the receiver and affecting his or her welfare positively or negatively.

## **1.10 Research Hypothesis**

### **1.10.1 General Hypothesis**

Kenya's infrastructural development has been the main determining factor in China-Kenya economic relations.

### **1.10.2 Specific Hypotheses**

- (i) Kenya's infrastructural development has determined Kenya-China economic relations.
- (ii) China's financial support has impacted infrastructure network.
- (iii) The convergence of Kenya – China elite interests has led to excesses in the infrastructure sector.

## **1.11 Methodology**

### **1.11.1 Research Design**

The study adopted longitudinal research design. Longitudinal research was appropriate because it was the approach used to study a situation during a long period of time. Economic cooperation is a long term engagement and process that can only be understood longitudinally. To be able to understand what factors undergird Kenya-China economic relations and their respective national self-interests and how their cooperative choices have been influenced by those interests one had to analyze this interplay over an extended period of time. Equally, the approach aimed to facilitate the evaluation of the dimensions on and trajectories of the specific influence economic cooperation has played in the reification of respective national self-interests toward mutual cooperative choices of the two countries.

The choice of longitudinal research design was predicated upon the fact that it was the most appropriate approach in exploring behaviour and influence of phenomena over an appreciable length of time. Further, the approach facilitated the examination of causality and also provided entire comprehension of phenomena under study. The study is anchored on a qualitative design technique and intended to apply case study approach in relations between Kenya and China. The design works in exploratory studies to analyze the causality of processes at the various levels, (Bryman, 2016).

According to Hakim (1987, 2000), qualitative research embodies depth interviews and group interviews. The first is unstructured, of different durations and maybe used when interviews are repeated sometimes later. This is to establish people's change in the direction of their responses because of some exposure or an occurrence. The depth interviews avail enough latitude to interviewees and also moderate the discussion to accommodate a variety of important issues that for the respondents form the basis of central concerns.

The second method i.e. focus group, is a group gathered for the purposes of discussion or people brought together with varying experiences who discuss the chosen matter for a given period of time. This group is moderated by a guide. The group as a whole crafts a

discursive subject. The validity of data obtained from this interview accounts for the strength of the qualitative research. Detailed interviews also yield results which are regarded as reliable, cogent and acceptable. Qualitative data evaluation means analyzing non numerical information. Analysis is the process of dissecting data into its respectful parts to show or indicate its manifest characteristics including structure. It could also be a search for patterns in data and the rationale behind the data (CPS/CIR 652; 2019, Frankfort-Nachimias & Nachias, 1996, 2005).

Qualitative research is concerned with the meanings and not the numbers; it does not yield a single monolithic answer; i.e. one should not expect uniform findings from two different researchers using qualitative method to study a phenomenon. The qualitative research recognizes subjectivity in the research process because it is all about interpretation. It also uses measures that are less standardized, namely nominal and ordinal measures. Qualitative research tends to be exploratory, detailed and descriptive and treats context of research as being important. The most notable techniques in the qualitative research are word count (count of words in a text), content analysis and ethnography – an investigation that enables researchers to embed themselves near or within the phenomenon so as to detect how and why agents on the scene act, feel and think how they do (Kothari, 1990).

### **1.11.2 Sample Procedure**

Sampling is conceptualized as a way of choosing a representative portion of a population to be used to determine the parameters of the entire population. This study adopts Purposive Sampling also known as Judgmental Sampling which in essence means working with a select group that are experienced and knowledgeable in the field the research is concerned with. The sample size chosen by this study is limited to 30 which conforms to the normal distribution (Central Limit Theorem) when the size of sample is adequate, (Bryman, 2016).

### **1.11.3 Data and Data Collection Methods**

The study adopted multiple sources of information ranging from primary data to secondary data. As for primary data an interview guide (schedules) will be pivotal. It involves a series of questions directed at respondents during the interview. The process

can either be structured, semi-structured or unstructured. Open-ended questions technique would be used while conducting the interview (msu.edu:<https://managementhelp.org>> interviews).

The ministries and institutions targeted for interview were: National Treasury and Planning; Foreign Affairs; Industry, Trade and Cooperatives; Transport, Infrastructure, Housing and Urban Development and Public Works; Information, Communications Technology (ICT); Water and Sanitation; Energy; Petroleum and Mining. Institutions were: Chambers of Commerce and Industry; Institute of Economic Affairs; Export Promotion Council; The Kibaki Centre at Nyari; Kenya Investment Authority. Kenya Railways Corporation; Kenya Electricity Generation Company, Kenya National Highways Authority, Water Resources Management and Kenya Institute of Policy Research Analysis; and Chinese Embassy in Kenya.

Secondary data collection entails documentary analysis which is essentially data collection. This technique involves extracting relevant information from existing publication which must be authentic and are assumed useful for past events, Kothari (1990). However, it could be affected especially by logistics. Further problems associated with secondary data are that one may not get relevant documents hence one must revert to primary data. The information may not have been for the purpose in mind and hence unauthentic. The opportunity to probe validity may not be present and there could be cases of bias in reporting. Secondary data will be extracted from existing documents, collated and then analyzed. These documents include Statistical Abstracts (various issues) from the Central Bureau of Statistics, Economic Survey Reports (various issues) Kenya Investment Authority Reports; website reports from Central Bank of Kenya; website reports from the World Bank and UNCTAD. The study will also make use of Afrobarometer database by exploring its existing dataset on various parameters that are relevant and of interest to the study. Afrobarometer is an existing dataset which is readily accessible and offers data at no cost (CPS/CIR.652, 2019).

#### **1.11.4 Data Analysis and Presentation**

Narrative analysis technique was the basis upon which data in this study would be analyzed, and further utilized to examine content from varied sources with particular reference to interviews of respondents. It focused on using experiences and knowledge shared by various respondents purposively sampled for the study (umnsoffataatlan.com, 2018).

Narrative analysis developed as an area from within the larger field of qualitative research in the 20<sup>th</sup> century. It utilizes texts that are fixed, discussions, journals, interviews, discourses and life-long experiences as the units of analysis to examine and comprehend the manner individuals contrive meanings in their lives as narratives.

The narrative approach expresses or seizes the prevailing passions, activating the functions imbued by the lag in explanation that should be passed by the narrator. It involves the two concepts of narration of events relating to the present and past times.

Narrative analysis is a potent technique in the creation of awareness; one that is tied to knowledge matter of recollection, both of construction and perception. Jerome Bruner illustrates this matter in his 1990 book, “Acts of Meaning” in which he treats the narrative form as an indifferent expression whose goal is obvious, with the intention to underpin interpretation. Bruner’s (1990) approach utilizes the narrative in time to denote an experience of time rather than just referring to events of history.

Bruner’s (1990) functional technique stresses the importance of narratives for diverse groups. In this approach narratives are seen as the manner in which groups craft and understand reality including the manner in which interpretations are developed and utilized. This is regarded as a functional approach to narrative analysis as the prominence of the analysis stresses the role the narrative plays in assisting independent cognition, in particular, by turning haphazard and disorderly incidents into a logical narrative that can be dealt with to foster easy interpretation. The centre of attention of this type of analysis is the elucidation of issues bordering on the narrative by diverse groups telling their stories (Bruner, 2011).



### **1.12 Data Validity and Reliability**

The study resorted to triangulation and cross-checking of the information obtained from primary sources with available secondary data. This was intended to ensure that information generated was not only reliable but devoid of bias. The study used semi-structured interviews underpinned by an interview guide to answer research questions, fully addressed the research objectives and sealed any emerging study gaps. The study was guided by the Rational Choice Theory which helped to interface and suffuse theoretical assumptions that undergirded the study.

### **1.13 Ethical Considerations**

The study rigorously observed and adhered to ethical principles of conducting study and ensured the study was thoroughly and appropriately referenced. The researcher made sure that the study was completely devoid of any bias while undertaking the study and tailored it to the stipulated UoN Departmental guidelines. Consent where necessary had to be obtained from respondents prior to the interview exercise and utmost confidentiality had to be observed while using information that was obtained only for the purposes of this study.

### **1.14 Proposed Chapter Outline**

The study was presented in four chapters. The first Chapter outlined study background and problem statement, research questions, study objectives, justification, scope, review of literature, theoretical framework, hypotheses and research methodology. The second Chapter discussed historical and contextual background (narrative perspective of the problem under investigation); Chapter three provided data analysis, presentation and discussion; and Chapter four presented summary, conclusion, research recommendations and suggested further research.

## **CHAPTER TWO**

### **HISTORICAL AND CONTEXTUAL BACKGROUND**

#### **2.1 Introduction**

Having experienced fairly enhanced rate of growth for a decade during the period 1960-1970, Kenya's economic efficiency plummeted below its latency in the subsequent decades. The acute economic decay led to severe poverty affecting the standard of living of the population. The worsening standards of living of the population had been reflected in the decline of various key social and economic indicators (Economic Recovery Strategy, 2003).

In taking office, the new National Rainbow Coalition (NARC) administration recognized that a clear strategy for the recovery of the economy was fundamental to stem inexorable economic decline by concentrating on and prioritizing immediate provision of affordable healthcare, better infrastructure systems and increasing employment opportunities for the population. To this effect the new government, with amazing haste, embarked on crafting a programme of economic re-engineering aimed at jumpstarting the economy.

The programme identified four key policy pillars deemed appropriate to reverse the decline in Kenya's economy. These pillars were: Maintaining revenues at above 21 percent of Gross Domestic Product (GDP) to support government expenditure; Fostering good governance to underpin sustainable growth; the rehabilitation of infrastructure network; and developing human skills (Economic Recovery Strategy, 2003).

Of the four pillars, infrastructure, which also forms the basis of successful trade and investment inflows, was the most basic to shore-up economic recovery. Endinger and Labuschagne (2019) argued that infrastructure improvement could greatly stimulate economic diversification, spur private business opportunities, underpin industrialization, and facilitate job creation for millions of young people entering the country's labour market each year. Puentes (2015) argued that public works network enabled business activities, connected people to work places, created chances for people struggling to survive and protected countries against natural disasters. An efficiently developed public works network was the cornerstone of development (Puentes, 2015).

The new administration recognized that the provision of adequate and dependable public works system anchored by a clear development strategy was necessary to undergird growth in the economy. The salience of the sector notwithstanding, the past leadership continued to neglect it, thus, the inefficiency of the sector eventually became an impediment to economic development (Gathaiya, *et al.*, 2014).

Towards the end of 2009, Kenya was characterized by a broken and outdated transport systems, both rail and road, decaying as well as dysfunctional communications outfit, water and sanitation system was both deficient and inefficient, and energy (electricity) supply was both erratic and expensive. All these factors fused to derail Kenya's economic performance, which by the end of 2009 was almost on its knees (Economic Recovery Strategy, 2003).

To revive the economy, the government needed to recalibrate the conduct and trajectory of its international trade, take immediate and effective actions to bolster industrial growth mainly through monumental investment and joint venture enterprises, and attract Foreign Direct Investment inflows (FDIs), all of which depended on an improved and expanded infrastructure outfits. All these measures spoke to the diversification of external resource base as Kenya had relied almost exclusively on the West for its economic development support, the support that was slowly drying up (Gathaiya, *et al.*, 2014).

## **2.2 Chinese Investment in Kenya**

Foreign Direct Investment entails investing directly in a host economy by a foreign enterprise in business concerns in a receiving state or acquisition of already operating enterprises in the receiving state. It is predicated upon a variety of elements ranging from exploiting cheap labour in the host country to leveraging preferential arrangements such as tax relief during gestation period that a host country offers (Ciagov, 2012).

The World Fact book (Ciagov, 2012) considers Foreign Direct Investment as establishing new business enterprises and acquiring existing ones through joint venture arrangements with enterprises already in operation. This also involves the transfer of technology and business skills and expertise.

Bain (1959) focused mainly on complete production cost advantages or reduction of production cost associated with large businesses. Walden, *et al.* (1990) stated that whereas Foreign Direct Investment (FDI) may stimulate an economy by the provision of much needed capital and technology, certain nagging issues continued to fester that would undermine economies, especially of developing countries. These included distortions in the balance of payments, employment absorption levels, erosion of economic independence of receiving states and burdening the economy with external content. Capital flight was another important factor as it tended to generate capital formation in the investing (guest) economies through profit repatriation (Bain 1959).

UNCTAD (2007) categorized Foreign Direct Investment (FDI) as those aimed at supporting extractive facilities – raw materials, seeking new markets, and new enterprises such as the SGR and those creating export facilities like the establishment of Export Processing Zones (EPZs). By 2009, China had become a major source of direct investment for Africa including Kenya. The following tables are snapshots of China’s Foreign Direct Investment (FDI) in selected African countries, including Kenya, and FDI flows into Kenya between 2009 and 2019.

**Table 2.1: Key 15 Markets for Chinese Official Finance in Africa 1998-2017 (in Millions US\$)**

<b>Country</b>	<b>Amount</b>
Angola	42.8
Ethiopia	13.7
Kenya*	9.8
Republic of Congo	7.4
Sudan	6.5
Zambia	6.4
Cameroon	5.6
Nigeria	4.8
South Africa	3.9
Uganda	3.8
Ivory Coast	2.7
Tanzania	2.3
Mozambique	2.3
Zambia	2.2
Senegal	1.6

**Source: China Africa Research Initiative; Sustainable Finance and Insurance (12<sup>th</sup> November 2018 p. 78)**

**Table 2.2: Annual flow of direct investments from China to Kenya between 2009-2018 in US\$**

<b>Year</b>	<b>Amount</b>
2018	232.04
2017	410.10
2016	29.67
2015	281.81
2014	278.39
2013	230.54
2012	78.73
2011	68.17
2010	101.22
2009	25.12

**Source: Statista, 2018**

## **2.2 Infrastructural Development**

### **2.2.1 The State of Infrastructure in Kenya**

Economic Recovery Strategy (2003) stressed that for the country to be successful and survive in the face of highly aggressive competition in the world market, Kenya would have to develop an infrastructure network that was cost effective as Kenya's modernized and reliable infrastructure system was beyond doubt the bedrock of meaningful development. By 2009 both Kenya's road and railway networks had crumbled almost beyond redemption (– to unprecedented levels). The country was experiencing not only erratic but expensive electricity supply; low communication infrastructure, computer processing data techniques were underdeveloped, water and sewerage systems were wanting. Since these were very vital services in backstopping production and employment creation, their rehabilitation, improvement and expansion were absolutely necessary and of extreme urgency (Benazeraf, 2014).

Wekesa, *et al.* (2016) have indicated that the role of infrastructure in a country's economic development cannot be glossed over. They have also established that improved transport infrastructure were some of the factors that attracted inflow of Foreign Direct Investment

into Kenya. Wekesa, *et al.* (2016) further argued that in order to stimulate investment inflows into the country improved and reliable infrastructure was paramount. Ansar, *et al.* (2016) have reiterated the conventional narrative in economics that heavy investment in infrastructure triggered economic development. They argued that the Chinese have provided the benchmark in infrastructure development which has become the envy of rich democracies.

In this context Ansar *et al.* (2016) proposed twin premises that anchor meaningful infrastructure system. First, value of any economy was a function of the quality and functionality of its infrastructure system and second, China was the best preferred source of infrastructural development support to developing countries, Kenya included. Ansar *et al.*, (2016) cautioned, however, that instead of stimulating growth, continued capital injection in infrastructure does not yield risk-weighted exposure as investment in non-performing (unprofitable) ventures tended to create a boom initially as the construction was underway followed by a bust when expected benefits were unrealizable and economic ventures began to burden the economy (drag in the economy). They contended that where enterprises were debt-funded over capital injection in non-productive enterprises led to debt accumulation, a dysfunctional monetary outfit, precariously performing markets and economies that were extremely fragile.

### **2.2.2 Causes of the Degradation of Infrastructure and Action Necessary to Improve the Total Infrastructure Network**

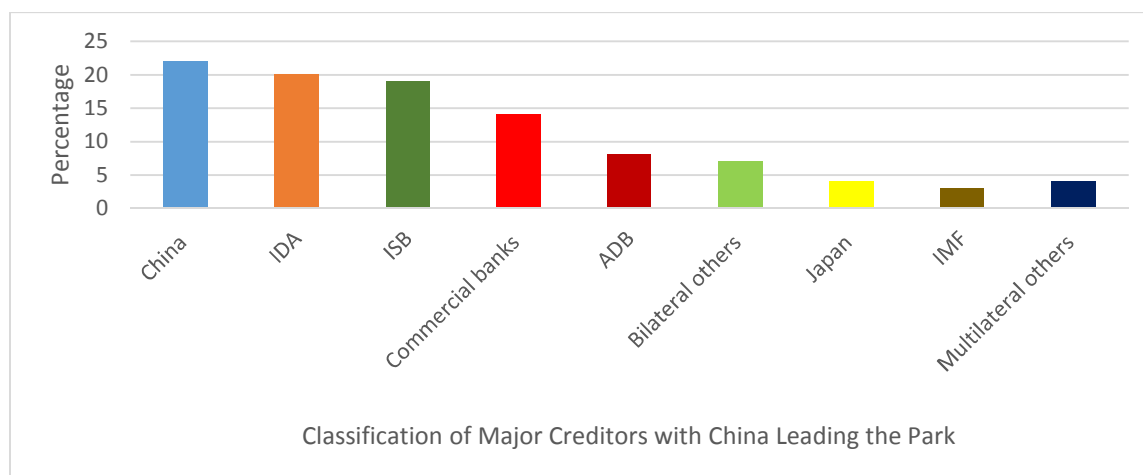
Economic Recovery Strategy (2003) pointed out that despite the salience of infrastructure in national economy, the past government left infrastructure to dilapidate to the level it gravely stifled economic performance. It argued that any measures to stem the slide were desultory at best (Economic Recovery Strategy, 2003). To reverse the inexorable deterioration of infrastructure the government had to calibrate its policy on investment, make bold and enlightened choices in its development strategies and sources of investments to spur infrastructure development. This meant making productive and profitable investment policies that reduce run-away profligacy and to invest in enterprises that yield risk-weighted returns (Ansar, *et al.*, 2016).

Given the recrudescence of insularity, trade barriers and diminishing funds for capital outlay from the long-established Western donors, engaging with the Chinese offered Kenya the most propitious answer and a plan of action in its quest to promote infrastructural development. In approximately the last 20 years, the Chinese have stamped their foot print on Kenya’s infrastructural development, providing substantial financial support, a strategy aimed at improving Kenya’s connectivity network that would require mutual cooperation on a sustainable scale ([www.aginglifecarejournal.org?heal.....](http://www.aginglifecarejournal.org?heal.....)).

**Table 2.3: Classification of Major Creditors with China Leading the Park**

Classification by major creditors	
Creditors	Percentages
China	22%
IDA	20%
ISB	19%
Commercial banks	14%
ADB	8%
Bilateral others	7%
Japan	4%
IMF	3%
Multilateral others	4%

**Figure 2.1: Classification by Major Creditors**



**Source: National Treasury (2019)**

### **2.2.3 Infrastructure Projects Funded by China Since 2009**

This section of the project specifies the nature of projects that have been funded by China, and the level of funding of each project. The Sessional Paper No. 10 of 1965 stressed the importance of adequate and readily available funds dedicated to development efforts and geared particularly towards infrastructure modernization and sustainability in the shortest period possible. That notwithstanding, the sluggishness that characterized Kenya's economy for almost a decade (between 1980 and 1990) led to a stasis in industrial growth.

Rasiah and Gachino (2003) argued that dampers in economic aggregates generated by a slag associated with the Western donor conditionality, colossal damage to infrastructure occasioned by heavy rains and feeble foundations coalesced to precipitate stagnancy in growth that needed urgent revamping. Following the calamitous era of the 1990s, Kenya was able to regain some semblance of growth after retooling Economic Recovery Strategy of 2003. In this respect, the government fine-tuned policies meant to spur growth involving the creation of free economic areas, instituting preferential trade policies, providing conducive environment for enterprises to flourish, refurbishing and sustaining infrastructure systems and incentivizing business atmosphere (Republic of Kenya, 2007a).

The capstone of this strategy was the decision to stimulate steady inflow of investments to propel industrial growth and bolster infrastructural development. It was then incumbent on the government to prioritize infrastructure sector, appropriating to it a sizeable share of development budget periodically (Republic of Kenya, 2006).

To augment its resource base to facilitate expanded and efficient infrastructure facilities, Kenya turned to China immediately President Kibaki took over in 2002. President Uhuru Kenyatta has continued on the same path in the quest for a dependable and uninterrupted source for financing Kenya's infrastructural development. Both presidents Kibaki and Uhuru prioritized various projects as indicated in the following paragraphs.

First; Nairobi Northern and Eastern Bypasses: The 21km Northern Bypass links Limuru Road to Thika Road and the 32km Eastern Bypass links Nairobi-Mombasa Road at Airport North Road, Embakasi, Utawala, Ruai, Varsityville East and ends at Ruiru Road



Junction. These two bypasses were constructed by a Chinese firm, costing Kshs 8.5 billion (US\$ 85 million), with China financing 85 percent of the cost – Kshs 7.3 billion, while Kenyan Government meeting the difference of Kshs 1.2 billion (15 percent) of the total cost ([core.ac.uk](http://core.ac.uk))

Second; Nairobi Western Bypass Highway: This is a 16.6km bypass that connects Gitaru on the Southern Bypass to Ruaka on the Northern Bypass. This highway was constructed by China Road and Bridge Corporation (CRBC), costing US\$ 173 million (Kshs 17.3 billion) and funded by Exim Bank of China. The bypass would help ease traffic congestion in Nairobi by connecting to other bypasses which included the Southern bypass, the Northern bypass and Eastern bypass ([highways.today>tag>nairobi-west...](http://highways.today/tag/nairobi-west...))

Third; the Southern Bypass Highway; The approximately 29.6 kilometers bypass was built by China Road and Bridge Corporation at a total cost of US \$ 180 million (Kshs 18 billion). Exim Bank of China provided 85% of the total cost – US \$ 153 million and the Kenya Government met 15% of the cost of US \$ 27 million (national investment). The road was meant to ease traffic snarl ups in the centre of the city and also redirect traffic from Mombasa from the city centre as they moved to the neighbouring destinations ([www.nationalgeographic.org](http://www.nationalgeographic.org)>).

Fourth; The Thika Super Highway: The highway cost the Kenyan government US\$ 360 million (Kshs 36 billion). It was jointly funded by the AfDB, China Exim Bank and the Kenya Government. The 8-12 lane highway is part of the A2 Cape Town to Cairo Road. It has not only eased traffic, reduced motor accidents, but has greatly supported industrialization along the highway ([www.treasury.go.ke>category](http://www.treasury.go.ke/category)). Fifth; the Jomo Kenyatta International Airport (JKIA) – James Gichuru Expressway: This project was slated to cost US 650 million and was to be built under a long term contract between private parties and the government. It was funded by China Road and Bridge Corporation. Its length was estimated at 18.56 km. (<https://constructionsreviewonline.com>).

Sixth; Kakamega – Webuye Section of the Kisumu – Kitale Road (AI): This is approximately 40 kilometer stretch that was awarded to Xiangxi Engineering Construction, a Chinese Construction and Engineering firm. The World Bank and Kenya government provided the funding to the tune of Kshs. 4.26 billion (documents/.worldbank.org>...). Seventh; the Outering Road: This project was fully funded by African Development Bank (AfDB) and the European Union in partnership with the Kenya Government and was undertaken by Stecol Corporation (formerly Sinohydro Tianjin Engineering Co. Ltd), a Chinese Company at a total cost of US \$ 142 million. It is a 13 km road meant to cut the time spent between Thika Road and Mombasa Road (mobile-nation.co.ke) <https://constructionreviewonline.com>.

Sigiri Bridge which cost shs. 1.2 billion (\$11 million) was constructed by Chinese Overseas Construction and Engineering (COVEC). It is a government funded project, billed as one of the Jubilee Government's flagship projects. The bridge links Bunyala North and Bunyala South and has made transport between the two portions of Bunyala location much easier unlike before when people had to cross River Nzoia in boats risking lives. It has also linked long-distance passenger buses plying the Nairobi-Busia Route – extending their services to Bunyala (qz.com>africa>a-chinese-buil...).

As for railway projects China Road and Bridge Corporation constructed the Standard Gauge Railway (SGR), based on a joint arrangement. The government of China chalked a staggering 85% of total cost of US\$ 3.804 billion; while the Kenya government was responsible for 15%. The 609 Mombasa-Nairobi kilometer SGR project was to be operated by China Communication Company (Sais – Cari Working Paper No. 13, 2017).

In August 2006, the Kenya Airport Authority signed a contract worth \$38 million (shs. 2.6 billion) with Wu Yi Co. of China to expand Jomo Kenyatta International Airport. China Overseas Engineering Group Company was awarded the contract to undertake the project (renovation of the old airport was intended to establish three new hangars) (Sais – Cari Working Paper No. 13, 2017).

The Chinese firm - China Overseas Engineering Group carried out expansion of Kisumu International Airport at a cost of \$ 7.5 million and was completed by June 2016. The project was funded by both Kenya Government and the World Bank. It involved extending the run-way to 3.3 km, strengthening and widening it by 60 meters to allow accommodation of international flights and cargo ([www.airport-technology.com](http://www.airport-technology.com)>Jom...).

In the energy sector some of the major areas providing electricity in Kenya include wood, petroleum products and energy that is constantly renewed. Power supply continued to play a vital part in spurring the country's development. Policies associated with the energy sector emphasized its provision at levels that are accessible and affordable. This way the country would be able to boost industrial production leading to sustained economic performance while ensuring clean and unpolluted environment (Economic Recovery Strategy, 2008).

Availability of affordable and steady provision of power was important for a variety of reasons, chief among which were the prevailing extremely high tariffs of privately generated power, weak and ineffective utility management, failure to continually reinvest in power production as well as poor maintenance and distribution all of which negatively impacted the economic performance (Economic Recovery Strategy, 2003).

To address the intractable energy problems the government had to embark on the improvement of generation, ensuring reliability, distribution and affordability. It needed to target investments to improve the transmission and distribution systems and reinforcements, starting with the areas with highest returns. Diversification of power sources was equally important just as was enhancement of shares of new and renewable energy in Kenya's energy supply matrix. This involved the acceleration of Geothermal Resources Assessment (GRA) to facilitate economic merit order ranking of geothermal energy as a least cost source of electricity supply (Economic Recovery Strategy, 2003).

China has been engaged in several energy projects in Kenya. Garrisa Solar Plant is one of the most important energy projects in which China is engaged. This is a 54.6 megawatts (MW) solar plant located 15 kilometers from Garissa town and billed the largest in East

and Central Africa. The project was funded by the Chinese government at the tune of US\$ 130 billion (Kshs. 130 billion), and was expected to increase contribution of solar energy to the national grid, rendering electricity cheaper nationally. Most of the country's electricity is generated by renewable sources with geothermal ranked the biggest source of power to the grid, followed by hydro-electricity and wind sources. In 2010 China Export – Import Bank loaned Kshs 7.5 billion to establish a more active geothermal plant which would generate up to 140 megawatt. It involved the addition of several steam producing wells at Ol Karia. Further, in 2015, Kenya Government obtained another US\$ 400 million loan from China to drill up to 80 more wells. (Africachinareporting.co.za).

In 2016, China and Kenya signed an MOU for the investment of US\$ 987 million (shs. 100 million) over the next 30 years to speed up extra geothermal power accessibility, which in turn would ensure low cost and reliable power supply (Africachinareporting.co.za). Kenya also permitted the largest Chinese manufacturer, Rock Drilling Equipment to explore and build geothermal power plants in the country. Kaishan Group was also given the green light to drill steam wells in the Suswa South – Magadi – Shampole steam fields in Narok County. The company said the license gave it the leeway to sink exploration wells in the area for up to three years and subsequently proceed to construct and operate power plants (businessdailyafrica.com).

As for petroleum products, expensive production costs have seriously affected its availability and affordability. Much of the problem is attributed to ineptitude of Kenya's refinery system, which inordinately inflates prices of petrol locally. (Journal of Infrastructure Development 8 (2) 1-18).

In the communication sector two major telecommunication projects were funded by China. The first was the Konza Data Centre and Smart Cities costing the government US \$ 1.72 billion (Kshs. 175 billion). It is situated about 80 kilometers South East of capital city, Nairobi and was to be built by Huawei Telecommunications giant. The Konza Data Centre was supposed to provide a backbone to highly technical enterprises, mainly government led (capital film.co.ke). National Optic Fibre Backbone was the second major telecommunication project. In 2012 the Kenya Government entered into an agreement

with China to provide a Kshs. 6.04 billion concessional loan to help in the construction of a National Optic Fibre Backbone to promote faster and easier communication facilities and aid in providing various government and private sector services (capital film.co.ke).

In respect of water projects, China Gezhouba Group was in 2017 awarded the contract to build a Kshs. 36.97 billion Thwake Multipurpose Dam. It was funded jointly by AfDB and the government of Kenya. Located along the borders of Kitui and Makeni Counties, this dam was to be used to produce drinking water, irrigation and electricity generation (businessdailyafrica.com)

## **2.4 Conclusion**

Modern and reliable infrastructure network was incontestably desirable and necessary if Kenya were to realize its economic growth potential. Given the recrudescence of insularity, trade barriers and dwindling funds for capital outlay from long established Western donors, engaging with China had become a novel model which offered a common response and new strategy for Kenya to promote infrastructure development, roll back poverty, provide jobs and improve livelihoods. External donor support tended to come with certain built-in conditions which vulnerable developing economies were in most cases bound to swallow without question. In the end these conditions undermined the development agenda and greatly compromised development efforts. It was, therefore, imperative that rules of engagements had to be clearly spelt out in agreements to engender an absolute gain position for the participating partners.

The nagging concern of this study was whether or not all infrastructure investments in Kenya, resulted in development or fragility. The conventional economic fundamentals tend to suggest that massive capital injection in infrastructure bolstered economic growth. However, instead of spurring growth the usual capital injections could end up not producing productive risk-weighted exposures. This was the case when wrong investment choices were made and unprofitable enterprises heavily funded, and when expected revenues fail to materialize the economy became overburdened. Further, negative developments such as debt over hang, build-up monetary expansion, financial market overruns began to emerge, all of which would lead to economic fragility.

It was, therefore, vital that Kenya strictly adhered to cost-benefit analysis principles before embarking on debt funded projects. These included among others, Pay-Back Period analysis, Internal Rate of Return, Discounted Cash Flows and Net Present Value analyses as well as Compound Annual Growth Rate without which projects would fail to yield sufficient returns to meet debt repayment obligations, and on schedule.

Pay-back period refers to the amount of time it takes to redeem investment costs. In simple terms, the payback period represents the time an investment takes to reach break-even point. The importance and viability of a project is a function of its payback period. The shorter the payback periods, the more favourable and profitable the projects are. ([www.investopedia.com](http://www.investopedia.com/terms)>terms).

Internal Rate of Return compares reduced final worth of close reduced factors whereby one gives a negative return and the other a positive return. The resulting percentage is used to justify whether the investment is worthwhile or not. It is like Kruskal-Wallis Test (H), a non-parametric test of hypothesis where if its calculated value is higher than the critical value (anchored on degrees of freedom) (df) based on Chi-Square ( $\chi$ ) values) then you reject the Null Hypothesis and embrace alternative ([educalingo.com](http://educalingo.com/dic-en/inter-)>dic-en>inter--).

Discounted Cash flow and Net Present Value Analysis: Net Present Value (NPV) is one of three remaining discounting methods recommended in economic theory and used in practice. It is the classical economic method of investment appraisal and is of impeccable ancestry. The Present Value of any project is found by discounting at the firm's cost of capital all future net cash flows to their present value equivalent. This is determined by discounting the cash flow over the repayment period. A summation of the Present Values over that period yields the Net Present Value (NPV). For the purposes of project evaluation a positive value of NPV indicates that the project is worth undertaking ([sba.thehartford.com](http://sba.thehartford.com/finance)>finance).

Compound Annual Growth Rate (CAGR) is the rate of return that would be necessary for an investment to expand from its initial starting balance to the closing balance given that accruing profits were ploughed back yearly for the entire existence of the enterprise.

Formula and calculation of CAGR.

$$\text{CAGR} = \left(\frac{EV}{BV}\right)^{\frac{1}{n}} - 1;$$

Where:

EV = Ending Value

BV = Beginning Value

N = Number of years

$$\text{Example: CAGR} = \left(\frac{\$19,000}{\$10,000}\right)^{\frac{1}{3}} - 1$$

In this formula, the US\$ 19,000 is the ending value while US \$ 10,000 is the beginning value. The result is 23.86% which is to be compared with other project values to determine which is more profitable ([sba.thehartford.com>finance](http://sba.thehartford.com/finance)).

## **CHAPTER THREE**

### **FINDINGS AND INTERPRETATION**

#### **3.1 Introduction**

The chapter presents findings on infrastructural development as a determinant of Kenya-China economic relations. The study was guided by three specific objectives, namely: to examine how Kenya infrastructural development has been the determining factor in Kenya-China economic relations, to evaluate how China's development finance has impacted Kenya's infrastructure network and to examine how the convergence of Kenya-China elite interests has militated for excesses in the infrastructure sector.

Three specific hypotheses guided the study, namely: Kenya's infrastructural development has determined Kenya-China economic relations, China's financial support has impacted Kenya's infrastructure network and the convergence of Kenya-China elite interests has led to excesses in the infrastructure sector.

Best case scenario notwithstanding, finding what was considered sound and authentic information (reliable data) regarding infrastructure investments could be challenging where developing economies were considered, including Kenya (Flyvbjerg *et al.*, 2005, Ansar *et al.*, 2014). To mitigate the problem of validity and reliability of data on infrastructure investment, this study's strategy was to rely on triangulation, a technique involving the use of more than one method to collect data on the topic under study. In this triangulation process the study resorted to acquiring both primary and secondary data. It used qualitative data exclusively which provided an exploratory account of Chinese involvement in spurring improvement of Kenya's infrastructure during the period 2009-2019. The chapter addresses both independent and dependent variables. The independent variable being improved infrastructural development while the dependent variables are Kenya's economic growth and development and Kenya-China economic relations.

#### **3.2 The Independent Variable**

In this section, findings relating to the independent variable have been discussed and analyzed. The independent variable which is infrastructural development has been measured using the number of projects implemented in Kenya during the period under



study, measures which consisted of cost performance; schedule performance; and benefits performance. (Ansar *et al.*, 2016).

The Chinese massive support for the sector was intended to spur the quality and adequacy of Kenya's infrastructure. The study aimed at analyzing empirically infrastructure modernization effects on Kenya's economic growth and development, a factor that must be informed by clear evidence based on Cost-Benefit-Ratio (CBR) affecting all projects undertaken.

China's financial support for Kenya's infrastructural development (the independent variable) varied considerably among different projects but the most constituent parts which constituted a whole infrastructure network have been covered. It was evident from available data that rail and road transport systems, energy and water systems as well as telecommunications and amenities systems have attracted substantial financial support from China, as illustrated in the tables in the study and addressed the measure of independent variable i.e. cost performance.

Cost performance refers to the fact that for projects to avoid suffering cost overruns, standard economic parameters that underpin projects' viability must be met and seen to be met. These include, among others, credible feasibility study. Schedule performance refers to efficiency and time taken to complete and hand over projects, while Benefit performance entails prudent investment decisions made regarding projects so that they can break-even and avoid destabilizing debt in the economy (Ansar *et al.*, 2016).

The rail transport, in particular, the SGR has been the most prominent. This is because according to Ehizuelen and Abdi (2015) China considers Kenya a major party of its Belt and Road Initiative as well as new-found corridor signifying enhanced collaboration with Kenya. China also regarded the Mombasa-Nairobi Railway Corridor part and parcel of its Maritime Silk Road Initiative. This would create the highly desired linkage to the landlocked states in the East African region that China expected to provide large markets for its products (Ehizuelen and Abdi, 2015).

### 3.3 The Dependent Variable: Economic Growth and Development and Intensified Relations

This section of the study focused on analyzing and discussing the twin dependent variables of economic growth and development, and intensified bilateral relations between China and Kenya. The key indicators underlying the first part of the dependent variable, i.e. economic growth and development are, first, national income/national output to illustrate the level of economic growth; the development part is a function of per capita income, real income, standard of living, comparative concept and economic welfare of the Kenyan community (R.G. Lipsey, 1965).

The key indicator for the second part of the dependent variable, i.e. intensity in bilateral relations is the magnitude of financial assistance China has availed to Kenya in support of Kenya's infrastructural development efforts. The importance of these indicators are a reflection of the impact of selected projects on Kenya's economy as illustrated by various projects.

**Table 3.1: Top Key Markets for Chinese Official Finance in Africa 1998-2017 in US\$ Million**

No.	Country	Amount
1.	Angola	US\$ 42,845.39
2.	Ethiopia	US\$ 13,738.51
3.	Kenya *	US\$ 9,803.46
4.	Democratic Republic of Congo	US\$ 7,423.60
5.	Sudan	US\$ 6,491.61
6.	Zambia	US\$ 6,377.03
7.	Cameroon	US\$ 5,568.01
8.	Nigeria	US\$ 4,831.42
9.	South Africa	US\$ 3,783.62
10.	Uganda	US\$ 2,968.40
11.	Ivory Coast	US\$ 2,692.90
12.	Tanzania	US\$ 2,347.77
13.	Mozambique	US\$ 2,289.38
14.	Zimbabwe	US\$ 2,214.08
15.	Senegal	US\$ 1,630.18
	Top 15	US\$ 97,099.34
	Other	US\$ 45,269.98
	Total	US\$143,349.32

\* Kenya ranks as the third market for Chinese official finance in Africa between 1998 and 2017

**Source: China Africa Research Initiative, 2018.**

**Table 3.2: Flagship Projects Funded by China 2009-2019**

<b>Name of Project</b>	<b>Contractor</b>	<b>Cost of Project</b>	<b>Year</b>
Nairobi-Thika Road	i) China Wu Yi ii) Sinohydro iii) Shengli Engineering	US\$ 100m (part cost by China)	2009
Nairobi Southern Bypass	China Road and Bridges Corporation	US\$ 153m (part cost by China)	2012
Nairobi Northern and Eastern Bypasses	China Road and Bridges Corporation	US\$ 72.25m (part cost by China)	2009-2014
Nairobi Western Bypass	China Road and Bridges Corporation	US\$ 173 million	2019
The Standard Gauge Railway	China Road and Bridges Corporation	US\$ 3.8 billion	2014-2017
LAPPSSET PROJECT	China Communications Construction Company	US\$ 510 million (To cover cumulative ODA)	2012
Geothermal Power (80 wells in Olkaria)	Great Wall Drilling Company	US\$ 400m	2018
Garissa Solar Power	China Juangxi Corporation	US\$ 1.3 billion	2017-2018
KV Isinya-Konza Power Transmission Line	China Aerospace Construction Group	Not yet disclosed but to be funded by China Exim Bank	2019
Fibre Optic Cable	Huawei	Ksh. 6.04 billion soft loan from the Chinese Government	2009
Konza Data Centre	Huawei (Phase 1)	US\$ 173 million Huawei of China	2019
Confucius Institute, UoN	Chinese contractor	Kshs 1.2 billion funded by China	2010
Moi Sports Kasarani	Chinese contractor	Kshs. 305 million funded by China	2010
Kenyatta University Teaching Hospital	Chinese contractor	Kshs. 11 billion funded by China	2019

**Source: Financing for Development and Socio-Ecological Transition: A Review of Chinese Investment in Kenya, 2015, 2016 and National Treasury, 2019.**

**Table 3.3: Selected Major Projects Funded/Built by China in Kenya during 2009-2019**

<b>Investment projects</b>	<b>Cost of investment</b>
Standard Gauge Railway (SGR) phase 1	\$ 4 billion (aprox.)
Thika Supper Highway Lot 3	\$ 100 million
Nairobi Northern and Eastern Bypass	\$ 85 million
Nairobi Southern Bypass	\$158 million
Nairobi Western Bypass	\$ 180 million
Fibre Optical Cable	\$ 60 million
Drilling of Geothermal Wells in Olkaria	\$ 195 million
Moi Teaching and Referral Hospital – Eldoret	Kshs. 488.86 million
Kenyatta University Teaching and Referral Hospital	\$ 100 million
High Grand Falls Dam (water)	\$ 1.5 billion

**Source: Financing for Development and Socio-Ecological Transition: A Review of Chinese Investment in Kenya, 2015, 2016**

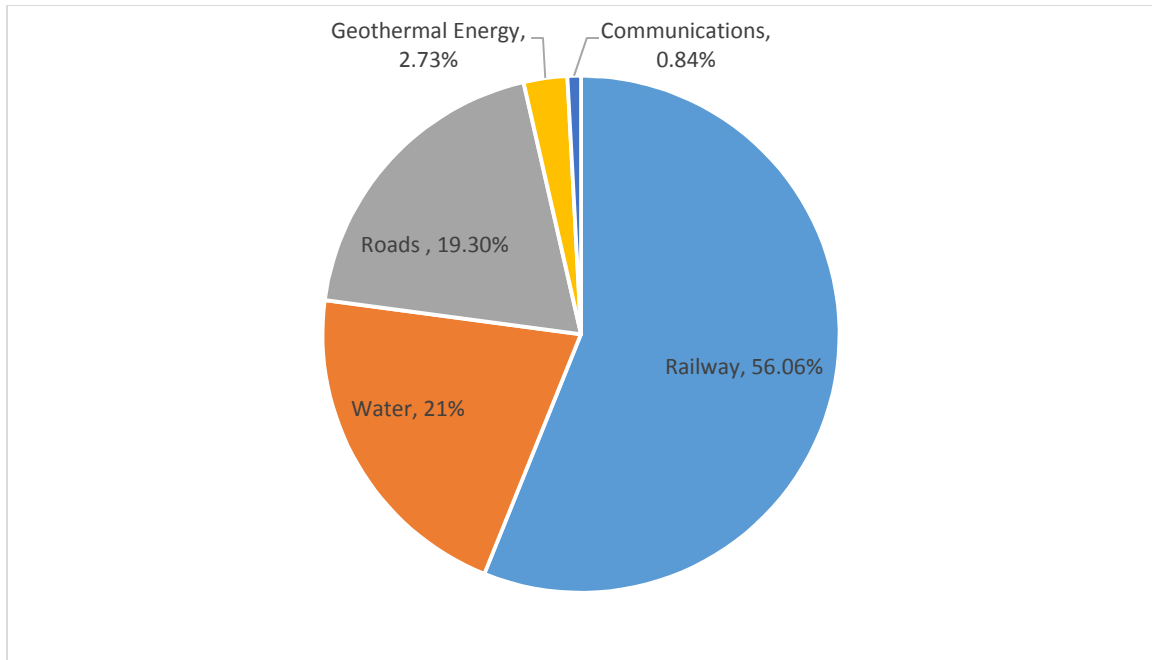
**Table 3.4: Percentage of FDI Inflows According to Sectors**

<b>Project</b>	<b>Year</b>	<b>Amount (US\$)</b>	<b>Percentages</b>
Railway	2014-2016	4 bn (approx.)	56.06%
Water	2012-2017	1.5 bn	21%
Roads	2009-2019	1.35 bn	19.3%
Geothermal Energy	2010-2015	0.195 bn	2.73%
Communications	2012-2016	0.06 bn	0.84%

**Source: Financing for Development and Socio-Ecological Transition: A Review of Chinese Investment in Kenya, 2015, 2016**

NB: This excludes amenities (other services such as hospitals and education).

**Figure 3.1: Percentage of FDI Inflows According to Sectors (in US\$)**



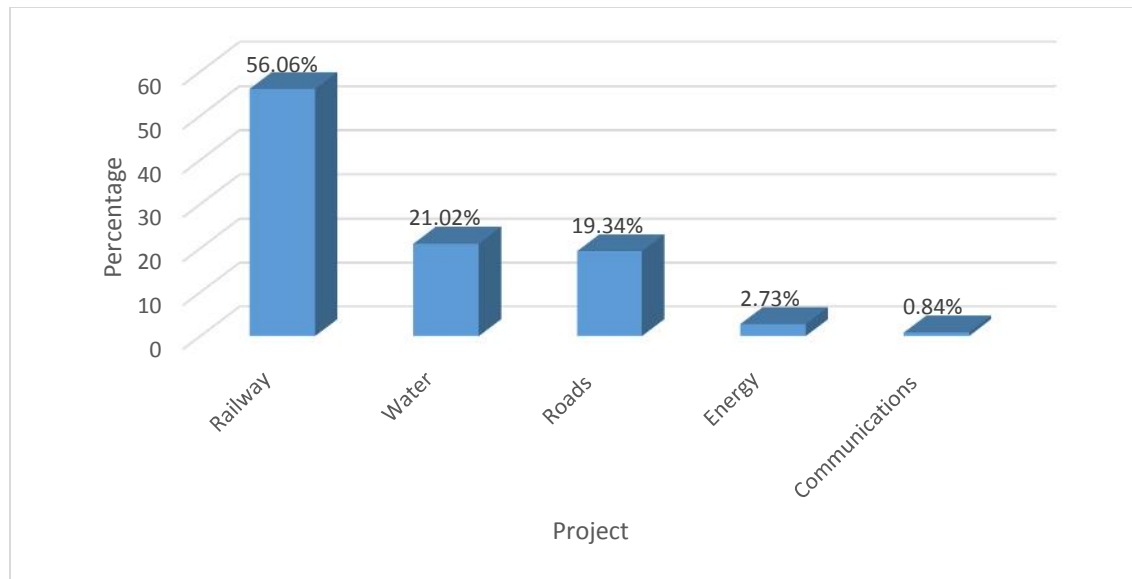
**Source: Field Research, 2020**

**Table 3.5: Percentage of FDI Inflows According to Sectors (in US\$)**

Project	Year	Amount (US\$)	Percentages
Railway	2014 - 2016	4 bn	56.06%
Water	2012 – 2017	1.5 bn	21.02%
Roads	2009 – 2018	1.38 bn	19.34%
Energy	2010 – 2015	0.195 bn	2.73%
Communications	2012 - 2016	0.06 bn	0.84%

**Source: A Review of Chinese Involvement in Kenya 2015, 2016**

**Figure 3.2: Percentage of FDI Inflows According to Sectors (in US\$)**



**Source: Field Research, 2020**

### **3.4 The Impact of Selected Projects Supported by China on Kenya's Economy**

In this section the study concentrated on major flagship projects that were likely to make significant impact on the economy and responded to part one of the dependent variable. First, the Nairobi Thika Super Highway. The study found that monetized benefits of the Kshs 32 billion (US\$ 360 million) Nairobi-Thika Super Highway of which China provided US\$ 100 million were expressed in terms of savings of the travel time, not just between Nairobi and Thika town but between the City Centre and far flung urban centres such as Garissa, Embu, Nyeri and further up in the North. The tailback (gridlock) that was the order of the day between Muthaiga roundabout and the city centre proved inordinately costly to people living both near and far from the city. Any travel time saved translated into monetary savings and accelerated the economic heart-beat. With savings accruing from travel time spent on the highway, it became possible for people to acquire residential accommodation away from Nairobi resulting in rent reductions [American Journal of Civil Engineering, 2016; 3 (6)].

The improved highway also provided additional and new investment locations for industrial enterprises. Industrialists were now able to diversify market locations and easily expand industries because of ease of transport and time saved. New construction works

along the highway would also create more jobs for people in the construction industry, reifying effective demand in the economy. The expected stirring up of the economy would inevitably attract investors' interests which would boost property values along the highway (Benazeraf, 2014).

Several serious concerns have, however, been raised by some respondents. The respondents have been concerned that the contractors did not create sufficient foot-bridges along the highway to facilitate easy crossing by pedestrians which have resulted into accidents as some of them have been forced to run across the highway to the other side. This was more pronounced in cases where people living with disabilities were concerned. This notwithstanding, the Nairobi-Thika Super Highway is a major success in the government's effort to improve Kenya's infrastructure facilities and by extension spur economic growth and development in Kenya (Benazeraf, 2014).

The second major project is the Standard Gauge Railway (SGR). It is worthy of note that Kenya has continued to play a vital life-belt for her landlocked neighbouring states. Its transportation system was preeminently important in backstopping the country's development as well as that of her East African regional partner states. Expanded infrastructure network as well as reliable transportation system formed a crucial pillar of the government's development blue print, despite numerous bottlenecks that the sector continued to face. The country's overall road network required considerable regeneration and had become overstretched because regional trade that relied squarely on the highway transport was ever expanding. Kenya's deteriorated rail system was affecting fast and safe movement of goods within and across borders (Africa 89(4) 2019).

With construction commencing in 2014, the Standard Gauge Railway project (SGR) was one of a kind, indeed, the largest railway network in Sub-Saharan Africa, and Kenya's most elaborate infrastructure network ever. The Mombasa-Nairobi stretch of 609 km Standard Gauge track included several modern railway stations along the railway line with new and modern wagons and locomotives. It would provide substantial employment opportunities, support local content and greatly reduce transport costs and time for both passengers and freight. It would generate seamless linkage with Kenya's East African

neighbouring countries, spur trade and bolster enduring multilateral relationships (Africa 89(4) 2019).

One major policy institution evaluated investment development projects based on four critical criteria; whether they would generate sufficient revenue; whether economic benefits would outweigh costs; whether they would promote equity and whether they would be sustainable. The study done by one institution interviewed faulted the SGR's viability on the ground that its actual installed capacity was 8 million tonnes annually and not 22 million tonnes annually as was actually indicated by the government. With a capacity of only 8 million tonnes a year the project could not pay its debts. In 2018, the railway handled 1,665,627 passengers and 5,039,988 tonnes of freight, far below capacity. As a result the government has now passed a policy forcing all cargo being cleared in the port of Mombasa to be handled through what ended up being the more expensive railway, leading to serious protests from cargo transporters (Railway-Technology.com).

The experts interviewed have indicated that the SGR would need to run more than 50 trains daily to pay its debts, which of course it cannot do on a single track railway. It would therefore benefit China not Kenya, who would still be expected to defray the capital (loan) and accruing interests despite the fact that SGR is grossly underperforming. The respondents further argued that Kenya got into this problem because no Benefit-Cost-Ratio (BRC) analysis was done before implementing the project. This refers to discounted value of incremental benefits divided by discounted incremental value of cost. It is also expressed in discounted Present Value (PV). The Benefit-Cost-Ratio is an indicator used in cost benefit analysis that attempts to summarize the overall value for money of a project or proposal ([www.investopedia.com>terms>pr...](http://www.investopedia.com/terms/pr...))

The respondents also noted that the feasibility study that they could see was done by the contractor, China Road and Bridge Company which was extremely anomalous. It should have been done by an independent professional consultant for credibility. The CRBC feasibility study indicated that the project had high profitability and was financially viable; but there were no cash flow projections to back up the claim. The feasibility study presented Net Present Value (NPV) of three different configurations of US\$ 2.0, 2.4 and



2.6 billion as evidence of viability. It left one at a loss to understand how this justified borrowing US\$ 3.8 for the project (theelephant.info./op-eds).

This development led respondents to conclude that the Standard Gauge Railway's (SGR) link with the Belt and Road and Maritime Silk Road initiatives was predicated on the Chinese desire to bolster exports, utilize its excess capacity in the construction sector and recalibrate its shrinking economy. China intended to relocate some of its labour intensive enterprises overseas, particularly to Africa, notably industrial and infrastructural production to stem its spiraling production costs. A respondent further remarked that the depressed demand for industrial products and initial heavy growth in capital investment tended to suggest that China was now becoming overburdened by economic glut involving dead capital in the form of industrial production materials, particularly steel. Africa's under exploited production potential provided a rare opportunity for Chinese enterprises in the manufacturing and infrastructure sectors which have triggered a steady inflow of investments into Africa especially in steel and ore (Ehizuelen *et al.*, 2018).

Since 2014, the study learnt that Kenya has to a great extent relied on China for resources to scale up its stock of infrastructure, ramping up modernization of the infrastructure sector. Standard Gauge Railway (SGR) therefore represents a major modernized and improved rail network in Kenya (Asian Journal of Comparative Politics, 2018 vol. (4) 285-310).

The study further noted that where investments were based on debt (loans) over capital injection in less profitable enterprises ends up in piling up of debts, the monetary sector is unnecessarily expanded while instabilities begin to pervade financial markets, all of which inevitably create fragility in the economy. Wang and Wissenback (2017) in the Sais-Cari Working Paper No. 13 of June 2017 looked at Chinese aid, commercial export credits, commercial finance and debt sustainability.

The study found that Chinese funding for the SGR were inextricably bound up with needs of Chinese local suppliers of construction materials. This indicates, at the bare minimum, that China's financial support for developing countries can by no means be designated as

Official Development Assistance (ODA), but export-finance that bankrolled African flagship projects. Bautigam and Gallagher (2014) contended that disputes straining the close attachments between Chinese funding and Chinese material suppliers have resulted from mistaken belief that funding from China to developing countries' projects could be equated with development assistance. In point of fact, the major aim of Chinese Exim Banks was purely to create credits for Chinese material suppliers to developing nations.

The study also found that the dearth of a robust railway network hampered growth. The extant road network could barely match the increasing magnitude of merchandise ferried from the port of Mombasa to far flung destinations such as the DRC and Rwanda. Evidence pointed to the fact a heavy load of trucks plied the single 520km Mombasa to Nairobi road. It was also an indisputable fact that too many trucks got stuck for hours on end in the traffic snarl-up, unable to access the port of Mombasa on time.

Frequent accidents were reported daily while the cost of road maintenance was burgeoning. The SGR was definitely a promising alternative transport system but it had to be competitive with road transport in terms of freight haulage costs if it were to remain viable and solvent. Government authorities, both at the national and local level could leverage on the SGR by establishing trading nests. Contractors involved in further extension phases of the SGR should also strive to utilize locally supplied materials and to consult as much as possible at the local level when environmental impact assessment were to be carried out.

The issue of land alienated for the construction of the SGR was troubling. It was therefore important that compensation for alienated land for the rail line should be streamlined and anchored on an enduring legal framework to forestall excessive claims by affected landowners that would outstrip the budget allocation for such compensation claims. The inflated cost of land would discourage potential neighbouring and foreign investors in engaging in investment initiatives in the future. The study concluded that unless the country opted for a policy of less costly and efficient capital injection on infrastructure, the country would end up experiencing serious crises, both economic and financial.

The third project involved the Nairobi bypass highways whose construction was driven by the need to ease traffic movement and anchor safety of travel. However, exclusive and privatized infrastructure modernization through massive investments could negatively impact balanced economic performance and standard of living ([m.youtube.com>watch](https://m.youtube.com/watch)). This study sought to assess several inherent effects associated with construction of bypasses in Nairobi. The preeminent purpose of building bypass highways was to decongest roads, boost travel speed, save man-hour time spent on traffic snarl ups and reduce the spate and rate of accidents. The first part of the study assessed the extent to which bypasses would affect the aggregate performance levels of the economy in areas in which bypasses have been constructed. This assessment included improvements in manufacturing endeavours along the bypasses with any accruing growth occasioned by revamped commercial activities in the areas especially retail or service enterprises.

The second part of the assessment addressed the influences of economic activities that bypasses have generated within the local communities, as bypasses may themselves become important business locations. In this respect the bypass could attract some businesses already existing in the city centre, having them relocate along the bypass or they may just entrap a significant portion of new entrepreneurs to the community.

Respondents indicated that both developments were likely to drain interest in locating businesses in the city centre or generate different kinds of businesses in the city centre. For example most retail oriented businesses that were prevailing down town could relocate but professional establishments such as law and insurance firms, financial institutions or government services may stick around down town ([ir-library.ku.ac.ke>handle](https://ir-library.ku.ac.ke/handle)).

The third part of the assessment concentrated on how bypasses would impact quality of life within a location. The study found that whereas enterprises in the city centre may look disdainfully at the development of by-passes as they may draw money away from the city centre, hurting businesses and lowering employment rates, a bypass on the other hand, could ramp up the quality of land around it, making it more attractive for commercial development and manufacturing locations, leading to economic growth in the local area affected by the bypass. Modernized transport network throughout the communities

hosting bypasses could also greatly facilitate development of residential properties. The four Nairobi bypasses have greatly decongested the city centre, successfully and effectively linked traffic to other urban centres without chocking the city centre, generally improving traffic flow and saving time spent on traffic jams; was the unanimous response.

### **3.4.1 Summary of the Bypass Projects in Kenya**

#### **The Nairobi Northern and Eastern Bypass Highways**

The 21 Kilometer Northern Bypass in Nairobi links Limuru Road to Thika Road and the 32 Km Eastern Bypass links Nairobi-Mombasa Road at Airport North Road, Embakasi, Utawala, Ruai, Varsityville East and ends at Ruiru Road Junction. These two bypasses were constructed by a Chinese firm, costing Kshs 8.5 billion (US\$ 85 million), with China financing 85 percent of the cost – Kshs 7.3 billion, while Kenyan Government meeting the difference of Kshs 1.2 billion (15 percent) of the total cost (Core.ac.uk).

#### **Nairobi Western Bypass Highway**

This is a 16.6 km by pass that connects Gitaru on the Southern Bypass to Ruaka on the Northern Bypass. This highway was constructed by China Road and Bridge Corporation (CRBC), costing US\$ 173 million (Kshs 17.3 billion), funded by Exim Bank of China. The bypass would help ease traffic, congestion in Nairobi by connecting to other bypasses which include the Southern bypass, the Northern bypass and Eastern bypass (highways.today>tag>nairobi-west).

#### **Southern Bypass Highway**

The Southern Bypass Highway is approximately 29.6 kilometers. It was built by China Road and Bridge Corporation at a total cost of US \$ 180 million (Kshs 18 billion). Exim Bank of China provided 85% of the total cost – US \$ 153 million and the Kenya Government met 15% of the cost of US \$ 27 million (national investment). The road was meant to ease traffic snarl ups in the centre of the city and also redirect traffic from Mombasa from the city centre as they move to the neighboring destinations (constructionreviewonline.com>...).

In 2018 a study was done by the University of Nairobi which returned a different verdict. It stated that whereas the bypasses were important in dealing with suffocating traffic build-up, pollution of the environment, hazards occurring on roads and how cities and towns could grow economically. Nairobi Eastern Bypass which was one of such road mainly constructed as an alternative route for both local and traffic on transit in the city of Nairobi has instead attracted unexpectedly high volumes of traffic and failed to function as a bypass in a short period. The study assessed the utility of the Eastern Bypass to pinpoint the traffic composition, flow rate of traffic, prevailing and anticipated volume of traffic, where they originated from, time of travel and any impediments in movements. Equally the study juxtaposed a variety of characteristics of the Eastern Bypass and prevailing standards involving bypasses.

In summary the study found that 43% of the vehicles plying the Eastern Bypass were not necessary heavy trucks but ordinary cars. Goods vehicles that plied the bypass represented 35% of the traffic while other public service vehicles represented 12% and 22% respectively of traffic. The study found that close to 40,000 public passenger vehicles plied the eastern bypass daily. (<http://erepository.uonbi.ac.ke/handle/11295/106668>).

### **Kakamega – Webuye Section of the Kisumu – Kitale Road (AI)**

This is approximately 40 kilometer stretch that was awarded to Xiangxi Engineering Construction, a Chinese Construction and Engineering firm. The World Bank and Kenya government provided the funding to the tune of Kshs. 4.26 billion ([documents/worldbank.org](http://documents.worldbank.org)>...).

### **Outering Road**

The project was fully funded by African Development Bank and the European Union in partnership with the Kenya Government and was undertaken by a Stecol Corporation (formerly Sinohydro Tianjin Engineering Co. Ltd), a Chinese Company at a total cost of US \$ 142 million. It is a 13 km road meant to cut the time spent between Thika Road and Mombasa Road ([mobile-nation.co.ke](http://mobile-nation.co.ke), (<https://constructionreviewonline.com>)).

## Bridges

### Sigiri Bridge

The shs. 1.2 billion (\$11 million) bridge was constructed by Chinese Overseas Construction and Engineering (COVEC). It is a government funded project, billed as one of the Jubilee Government's flagship projects. The bridge links Bunyala North and Bunyala South and has made transport between the two portions of Bunyala location much easier unlike before when people had to cross River Nzoia in boats risking lives. It has also linked long-distance passenger buses plying the Nairobi-Busia Route – extending their services to Bunyala (qz.com>africa>a-chinese-bui).

The following are tables representing cost of the bypasses and other allied projects.

**Table 3.6: Nairobi-Southern Bypass Highway**

Rank	Partner	Amounting US\$ million	Percentage	Notes
1	Exim Bank of China	153	85	Loan
2	Government of Kenya	27	15	Investment
	<b>TOTAL</b>	180	100	

Source: National Treasury, 2015

**Table 3.7: Nairobi Northern and Eastern Bypasses**

Rank	Name of development partner	Funding in US\$ million	Percentage	Notes
1	Exim Bank of China	72.25	85	Loan
2	Government of Kenya	12.75	15	Equity
	<b>TOTAL</b>	85.00	100	

Source: National Treasury 2015

**Table 3.8: Nairobi Western Bypass**

Rank	Name of development partner	Funding in US\$ million	Percentage	Notes
1	Exim Bank of China	US\$ 173	100	Loan
2	-	-	-	
	<b>TOTAL</b>	US\$ 173	100	

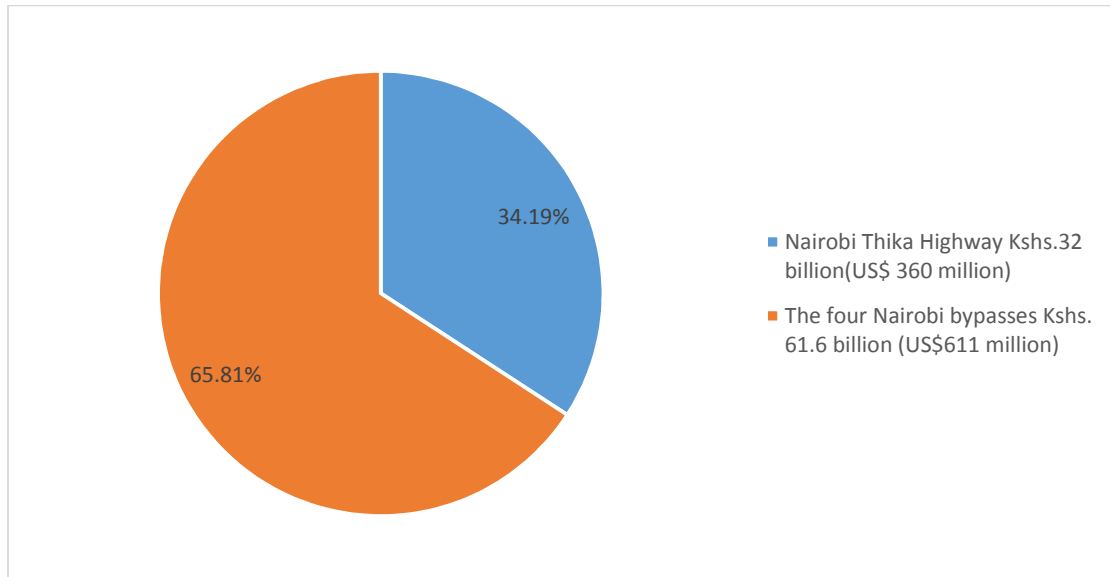
Source: National Treasury 2015

**Table 3.9: Juxtaposing Cost of Roads**

Juxtaposing Cost of Roads	Percentage
Nairobi Thika Highway Kshs. 32 billion (US\$ 360 million)	34.19%
The four Nairobi bypasses Kshs. 61.6 billion (US\$ 611 million)	65.81%
Total 93.6 billion	100%

Source: Field Research

**Figure 3.3: Contrasting the Selected Roads**



Source: Field Research, 2020

### 3.4.2 Lamu Port South Sudan – Ethiopia Transport (LAPSSET)

Lamu Port – South Sudan – Ethiopia Transport (LAPSSET) Corridor Project was slated to be Kenya’s second largest corridor whose main components included roads, rails, ports

and pipelines, and was to serve the landlocked Ethiopia and South Sudan. China Communications Construction Company is said to have pumped in US\$ 480 to construct the initial three berths.

Lapsset corridor was considered a revolutionary infrastructure enterprise instituted by the government and underwritten within the auspices of Vision 2030 strategic plan devoid of foreign support and would comprise several advantages, chief among which were, first, faster communication corridor involving Kenya, South-Sudan and Ethiopia. Second, it would spur economic growth particularly for the Northern, Eastern, North-Eastern and Central parts of Kenya.

The Lapsset Corridor project would also cover a sizeable portion of Kenya with anticipated investment inflows almost as much as half of the country's GDP to take care of indispensable projects only. Conservatively it has been estimated that Lapsset would contribute almost 2% to 3% of GDP to the national economy. Finally it was envisaged that Lapsset's contribution to GDP could range between 8% and 9% if it succeeded in attracting foreign investment ([Lapsset.go.ke/corporate](http://Lapsset.go.ke/corporate)).

The main components of Lapsset included roads, rails, ports and pipeline and were to serve the landlocked Ethiopia and South Sudan. China Communications Construction Company (CCCC) was said to have pumped in US\$ 480 to construct the initial three berths ([Lapsset.go.ke/corporate](http://Lapsset.go.ke/corporate)).

**Table 3.10: LAPSSET Corridor Project Components with Accompanying Cost Implications**

Item	Quantity	Cost in US\$ million	EIRR%
Lamu Port	32 Berths	3,095	23.4
Railway	1,710 Km	7,099	17.8
Highway	880 Km	1,398	12.9
Crude Oil Pipeline	2240 Km	3,949	21.6
Product Oil Refinery	120,000 Bpd	2,800	18.9
Resort Cities	3 Lots	1,214	20.8
Airports	3 Lots	506	20.7

**Source: [Lapsset.co.ke/corporate](http://Lapsset.co.ke/corporate)**



**Table 3.11: Services**

<b>Item</b>	<b>Quantity</b>	<b>Cost in US\$ million</b>	<b>Kshs in Trillions</b>
High Grand Falls (Hydro) water	1 Lot	2,110	
Associated infrastructure		2,500	
<b>Total cost</b>		<b>24,524</b>	<b>2,403</b>

**Source: Lapsset.go.ke/corporate**

Energy forms the fourth major sector. The study found that in general terms functioning economies and healthy state of the environment depend on timely institution and implementation of long lasting energy projects. The expansion, availability and affordability of energy including proper maintenance, transmission and distribution systems would anchor reasonable level of reliability.

The growth of Kenya's economy had exerted pressure on electricity demand and supply especially between 2004 and 2013 during which period energy needs had increased substantially on year to year basis. The country's least cost power development policy targeted shoring up of development of geothermal and hydroelectricity supply sources. The commissioning of the 280 mw geothermal plant in 2015 released pressure on electricity tariffs and was of great relief to consumers.

The studies have shown that Kenya has massive geothermal potential in excess of 7000MW spread in at least 14 locations along the volcanic fault-lines in the Rift Valley. Once geothermal steam was completed the Great Drilling Company of China would be injecting a cumulative 200MW to the national grid every year. The GDC was expected to provide at least 4000 MW of electricity according to the development blue print, Vision 2030.

The study found that in relation to production levels, the present capacity was greatly overstretched and could not meet the demand. Overdependence on hydropower supply worsened the situation during summer, as water levels in the dams, meant to aid in power generation dropped. The emerging energy gap had to be bridged by resorting to expensive

thermal generation underpinned by fossil fuels. Heightened economic activities and a steady population rise dictated the need for enhanced domestic power requirements in the country which gap had to be filled by energy imports. The expensive imported energy affected industrial production and overall economic performance in the country. A quarter of Kenya's import bill was made up of crude oil and the problem of her energy cost was exacerbated by poor energy infrastructure system.

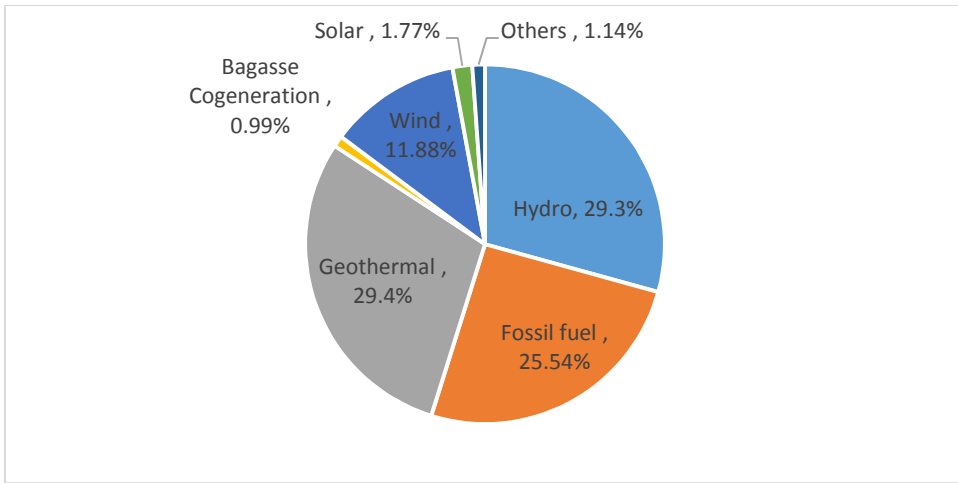
The study learnt that, averagely, production levels of industries plummeted to nearly ten percent because of constant power outages and fluctuations. This led the government to declare sustainable, affordable and reliable energy both for domestic need and industries a national policy. The government was also forced to rethink its policy on utility scale for energy projects and speed up the time required for approval process for onsite power generation and exempt generation projects below 3MW from mandatory permits. The generation (utility-scale) technology generally preferred was that of solar but enterprises such as Kenya Tea Development Authority also adopted hydro-generation ([www.greengrowthknowledge.org](http://www.greengrowthknowledge.org)), (Kenya Energy Policy, 2016).

**Table 3.12: Generation Sources of Electricity in Kenya**

	<b>Capacity (MW)</b>	<b>Capacity %</b>
Hydro	826	<b>29.3%</b>
Fossil fuel	720	25.54%
Geothermal	828	29.4%
Bagasse Cogeneration	28	0.99%
Wind	335	11.88%
Solar	50	1.77%
Others	32	1.14%
<b>Total</b>	<b>2,819</b>	<b>100%</b>

Source: [www.chinadaily.com](http://www.chinadaily.com)

**Figure 3.4: Generation Sources of Electricity in Kenya**



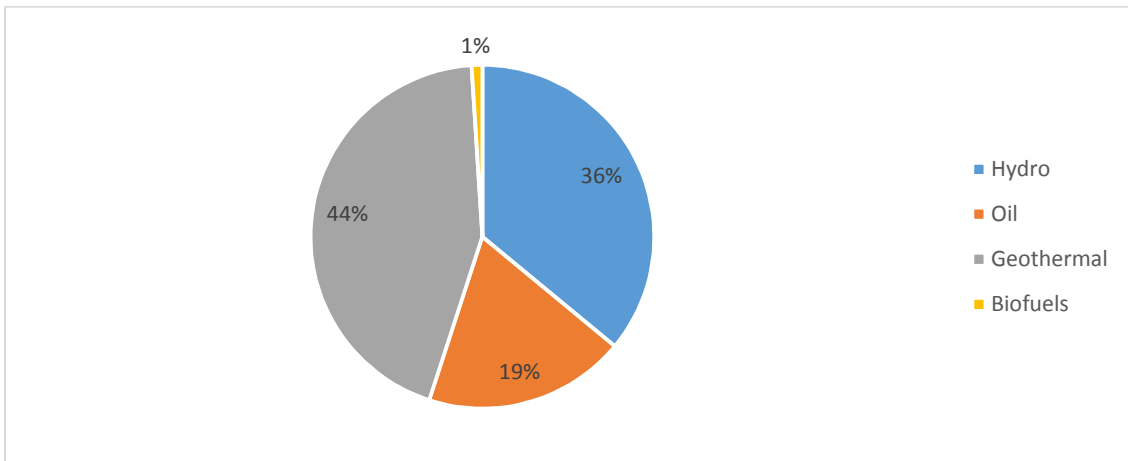
Source: Field Research, 2020

**Table 3.13: Major Generation Sources of Electricity in Kenya**

	Generation (GWh)	Share %
Hydro	3,310	36%
Oil	1,714	19%
Geothermal	4,479	44%
Biofuels	136	1%
<b>TOTAL</b>	<b>2,819</b>	<b>100%</b>

Source: (2015) Generation (GWh)

**Figure 3.5: Major Generation Sources of Electricity in Kenya**



Source: Field Research, 2020

Since Geothermal represents the highest sources of power generation in Kenya, China's involvement in this sector was very important. And in 2010, Kenya Government officially inaugurated 54.66 MW solar plant in Garissa town. The 206272 solar panels sitting on 200 acres was financed by the government of China through a concessional loan from China Exim Bank and built by the China Jiangxi International Corporation (Ritcher, 2010).

Water formed the fifth major sector and available data indicated that the country continued to urgently require adequate supply of water for its burgeoning population. The water supply was to serve both industrial production and household needs (domestic needs). It has become important for both natural supply sources and dams to backstop adequate and clean water supply. Insufficient supply of water would greatly dampen prospects for industrial production and domestic sufficiency ([www.afab.org](http://www.afab.org)>documents (PDF)).

The study learnt that more than 60 dams were being constructed throughout the country to improve provision of water. One of the major dams in which the Chinese were involved was Thwake Multipurpose Dam located between Kitui and Makueni Counties. This, Kshs. 36.9 billion project was to be built by China Gezhouba Construction Group Corporation. It had four phases: water supply, hydropower generation, irrigation and storage facility - 688 million cubic meter storage capacity. The study found that its implementation has been extremely slow which was not good for the economy that requires massive amount of water ([www.afab.org](http://www.afab.org)>documents (PDF)).

The sixth major project was telecommunication infrastructure, and, it is important to note that reliable and affordable telecommunication network forms the backbone of any meaningful production. It modernizes and enhances skills as well as providing linkages across borders and regions, in the process facilitating business growth. Telecommunication infrastructure also facilitates a multiplier effect and spurs implementation of such important services such as e-health, tele-medicine, e-learning and e-banking. ([www.researchgate.net](http://www.researchgate.net)>production).

The leading projects in this sector that were being funded and/or built by China include the Konza National Data Centre project costing US\$ 173 million, a loan provided by China and being implemented by the giant Huawei. The other was a Kshs 6.4 billion Kenya National Optic Fibre backbone, a soft loan from China. The project was being built by Chongxing Telecom Ltd (ZTE) Corporation. This major water project was to enhance transmission of broadband network, provide high speed-large capacity and lay a solid telecommunication foundation for the country ([www.datacentredynamics.com](http://www.datacentredynamics.com)>news).

### **3.5 Findings**

The overall research question was: Has Kenya's infrastructural development been the main determining factor in Kenya-China economic relations? The overall objective was to examine whether Kenya's infrastructural development has been the determining factor in Kenya-China economic relations. On the basis of the overall question and overall objective the study developed three specific hypotheses namely; Kenya's infrastructural development has determined Kenya-China economic relations; China's financial support has impacted Kenya's infrastructure network; and convergence of Kenya -China elite interests has led to excesses in the infrastructure sector. The rationale was that the cumulative effect of improved components of infrastructure would form the basis of continued inflow of foreign investments into the country that would eventually underpin sustainable economic growth.

The study was anchored on a qualitative design which worked in exploratory studies to analyze the causality of processes at various levels. This has been mediated by a narrative analysis approach which examined life experience among other factors, as units of analysis. The narrative analysis approach facilitated conclusion on correlation between the independent and dependent variables. It focused on utilizing responses particularly from experienced and knowledgeable respondents to answer the research question. This approach was adopted to assess both positive and negative impacts of infrastructure development that relied heavily on external financial support, whose main target was foreign direct investments.

The consensus among the experts was that foreign direct investment was an essential stimulant to economic growth. The respondents were of the view that for Kenya to improve and expand its infrastructure network it needed massive resources that it was unable to provide autonomously, forcing it to resort to external support. China has, as a result become a major source of financial assistance to Kenya and the details of the amount of support China had provided are illustrated in various tables in this study. This development conforms to specific objective one, namely; to examine how Kenya infrastructural development has determined Kenya-China economic relations.

The study learnt that improved infrastructure promoted economic growth as it helped to attract the inflow of both financial as well as human capital to Kenya, with FDI also being a source of technology spillovers. FDI buttresses job creation, supplements domestic savings of a nation by bringing in non-debt creating foreign capital resources.

Foreign Direct Investment aids in the expansion and/or diversification of Kenya's production capacity which in turn would spur trade. FDI enhances accessibility to new technology and skills, increases tax revenue to government and acts as a source of foreign currency, thus stabilizing Kenya's exchange rate. Capital inflows at substantial levels through FDI would reduce the need for borrowing, reduce debt-service ratio, which could be a real drain on heavily indebted countries such as Kenya (International Journal of Management and Business Studies Vol. 4, issue 1, 2014). As a recognition of the invaluable role Direct Foreign Investment plays in a nation's economy, Kenya's state behaviour, especially in engaging with China has shaped the country's strategic trajectories aimed at increasing the inflow of foreign direct investment to help improve its infrastructure network.

When compared to methods by other bilateral donors in development projects the Chinese approach is starkly different. The speed of completion stand out and this is attributed to the fact that the project cycles are relatively shorter. Whereas the European Union contractor will take around 10 years to complete a road, in Chinese case identifying the project to implementation, and handing over never goes beyond four years (Sustainable Finance and Insurance, 2018).

The preparation phase is carried out much faster. In European run projects it can take approximately six years to identify, draw up, approve and then sign a contract, but the Chinese need no more than six months to complete the same process. In all European projects environmental impact assessment studies and detailed plans are produced by a neutral entity before the building agreement is signed. The Chinese projects are singularized by exclusion of international calls for tenders which renders avoidance of long processes that would affect enterprises taking off the ground quickly. Turnaround times are also shortened by the absence of social approach to projects entailing recompense by the contractor unlike in the European or Japanese approaches (Sais-Cari Working Paper No. 13, 2017).

There were negative impacts that respondents cited, chief among which were that Chinese companies were discriminate providers of employment as they tended to employ mainly non-professional and casual workers. China's FDI distorted Kenya's local saving potential and this distortion in local savings could stoke perpetual reliance on foreign capital rendering Kenya hostage to China's conditionality.

An institution intimated that stringent donor regulations that were aimed at forestalling profligacy and distortion that were imposed within the multilateral donor framework do not apply to China. However, nearly all Chinese official support was predicated upon unflinching conditions such as external content (materials), professionals and other technical personnel that came from China to aid in and oversee construction and maintenance of projects. This gave China a commanding edge. As a consequence, OECD contractors could not match those of China. This was one of the gravest distorting elements in funding Africa's infrastructure.

Transparency and accountability prescriptions that undergirded international financial behaviour do not affect China despite a groundswell of cases of malpractices involving Chinese enterprises and individual Chinese or officials in host countries. The greatest challenge or dilemma was that serious cases of extortions in various host countries were never indicted by Chinese authorities, invariably because they involved Small Owned Enterprises (SOEs) or personnel attached to them. This was completely the opposite

compared to OECD enterprises. Any transgressions involving OECD companies and their personnel were regarded as grave crimes which were promptly prosecuted by OECD states.

China hardly applied international best practices on management of environmental, social and governance (ESG) risks for projects in Africa. In most cases China applied local ESG standards of borrower countries, which were less strict, weakly implemented and poorly managed. The study also learnt that Chinese massive and highly transparent official finance practices were serious threats for debt sustainability of developing countries.

China paid scant attention to globally accepted standards and norms regarding the Management of Environmental, Social and Governance (ESG) risks of projects in Africa. In most cases China applied domestic standards of donor recipients that were less strict, feebly instituted and imperfectly regulated and coordinated. The study also learnt that Chinese massive and opaque financial management were egregious threats to borrower states' ability to sustain debt and grow.

The study found that China was not party to the Paris Club framework and pursued bilateral debt management schemes that worked in its favour. Chinese eschewed intrusion of other donors in its debt management schemes. This approach was dictated by national interest, and their lending terms were strictly secretive to enable them execute favourable rescheduling terms than what they would get were they to conform to multilateral Paris Club arrangements. Prevailing arrangements for debt recovery that China proffers were deleterious not only to developing states' sovereignty but as well as to the IMF system of debt resolution as practiced multilaterally, by the prevailing IMF structures and major banks for development, which allowed them to play their role as lenders of the last resort.

The Chinese behaviour mirrors a Generic Model of Dyadic Social Relationships that is closely linked to Rational Choice Theory (RCT). The Dyadic Relations Model Theory (RMT) is conceptualized as a lasting process of two agents interacting through social actions. A social action corresponds to any action intentionally targeting the receiver and affecting his/her welfare positively or negatively (<https://www.ncbi.nlm.nih.gov/pm>). The



Dyadic Relations Model is a lasting communication of ideas between two peoples or states for long duration of time or any intense duration of deeper impact. It also takes the form of any commitment, intimate – two person relationship, but may be based on asymmetrical or hierarchical relationship, i.e. donor-recipient, a pair of states can be linked through self-interests and it can be a situation where each person or each state influences the other (<https://www.ncbi.nlm.nih.gov/pm>).

In the case of Kenya-China relationship dyadic social model has shaped the behaviour of both states, mediated largely by strategic national interests. Whereas it could be argued that China has an asymmetrical advantage over Kenya because of its financial muscle, the glaring cases of impropriety are underpinned by a convergence of elite interests in both camps. This state of affairs is manifested by Chinese blatant transgression against internationally accepted best practices with Kenya elites' tacit acquiescence and participation, as both parties have been keen to reap benefits (maximizing selfish benefits and maximizing costs); the central tenet of Rational Choice Theory. However, because of its economic, financial and technological preponderance, it is China that has managed to minimize costs.

The study concludes that the convergence of both Kenya and Chinese elite interests driven by profligacy and extortion have led to heavy debt-laden investment decisions that continue to burden Kenya's economy. This is also the case as risk-adjusted return principles have been totally ignored by both parties at the projects appraisal stage. These developments mirror the essence of specific objectives two and three, namely, infrastructure development has determined Kenya-China dyadic relations and that the convergence of Kenya-China elite interests has militated for profligacy in the infrastructure sector.

## CHAPTER FOUR

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 4.1 Introduction

The overall study question was: Does provision of improved and adequate infrastructure and associated services guarantee growth of Kenya's economy and shape Kenya-China dyadic relations? The overall objective was to examine whether provision of improved infrastructure and associated services have shaped Kenya-China dyadic relations and economic performance. The study adopted a longitudinal research design, an approach used to study a situation during a long period of time. In this case the time studied spanned the period 2009 – 2019. The approach also aimed at facilitating the evaluation of the dimensions and trajectories of the specific economic influence Kenya-China cooperation has played in the reification of respective national interests.

The study was anchored on a qualitative design technique which works in exploratory studies to analyze the causality of processes at various levels. It involved semi-structured interview, open-ended, was moderated by an interview guide and based on a purposive sampling technique that targeted a select group of 30 respondents deemed to have relevant knowledge and commanded sufficient experience bearing on investments and their role on Kenyan infrastructure development.

The Narrative Analysis Approach facilitated conclusion on correlation between the independent and dependent variables. The descriptive data demonstrated that Chinese massive investment in Kenya's flagship infrastructure projects would propel the development of Kenya's economy, thus reversing the deteriorated state of Kenya's infrastructure obtaining by 2009 (Economic Recovery Strategy, 2003). The study established that contrary to pervasive criticism, Chinese enterprises impressed Kenyan society by their superb labour capacity including discipline to complete and deliver projects promptly. Further, the study learnt that heavy debt burden was fuelled by Kenya's massive infrastructure development, much of which was owed to China whose redemption arrangement would be addressed solely by both Chinese Construction Companies and the government of China. China also needed to address other concerns like local resource utilization in the process of projects' development (binding agreements on local content).

The study sought to indicate that sound policies for redressing the concerns affecting the development of overall infrastructure services were absolutely necessary if Kenya were to weather global competition. It sought to address the fact that the economy had to depend on less costly but improved public works system.

The study also stressed Kenya's need to build and maintain durable quality standard road and rail networks, improve capacity and efficiency of airport services, scale up the performance of ports, the entire telecommunication network, ensure provision of adequate and reliable electricity at competitive tariffs and address the high cost of petroleum products. Adequate and reliable sources of clean water supply was necessary and so was proper sanitation.

The study further argued that Kenya's look east policy especially embracing China as a major development partner at the behest of shrinking western donor support in this critical sector of the economy was exigent and rational.

For a considerable length of time, Kenya has relied to a great extent on the Chinese support for its infrastructure development. Kenya was also strategically located to serve China's interests as the latter promotes and expands its influence in the East African region. In this respect, China's Belt and Road Initiative (BRI) should be seen as a means to further deepen Kenya-China relations.

The study established that the government of China had ploughed in massive resources in Kenya to help spur economic improvement. It also found that deluge of Western media disparagement to the contrary, contractors from China have, in most cases, positively impacted the Kenya society as they command discipline and capacity to execute projects and hand them over at speeds unimaginable. The study equally noted that financial support from China has been of great significance helping to address hitherto shortcomings in infrastructure leading to modernization of most of the network. These projects have provided Kenya with not only a source of employment, but greatly boosted Kenya's economic performance.

## 4.2 Summary and Conclusion

These findings notwithstanding, Duflo *et al.* (2007) stressed that the impact of analyzing projects based on heavy capital injections was difficult in terms of methodology, which continued to trigger interest and inventiveness. They further contended that identifying sound and realistic information to assist in formal study of outputs of projects and their relation to aggregate economic success has been elusive, and particularly deficient in economic literature. (Duflo and Pande, 2007; Estache, 2010; Dinkelman, 2011; Mckenzei, 2011; Hansen *et al.*, 2013).

This study's selective approach has been to identify a proxy variable to evaluate positive Benefit-to-Cost-Ratio, anchored on three measures, namely: Cost Performance, Schedule Performance and Benefits Performance. As a proxy measure for the performance of all projects, the study used the Standard Gauge Railway (SGR) for extensive analysis.

The first measure was Cost Performance. As far as this measure was concerned the study argued that most projects suffered cost overruns based on the fact that standard economic parameters that underpin project viability seem not to have been met. For example, according to one respondent the contractor carried out the only feasibility study available, instead of an independent professional firm. That feasibility study returned positive economic impacts as it cited "high profitability" including "financial accumulation," despite the absence of credible cash flow projections. The resultant Net Present Value showed figures far below the project cost at US\$ 3.8 billion, thus casting serious aspersions on the credibility of the feasibility study (Duflo and Pande, 2007; Estache, 2010; Dinkelman, 2011; Mckenzei, 2011; Hansen *et al.*, 2013).

Souder and Bromiley (2012, p. 554) asserted that the conventionally accepted budgeting framework must take into account the viability of the firm based on Net Present Value. These included expectations of future profits to be generated when the projects were finally operational and their continued liquidity guaranteed.

This critical appraisal technique together with Internal Rate of Return, Compound Annual Growth Rate and Net Present Value seem not to have been done on such important and

costly infrastructure projects such as the SGR to justify their viability. Further the absence of such appraisals would lead to profligacy, suggesting that Kenya's infrastructure investment boom has created pernicious macroeconomic consequences. Ansar *et al.* (2016) stressed that for projects to be viable they should generate economic value, i.e. a benefit-to-cost ratio equal to or greater than one ( $BCR \geq 1$ ).

$$\text{Formula: Benefit – Cost – Ratio} = \frac{\text{PV of Benefit Expected from the Project}}{\text{PV of the Cost of the Project}}$$

The second measure was Schedule Performance. As for Schedule Performance the study found that on average road, rail and telecommunication projects constructed by China took no more than four (4) years. This speed and capacity of Chinese performance was out of anyone's imagination.

The third measure was Benefit Performance. In this case, China undoubtedly has become Kenya's leading source of development support. The benefit performance has however, been eroded by poor investment decisions that have led to destabilizing debt in the economy, and exacerbated by profligacy and extortion.

The other negative impact on the Standard Gauge Railway stemmed from the nature of its cost which had to be paid using dollar denominated currency and not local Kenya currency. Road transportation, on the other hand, had less foreign currency exposure and if anything, it was indirect. This has led one to question the rationale of creating a subsidized and monopolistic enterprise in the first place. (<https://www.theelephant.info/opeds/2018/07/21/sgr-by-the-numbers-some-unpleasantarithmetic/>).

The other notable concern was that Kenya's job content and technology transfer remained a serious challenge. The local skills transfer in Kenya would negatively affect what was already constructed in terms of maintenance which was still done by the Chinese. It was also noted that the ensuing competition between the West and China over investment opportunities in Kenya may push Western countries from Kenya thus raising the risk of low FDIs and other economic engagements.

The government policy forcing importers to ferry imports exclusively by the SGR was likely to result in reversal of gains so far made, positioning Nairobi as the preeminent economic centre in Kenya. Inland ports and cargo warehouses centered around Nairobi would lead to exclusive economic activities in and around Nairobi resulting in “Urban Primary” which would undermine the aims of devolved system of government.

The study results arising from the first two measures namely: Cost Performance and Schedule Performance support the first specific objective i.e. to examine how Kenya’s state behaviour has shaped strategic measures aimed at improving its infrastructure network which had significantly deteriorated by 2009, impacting negatively on Kenya’s overall economic performance, and required immediate fixing. Accordingly serious attempts were made to rehabilitate and modernize Kenya’s infrastructure with Chinese financial and technical support. These projects were generally completed and delivered in a record time.

The study found that Benefit Performance measure supported the second and third specific research hypotheses. The second objective was: to evaluate how infrastructure development has determined Kenya-China dyadic relations; and the third specific objective was to examine how the convergence of Kenya-China elite interests has led to excesses.

As for the second specific objective, the study found that between 2009 and 2017 Kenya had acquired at least US\$ 9.8 billion, from China rendering Kenya the third largest country that has received Chinese loans (<https://dw.com/kenya-struggles>). As for the third objective, the study found that although China had become the leading bilateral lender to Kenya to support its development efforts (US\$ 9.8 billion between 2009 and 2017, Kenya-China dyadic relations have been marred by debt burden for Kenya, spearheaded by convergence of elite interests that have militated for excesses.

### 4.3 Recommendations

From the findings the study recommends the following:

- (i) Kenya-China dyadic relations should continue to be intensified and deepened through capacity building, enhanced training opportunities, debt sustainability (providing soft loans over a long period of time), debt forgiveness, working towards a balanced trade position between the two countries, thus allowing unrestricted Kenyan exports to China, exclusive use of local content and reduction of China's professional and technical personnel from China's funded projects in Kenya.
- (ii) Kenyan authorities should only spend government finances on such infrastructure projects that generate sufficient revenue to guarantee debt liquidation so that the economy is not unnecessarily overburdened. The study established that the SGR, for example, would not generate enough returns to service the loan, hence it was unviable. As such, any project that cannot generate enough returns should be discouraged.
- (iii) In relation to infrastructure investments, the Kenya government should rigorously observe economic, financial and technical fundamentals that underpin viable project development and sustainability. These are:-
  - Projects have to be critically and professionally evaluated in all their important elements to assess their viability. Since there was no credible feasibility study in respect of SGR by an independent professional body, the study assumes that most Chinese projects in Kenya followed the same path. This requires further study to establish the real position.
  - Projects should be assessed particularly in terms of their economic, social and financial viability before committing them to ascertain that they will be able to generate sufficient finances to liquidate debt in case they are loan funded.
  - Only individual persons or teams who are not involved in project development should assess the projects using techniques such as technical feasibility, economic and financial analysis and marketing and managerial competence.

- (iv) The study finally recommends that future investment decisions should be made strictly on the following criteria:-
- Projects should be evaluated on whether they would make money. This should be done by independent and credible professional bodies. This is because credible information suggest that the SGR contractor did the feasibility study and indicated that it was viable contrary to emerging evidence that the project would not make sufficient returns to liquidate the loan on its own unless subsidized by the government.
  - Projects should be evaluated to establish if associated benefits would exceed associated costs.
  - Projects should be evaluated on whether each project to be undertaken would promote equity, and
  - Projects should be evaluated on the basis of future sustainability.

#### **4.4 Suggestions for Further Research**

Arising from the research findings, several issues were recommended for further research. Further inquiries on issues raised may generate and foster efficacious interposition of plans of action that would advance productive and cost-effective utilization of investments dedicated to infrastructure development that would spur economic growth in the economy including socio-political stability in Kenya. These were:-

- i) To expand on the present work, it is suggested that further studies be done on other infrastructure investments other than the SGR to establish if project appraisals have been carried out that would undergird their viability.
- ii) There is need for policy makers to endeavor to assess and establish in advance the commitment of other participating partners on joint projects with Kenya that entail joint financing; projects which go beyond Kenya's borders, such as the LAPSSSET and the SGR. This is particularly so as both Ethiopia and Uganda appear to have developed cold feet on joint participation, which has seriously undermined the viability of the affected projects.
- iii) There is need for further studies to be carried out to establish whether extensive support in modernization of Kenya's infrastructure system has created economic gains.



- iv) More studies should be done to further establish if the SGR project has any future linkages with regional trading partner states and whether it would stimulate growth and boost the country's attractiveness for investment.
- v) There is need to establish through further research the aggregate economic impact associated with runaway costs and failing revenue returns on investments in the infrastructure sector.

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## **APPENDICES**

### **Appendix I: Key Informant Interviews**

#### **Greetings**

I am **OGUTU OBARE V. J.**, M.A. in International Relations Student in the Department of Political Science and Public Administration at the University of Nairobi. I am currently writing my research project having completed the course work. My research topics is: An Infrastructural Development as a Determinant of Kenya-China economic relations. The main question of this study is: Has Kenya's infrastructural development been the main determining factor in Kenya-China economic relations? I would be grateful if you could grant me the opportunity to interview you at your convenience, which should not take more than 30 minutes. Your esteemed expertise and knowledge will greatly shape the outcome of this exercise. The research is purely for academic purposes and your contribution will be kept confidential.

## **Appendix II: Interview Guide (Schedule)**

1. How does foreign direct investment affect Kenya's economic performance?
2. To what level has Kenya been able to access Chinese development finance for its infrastructure development?
3. Which are the major Kenya's flagship projects that have been funded or built by China?
4. Does Chinese financial aid to Kenya have any conditions attached to it?
5. How are all project components judged as viable?
6. How long do Chinese built projects take to be completed and handed over compared to those built by the European Union (EU) or Japanese contractors?
7. Is there any linkage between the SGR and China's Belt and Road and Maritime Silk Road Initiatives?
8. What factors could affect successful implementation and development of the LAPSSET Corridor Project?
9. What do you consider as major contributions of Kenya's National Optic Fibre Backbone Infrastructure to the Kenya Telecommunication Network?
10. How would you rate Kenya-China bilateral relations?
11. What impact have the relations had on Kenya's infrastructure development and overall growth?
12. How has China's infrastructure development support affected technological transfer and job creation in Kenya?