Chinese FDI

A study of the impact of Chinese infrastructure investments in Kenya, Africa

xiaotian sun
2015-5-5

Acknowledgement

Foremost, I would like to express my sincere gratitude to my advisor Prof. Elliot Sclar for the continuous support of my master study and research, for his patience, motivation, enthusiasm, and immense knowledge. His guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my study. Besides my advisor, I would like to thank my reader Prof. Xin Li for her encouragement, insightful comments, and hard questions.

I would like to thank my family: my parents Ziyu Sun and Yanjun Cai, for giving birth to me at the first place and supporting me spiritually throughout my life.

Abstract

Over the last century, Chinese Foreign Direct Investments have made great impacts on African countries. Large amounts of FDI from China has flooded into African infrastructure investments, targeting key sectors such as telecommunications, transportation, power plants, and port refurbishments. No doubt China treats itself as an equal and a generous partner of African countries, yet not an uncontroversial one especially from the perspective of foreign observers. There have been many critical voices on China-Africa relations over the years. In order to test the validity of the critiques as well as the praises, two infrastructure construction projects were chosen as case studies in this thesis. They are the Standard Gauge Railroad and A109 national road. Both contracts were signed between the Kenyan government and a Chinese state-owned company, Chinese Road and Bridge Cooperation (CRBC). By analyzing the first hand data and some supplementary second hand data, it indicates that though CRBC as contractor had made some decisions based on self-interests, the critics of labor importation and resource plunder lack supporting evidence. Instead, for these particular projects, they generated positive economic impacts on national development. However, many improvements are highly recommended for both parties to make the projects better in the future.

Contents

Introduction

In 2015, China and Africa embraced the 15th anniversary of the Forum on China-Africa Cooperation (FOCAC) which aims for the promotion of cooperation between public and private institutions from both China and Africa. According to the Keynote speech of Prime Minister Li Keqiang, Africa's two-way trade in goods with China grew more than 10-fold over the last decade, from $18.5 billion in 2003 to $198.6 billion in 2012, and is expected to rise to $385 billion by the end of 2015. Chairman, Xi Jinping has de-emphasized Chinese investment in Africa's oil and gas sectors but prioritized infrastructural development. This will resonate with many African policymakers struggling to identify ways to finance the construction of badly needed roads, ports, bridges and railways. Once again, the world again refocus on the debate of the relationship between China and Africa (Writer 2015).

The history of activities between China and Africa

China and African countries have kept amicable relationships since the Mao administration. In 1964, China officially announced policies on aid to Africa. During the two decades from 1956 to 1977, China provided over 2 billion USD in financial aid for African countries. This represented 58% of China's total foreign aid (Heng 2010). Since then, China began to give aid for African infrastructure development. In 1970, China constructed the Tanzam railway that runs through Tanzania and Zambia. The railway line provides a transportation corridor for African nations and played an important role in the liberation of southern African countries.

The total amount of aid for Africa kept increasing as did the frequency of bilateral trade. By the early nineteen nineties, China had become an indispensable partner of African development in many sectors. Since then, Chinese aid has started to transform from gratuitous gifts to foreign direct investment (FDI) combined with low interest loans. Till 2000, China gave more loans to Africa than The World Bank. In the meantime, China and Africa exchange approximately $160 billion-worth of raw materials and goods a year.

Current relationship between Africa and China

Over the past fifteen years, most Africa countries have enjoyed uninterrupted growth. During the 2008 financial crisis, Africa proved remarkably resilient. Africa's rapid economic growth does not come by accident. Political entities of Africa established a solid foundation by reducing entry barriers for foreign business, privatizing inefficient national-owned business, and improving the

infrastructure. China's FDI provided a vital contribution to these efforts to develop the African economy.

Based on PricewaterhouseCoopers' 2013 general report, while oil and mining started to be a less and less important focus, large amounts of FDI from China has flooded into infrastructure investments, targeting key sectors such as telecommunications, transportation, power plants, and port refurbishments. According to the 2013 white paper on China-Africa Economic and Trade Cooperation, in the year up to 2013, China completed 1,046 projects in Africa, building 2,233 kilometers of railways and 3,530 kilometers of roads, among others. This promoted intra-African trade and helped it integrate into the global economy (Information Office of the State Council 2013).

During this process, more and more Chinese companies started doing business in Africa. Every year billions of Chinese RMB have been invested in new infrastructure in Africa. The commercial footprints of Chinese companies are visible in almost every African country. Currently, over 2,000 Chinese enterprises are investing in and developing more than 50 African countries and regions. They are engaged in a variety of sectors, especially construction and infrastructure (Information Office of the State Council 2013). Because of the capital requirements and considerable risk undertaken, construction and infrastructure businesses are mostly constructed by Chinese State-owned Enterprises (SOEs).

Benefits of the Chinese infrastructure FDI

Andrew Ali, the CEO of the Africa Finance Corporation once said that "anyone that has been on the continent of Africa knows that there is a huge deficit in terms of infrastructure." ("Investment in Infrastructure Crucial to Africa's Economic Growth" 2011) This is recognized as the biggest barrier impeding economic development of African countries. On the other hand, China has great expertise in infrastructure construction. As a leading foreign investor in Africa, Chinese SOEs have built roads to move goods from rural to urban areas and ports for export.

According to the African Development Bank report in 2009, "Infrastructure Investment in Africa", many African countries recognize the benefits of Chinese SOEs' investments. This has been attested to by rapid economic development due to improved infrastructure. According to the report, that is because improved roads, bridges, dams and electricity tend to "enhance private sector activities by lowering the cost of production and opening new markets, presenting new production opportunities and trade (Kandiero 2009)." In addition, comparing to loans from the IMF or the World Bank, soft

loans from China have fewer strings attached and requirements that are much more attractive (Najafova 2015).

Compared to the view of Western aid which treats Africa as a receiver of financial and moral intervention, China has sought to build strong economic ties to Africa with less interference toward humanitarian and political issues. From an economic point of view, China's business treatment of Africa is more efficient. As Easterly (2003) and Hubbard and Duggan (2009) argue, company activities are better for African economic development than charity which has been proven by the economic growth in the marketplace. However, this does not mean China has ignored Africa's needs for humanitarian aid. Every year, China is always the biggest donor of humanitarian aid for Africa. Recently the government sent $5 million in aid to West African nations to combat the Ebola outbreak (Hsu 2014).

Critics of the Chinese infrastructure FDI

No doubt China treats itself as an equal and a generous partner of African countries, yet not an uncontroversial one especially from the perspective of foreign observers. There have been many critical voices on China-Africa relations over the years. While some hail China's increasingly prominent presence in Africa as a boost to Africa's development, some, mostly in developed countries, are not pleased with this "partnership".

One of the major concerns of African society is the importing of labor. As the Asian population grows larger and larger, Africans have begun to accuse China of treating Africa as a useful safety valve for China's large population. It is said that infrastructure construction in African countries blocks employment opportunities for local workers that more than 9. The accusation is that 95% of China's programs are required to have 70% Chinese contracted personnel (Arsene 2014). The press accuses Chinese companies of poor labor treatment and extremely low wages.

Opponents criticize China's policies as neocolonialism, including the plundering of resources and concrete diplomacy. As the Economist debate conducted in the earlier 2015 goes, China needs to secure oil and mineral resources for its energy consuming economy and Africa, with large natural resources is an obvious place to do business (Juma, Calestous, George 2015). Based on public opinion in the west, the Asian giant is hungry for resources, they are building roads and railroads designed to simplify the process which in the long run, will impoverish African countries.

Africans are increasingly suspicious of the Chinese contractors, worrying about unfair deals and environmental damages. Chinese contractors are accused of aiding dictatorial regimes in Africa for their own interests and in the process harming the continent's quest for democracy and human rights (Najafova 2015). Opposition is fuelled by African civil society, which demands more transparency and questions the integrity of these contractors.

Thesis outline

According to the information listed, the conflicts exist in four aspects:

- Whether these infrastructure investments boost the economy
- Labor importation
- Whether China is plundering the resource of Africa
- The integrity of the Chinese contractors

With the contradictions born in mind, one major on-going project and a finished projects are chosen as case studies. These two transportation infrastructure construction projects are the Standard Gauge Railroad and A109 national road which were constructed by the Chinese contractor, China Road and Bridge Corporation (CRBC). By analyzing the first hand data and some supplementary second hand data, it indicates that though CRBC as contractor had made some decisions based on self-interests, the critics of labor importation and resource plunder lack supporting evidence. Instead, for these particular projects, they generated positive economic impacts on national development. However, the enhancement of transparency is highly recommended for future construction contracts.

In order to elaborate the research topic, the content of the thesis contains follow parts. First, the literature review will provide a foundation and an understanding of impacts of FDI. Then the methodology regarding to the data gathering process and analysis methods will be introduced in methodology section. In the background section, general background of the study area as well as the background of the study targets will be included. Then the disputes will be analyzed with available data followed by a limitation section. Finally the suggestions will be given to both Kenya government and Chinese contractor towards how the future corresponding policy and programs could be conducted for more efficient and just usages of Chinese FDI.

Literature review

Foreign Direct Investment has been a popular research subject for a few decades. (Blonigen 2005). As Mwilima (2003) argues, Foreign Direct Investment is viewed as a major stimulus to the economic growth in developing countries. It perceived the ability to deal with major obstacles for projects that requires advanced technologies and large financial resources.

The major role of outward FDI is the springboard to acquire strategic assets, managerial skills and access to new markets (Luo and Tung 2007). According to established theory, the overall impact of FDI to a particular sector of a country has both negative effects (export substitution, re-imports) and positive effects, such as technology spillovers (Agarwal 1996).

During the 2000s, the attention of economists has been attracted by the FDI of multinationals for Emerging countries, especially those from Asian countries, among all China gained most of the attentions (UNCTAD 2006; Vatsyayan 2010; Gammeltoft 2010). Large number of China's African investment Papers were published during last two decades, frequently emphasize the importance of infrastructure as one of key sectors for economic collaboration (George 1975; Servant 2005; Hsu 2014; Klopp 2014; Arshad Dudhia 2012; Murphy 2007; Corkin, Burke, and Davies 2008).

FDI often associates with an increase in both exports and imports activities worldwide (Broadman 2007). An important by-product of these kind of activities is the advanced technologies or enhanced skills which could be beneficial for host countries in the long run. Such by-product could engender positive spillover effects on the efficiency and competitiveness of local firms. (Onjala 2008)

FDI for infrastructure investment

Most Chinese FDI were invested in the form of infrastructure investments which proved to have profound impacts on economic growth. In order to determine the impact of Chinese infrastructure FDI on Kenya, it is important to understand the positive and negative outcomes of new infrastructure projects. Many studies have looked into this aspect in a variety of backgrounds (Lau and Chiu 2003; Banerjee, Duflo, and Qian 2012; Gutiérrez 2001; Vickerman, Spiekermann, and Wegener 1999; Andersson, Shyr, and Fu 2010; Geurs and Eck 2001; Martellato, Nijkamp, and Reggiani 1998; Corkin, Burke, and Davies 2008).

Impacts of infrastructure investments

Among all the infrastructure, roads and railroads are frequently studied, since they are closely related to industrial development by transmitting large amount of materials and finishing products (Atack et

al. 2010; Brown and Hatch 2002; Debrezion, Pels, and Rietveld 2007; Bell 1976). According to many researchers, there are many benefits of mega transit projects: 1) multi-international mega projects could accelerate the circulation of multinational organizations and global financial capitals which create large amount of job opportunities and tax revenues (Zhao 2006); 2) their technology spillover effects could improve and spread advanced techniques, and 3) the projects encourage business to grow by increasing accessibility and tourism development (Olds 2002; Khadaroo and Seetanah 2007; Ankomah and Crompton 1990).

Chinese scholar Ding (2013) summarized a positive relationship between the transport costs and regional economic concentration using the data gathered in China's city statistics yearbooks. His research result showed that a city's total GDP in both manufacturing and service industries increased drastically after new railroad construction. When transport cost declines, factor inputs such as labors, firms and investments are all attracted to core areas, leading to rising core–periphery/rural–urban gaps. The same relationship between economic growth and infrastructure development are witnessed in France and southern Italy as well which proved the positive effects of the new railroad infrastructure projects toke place in both developed and developing countries (Combes and Lafourcade 2001; Faini, Galli, and Giannini 1993). Richards and MacKenzie (1986) comment that "There is perhaps no more potent or dramatic symbol of the Industrial Revolution than the railways." Simmons pointed out in his book that the building of railway stations always resulted in the towns receiving a boost to local economic growth (Simmons 1968).

Negative impacts of infrastructure FDI and reasoning

Though people agree the infrastructure constructions is a factor of economic growth, how mega projects are evolved in economic development still has a lot of puzzles in front of people. As mentioned in Bent Flyvbherg's book and reports for the world bank, mega infrastructure projects are seen as economic ramifications which could likely hinder the economic viability of the country as a whole (Flyvbjerg, Bruzelius, and Rothengatter 2003; Flyvbjerg 2004; Flyvbjerg 2005; Flyvbjerg, Glenting, and Rønnest 2004; Flyvbjerg, Holm, and Buhl 2002; Flyvbjerg 2013; Flyvbjerg, Holm, and Buhl 2004). The problems became more sever in developing countries. In low income countries, misinformation incurring during the process can generate huge problems especially when two parties failed to establish a practical and efficient relationship. The risks associated with optimism bias and strategic misrepresentation as well as multi-actor decision making processes with conflicting interests were hidden under the process (Flyvbjerg, Bruzelius, and Rothengatter 2003; Flyvbjerg 2004;

Fletcher 2003). According to the Nobel Prize winner, Williamson's (1981) transaction cost theory, asymmetrical information generated the public entities' anxiety.

Since there are relatively less mega project precedencies in developing countries, the case study of how the Chinese FDI behaves in Africa could serve as supplementary materials.

Methodology

Basic methodology

As mentioned in Introduction, the results of FDI could be both positive and negative. The core for the argument is whether Chinese infrastructure FDI creases a better or a worse outcome. In order to find out the answer, there are four aspects need to discuss:

- Whether these infrastructure investments boost the economy
- Labor importation
- Whether China is plundering the resource of Africa
- The integrity of the Chinese contractors

Most of these aspects are hardly quantified and case sensitive. In order to find out the impacts of an international contract on both public and private sector, representative cases are needed for analysis. They need to be evaluated based on primary qualitative data generated from interviews and site visits. Since the valuation of impact to economy will be conducted as well, secondary data like the demographic distribution, industry multipliers and projections for the project will be used as well.

Interview is the primary method for data collection. By selected interview subjects closely related to the topic, the opinions and altitudes could be gathered towards the four contradictions.

The site visit could provide complementary information about the environment protection, the proportion of Chinese and Kenya workers and the reaction of the local residences. Therefore, I traveled from Nairobi to Mombasa which was an eight hours drive, the site visit provided a whole picture of the condition of the constructions and drive-through the completed A109 provides a first-hand experiences of the quality of the research target. Secondary data is yielded from news and archival research, which was collected prior to the interviews in order to obtain appropriate background knowledge in order to bridge connections between my research interests and the respondent's experience

Case selection

In this thesis, I select two cases as study objects which are the Standard Gauge Railroad and A109 national road. These two project contracts were both signed between the Kenyan government and a Chinese state-owned company, Chinese Road and Bridge Cooperation (CRBC) as shown the Figure 1.

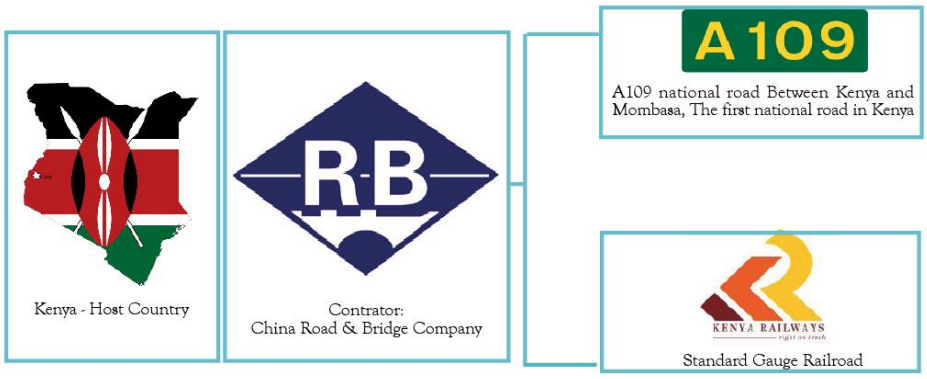

Figure 1, Projects relationship

Kenya is a great destination for Chinese-African study because of the frequent business activities between the two countries in the past fifty years. Kenya's democratic government encouraged FDI and launched a serious of incentives to attract foreign capital. The reforms and FDI showed their effects soon. After the launch of the FDI incentives, Kenya's economy has been growing at an average annual rate of 5.3 percent (Briceño-Garmendia and Shkaratan 2011). Many international companies seized the opportunity and entered the Kenya market, among all the multinational investors, Chinese SOEs are the major players. Up to now, companies from China constructed and managed more than 150 construction projects with a total value of 10 billion, most of which are infrastructure projects (Liu 1996). The number keeps growing every year with the project scale expanding.

Among all Chinese MNCs, the contractor studied in this thesis, CRBC has been one of the most important Chinese companies participating in Kenyan market for more than several decades. Its Kenya office was established in 1984, till now they have constructed 23 road projects, one harbor project and a railroad project with a total mileage of 1200 kilometer. CRBC is one of the four large state-owned companies in China which entered the international project contracting market at the earliest stage. Exactly as the company name shows, CRBC mainly focuses on contracting projects like roads, bridges, railways, and water conservancy projects both domestically and internationally. It is a subsidiary of China Communications Construction Company which is the largest infrastructure SOE in mainland China. It ranks No. 187 on the Fortune 500 and No. 9 on ENR's Top 250 international contractors in 2014.

Name	A109 National Road	Standard Gauge Railway
Type	Road Project	Standard Gauge Railway
Use	Road transport	Railway Transport (Passengers & Cargo))
Status	Completed	Under Construction
Location	Nairobi, Athi River, Vio, Mombasa	Mombasa - Kilifi - Kwale - Taita - Taveta - Makueni - Kajiado - Machakos and Nairobi
Overall responsibility	Kenya Urban Roads Authority & Kenya National Highways Authority	Kenya Railways Corporation
Cost	KSh 30 billion/ USD. $0.4 billion	KShs. 327 billion/ USD. $4 billion
Combined distance	470.00km	485.303km | 33 Terminals
Completion	2000	1st June, 2017
Construction period	5 years	3 Years
Main contractor	China Road & Bridge Co (CRBC)	China Road & Bridge Co (CRBC)
Maximum speed of vehicle	100km/hr	80km/hr (Frieght vehicle); 120km/hr (Passenger vehicle)

Table 1, main constructions between Nairobi and Mombasa, source: Megasky, SWECO, online

Table 1 is the information of the two projects analyzed in the study, A109 national road and Standard gauge road. The projects were chosen due to similar characteristics of influence area, financial method and project scale. As Figure 2 shows, their paths and terminal vertexes are the same as well. Their main functions are the same which is serving the transportation demands of import goods and export goods between the port of Mombasa and Nairobi. Additionally, each project has experienced negative critiques and questions mentioned in the introduction. According to news articles and interviews, A109 and Standard Gauge Railroad have experienced strikes, law suits and countless negative critiques. Their representativeness and commons made them perfect cases for the study.

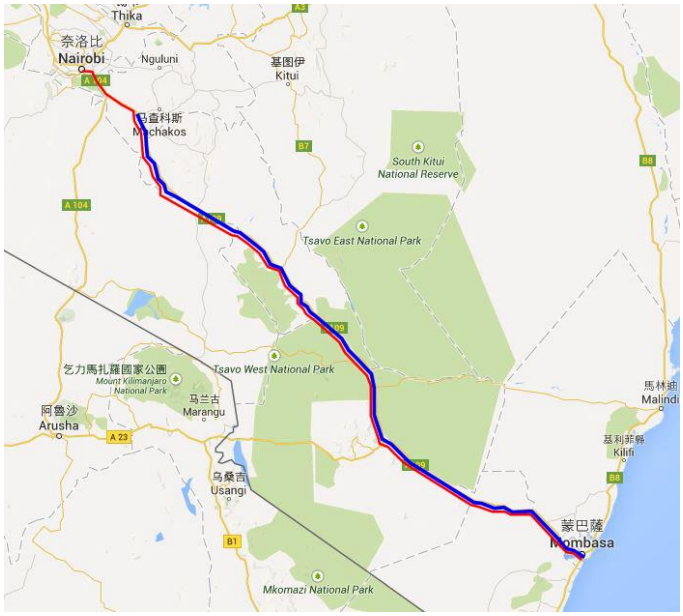

Figure 2 Routes of A109 and the Standard Gauge Railroad

Study object

In order to avoid bids during the research, interviews were conducted among different group of people. Not only the employees and directors from the Chinese company were interviewed. Local Kenyans who are directly affected by the projects were included during the field work.

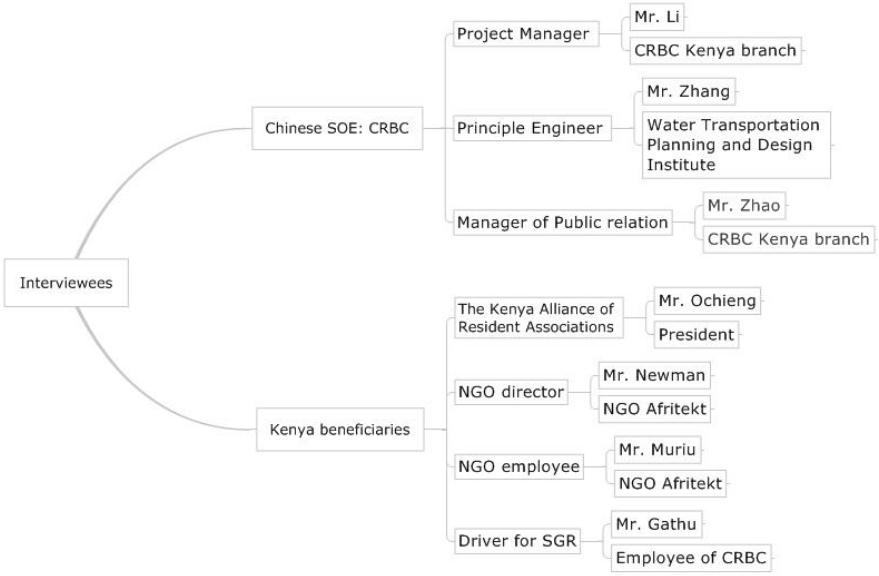

Figure 3, interviewee list

Figure 3 shows the interviewees and their responsibilities related to the projects. By asking open ended, non-scripted questions, the respondent could narrate their stock of knowledge in a

substantive and reflexive manner (Holstein and Gubrium 1995). There are two groups of subjects who directly be affected by the projects: the Chinese firm responsible for the design and constructs and the Kenyan beneficiaries of the finished roads and the future railway line. Each parties have different representatives who have completely different interests related to the projects. By asking different questions, different reactions and attitudes were gathered towards economic, political, social and environmental perspectives. Some interviews were conducted face-to-face, however, due to the time constraint, since the time I visited Kenya was during the winter break, some of the interviewees were gone for Christmas holidays. Therefore some of the interviews were conducted via Skype or other long distance media based on the feasibility.

These research tactics have limitations, for the interviewees may hold subjective attitudes toward the projects and the information could be incomplete. In addition, the opinions of interviewees could be bias because of asymmetrical information. However, by acknowledged the limitation, information from different parties could be balanced.

Background

Since the two projects were constructed in Kenya by a Chinese contractor, it is necessary to have some basic information to set the scene for the analysis. In this section, the situation of Kenyan infrastructure system will be introduced followed by the background of the ongoing Standard Gauge Railroad.

Infrastructure deficits of Kenya

Though Kenya has a relatively advanced investment mechanism and a vibrant economic environment, its biggest constraint is the outdated transportation system. As shown in figure 2.1, Kenya's population and agricultural activity are heavily concentrated in the southern half of the country where the land is more fertile for planting. Kenya's infrastructure backbones (principal road arteries and major power transmission lines) have followed this route.

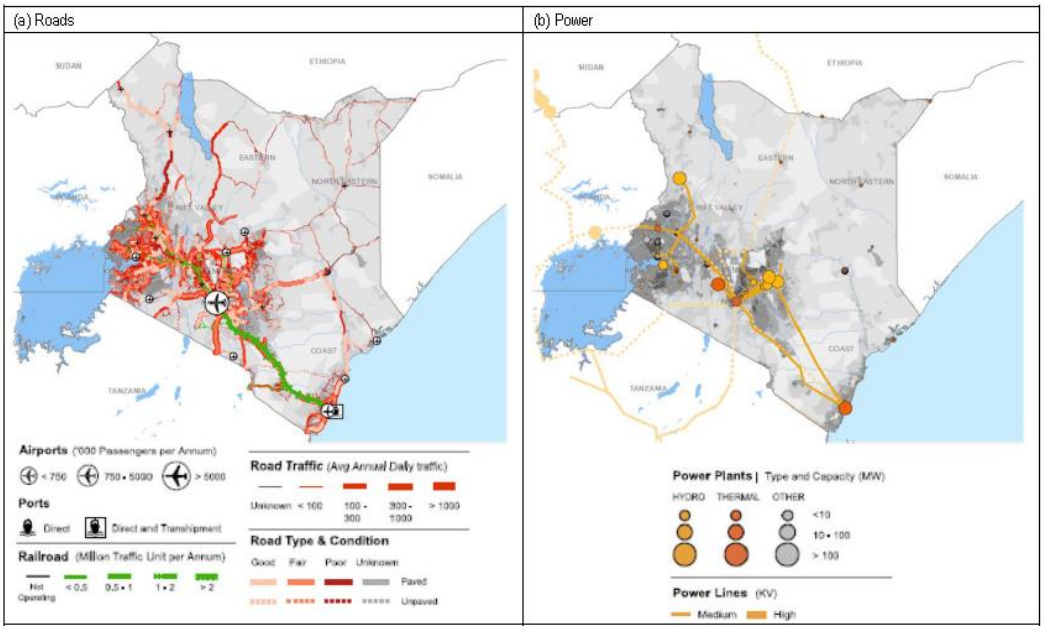

Figure 4. Infrastructure distribution for Kenya, http://www.infrastructureafrica.org/aicd/system/files/ken_new_ALL.pdf

From Figure 4, it is easy to perceive that most of the functioning infrastructure are concentrated in the south west. Other parts of the country are sparsely populated and characterized by fragmentary infrastructure coverages.

Road infrastructure

According to Briceño-Garmendia and Shkaratan (2011), Kenya's road infrastructure indicators look relatively good when compared with other low-income countries in Africa. But they remain far

below the levels of Africa's middle-income countries. What exacerbates the situation is the huge rehabilitation backlog of the Kenyan transportation infrastructure. As shown in Figure 5, Kenya's level of capital spending on infrastructure from 2000 to 2005 is low by regional standards. 1% of total GDP is not adequate to maintain the main road network. In addition, the total amount of resources failed to meet routine maintenance requirements.

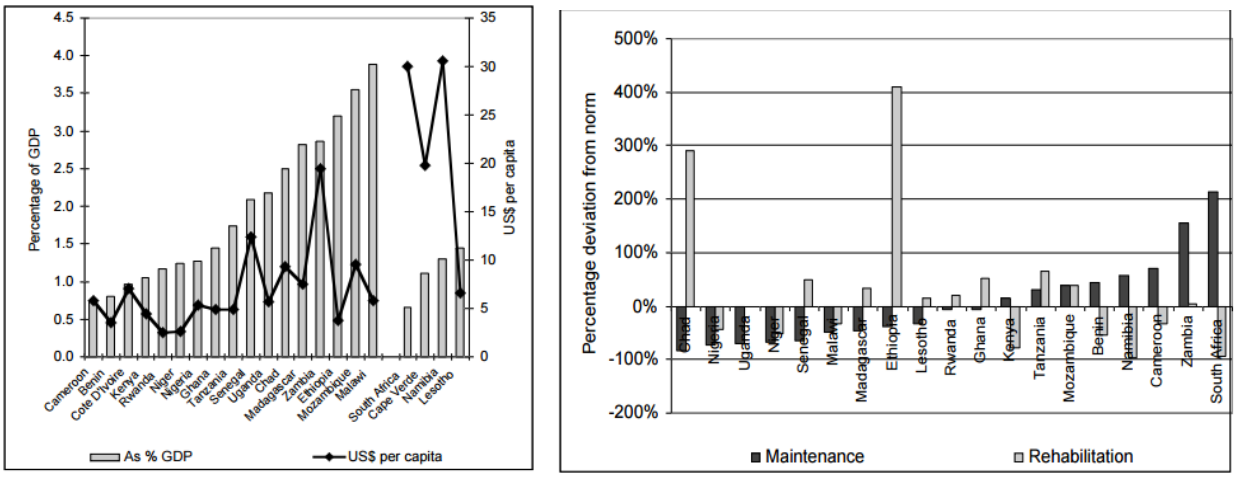

Figure 5. Capital spending on road infrastructure, Sources: (Gwilliam and Foster 2008)

Another problem of Kenya's infrastructure system is its low accessibility. About 30 percent of Kenya's population lives within two kilometers of a passible road. This is only half the level found in middle-income countries (Carruthers 2008).

Railroad infrastructure

There is currently one functioning rail corridor known as the Lunatic Express. This is a railway system linking the interiors of Uganda and Kenya with the Indian Ocean at Kenya's port city, Mombasa. Mombasa not only serves the need of Kenya but also Uganda, South Sudan, Rwanda, Burundi, Kango and the northern eastern part of Tanzania. This busy port handles more than 16 million tons of cargo annually. That number is projected to increase to 30 million tons a year by 2030. The port is congested because of inadequate capacity, exacerbated by the low capacity of rail and road transportation to and from the port. The main highway from Mombasa to Nairobi is already clogged with freight transport. In Mombasa, Kenya's transport minister Michael Kamau claims approximately 3,300 trucks leave each day, one every 30 seconds. The current railway is far less than sufficient (COLLIER 2014).

The Lunatic Express was initially built by the Imperial British East Africa Company (IBEAC) during the colonial period (Klopp 2014). This section of the railroad started in Mombasa in 1896 and finished in 1901. It has been the only operating railroad in Kenya till now and serves as a key conduit for bulk freight.

Since the independence of Kenya, the railway line has remained a main inter-connector for commodity transportation which has stimulated economic development and urban pattern growth. According to government statistics, about 8% of the goods exported through the port of Mombasa is transported by the rail line.

However, for a capital city with a population of over 3 million, the railroad constructed in the 19th century is obviously unable to satisfy the need of Nairobi. According to a 2011 World Bank report (WorldBank 2011) the rail traffic density in East Africa is the lowest among African countries on various indicators, while the International Monetary Fund estimates that trade within the East African Community has tripled over the past decade, putting ever greater strain on an already struggling transit network.

Owing to the deterioration and lack of maintenance of the infrastructure, the railroad has been old and mostly out of service, while the train is slow and crowded. Freight traffic on the rail corridor has declined to less than 1 million tons per year and handles less than 6 percent of the cargo passing through the northern corridor. Based on the information provided by the designer, some sections of the railroad have problems like rail fracture, severe part loss, bridge erosion and abandoned stations. All of the communication between trains and stations are made by cell phones. All the junctions are on manual switches. According to CNN news reports (2014), the 300-mile journey from Nairobi to Mombasa currently takes 12 hours for passengers and 24 more for freight trains.

Currently, there is an urgent need to improve the rail corridor between Nairobi and the port of Mombasa. Although government and global NGOs like the World Bank have attempted to extend and upgrade the rail system in Kenya several times, failures were inevitable due to the financial and technology constraints. In 2013, Kenya government finally decided to build a new railroad parallel to the original railroad with China's assistant. This is the Standard Gauge Railway, one of the projects analyzed in this thesis. (JOSEPH 2014)

Background of Standard Gauge Railroad

In November 2013, Kenya government signed its first railway contract in a century with China at the State House in Nairobi which is the Standard Gauge Railroad. According to the CNN MA news, this Mombasa-Nairobi section is only the first part of a much larger project. in the future the railway line is planned to run between Mombasa and Malaba a town in East Uganda and eventually link to other major east African cities, namely Kampala (Uganda), Kigali (Rwanda) and Juba (South Sudan) (Ott 2014). It will connect all Eastern African countries after completion. Currently the only section under construction is the Mombasa-Nairobi section which is the one analyzed in thesis as well.

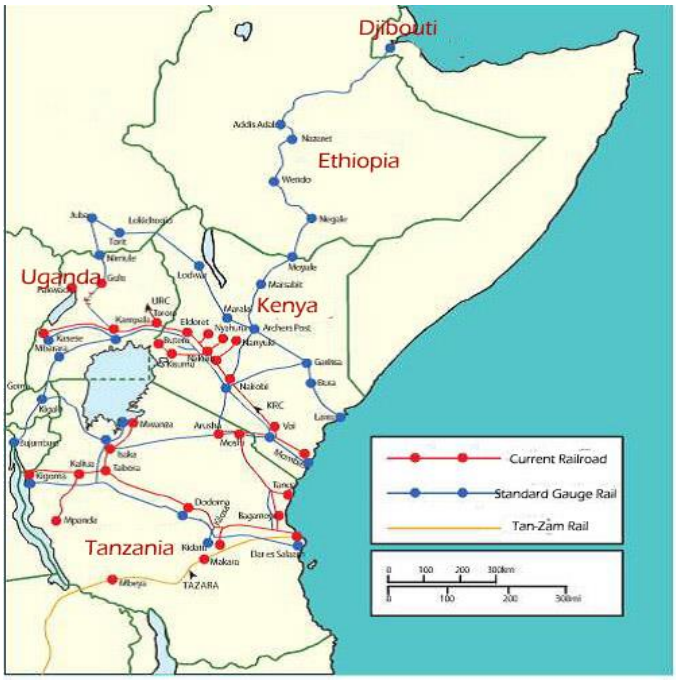

Figure 6, the railroads in Eastern Africa

No sooner than the project was confirmed by the two parties, it received a large amount of attentions from the public. Negative critics about the railroad became increasingly severer as the project goes further. Rumors of corruptions as well as allegations of irregularities into the tender process, mismanagement in the awarding of the contract and low local employment rate have stalled the construction and impel the controversy on the real cost and feasibility of the railway project (COLLIER 2014). According to a local newspaper 'The Star', integrity of the Kenya Railways Corporation and CRBC has been questioned. In the meantime, there are serious accusations of labor importation problem which has been the biggest concern of Kenyan citizens.

However, it is arbitrary to question the overall integrity of the project. Some of the benefits and necessities of the project are easy to see by everyone: travel time reduction, four hours and 30 minutes to travel from Mombasa to Nairobi (JOSEPH 2014); employment opportunity creation, efficient and cost effective rail transport, projected reduction the costs of freight transport is more than 60% and enhance Kenya's connection with other East Africa countries. The project could no doubt increase Kenya's competitiveness in Africa on both economic and public good perspective. What's more, China's low interest loan and the company's high productivity reduced the burden of the Kenya government for now.

Along with these benefits and doubts, infrastructure projects have more complicated socio-economic impacts. New transportation infrastructure means new accesses which could bring benefits and harms to certain areas.

Analysis

Kenya's infrastructure upgrading projects towards upgrading its industrial level shaped like a net connecting Nairobi and Mombasa. Based on the data collected, the analysis will use these two projects as example to give an answer to the question: whether Chinese FDI is beneficial or harmful to Africa society. The analysis will conducted based of four aspects which are mentioned in previous chapters.

- Whether these infrastructure investments boost the economy
- Labor importation
- Whether China is plundering the resource of Africa
- The integrity of the Chinese contractors

Economic development

Whether A109 and Standard Gauge Railroad have impacts on economic development is a question often brought up when observers questioned the feasibility of the projects. Based on archives and thesis study, the answer is positive. These two projects have impacts on several aspects which boosted or will boost the Kenyan economy, both directly and indirectly. The direct impact is the large amount of capital invested into the projects which not only affects infrastructure sector but other sector as well. The indirect impacts refer to the influences of several sectors after the completions of the projects. However, how large the influences are or will be need to be discussed in detail.

Direct economic impact

This Standard Gauge Railroad is a multi-billion project. The capital will be used to buy materials, hire labor and expropriate land which is a way to reinvest the capital into the market. It not only strengthen the purchasing power of the material suppliers and workers but also encourage the vitality of other industries.

The multiplier effects of an income injection in one part of an economic system on the functional and institutional distribution in general could be examined by the multiplier analysis (Round 2003; Pyatt and Round 1979). In Wanjala (2013)'s paper, he provides the multipliers for the major industries which is shown in Table xx.

	Production backward linkages	Production forward linkages
Wood and Paper	3.20	1.15
Petroleum	1.96	5.21
Metals, Machinery and Equipment	1.56	2.63
Electricity and Water	3.11	2.12
Building and Construction	3.24	1.19
Transport and Communication	3.23	8.01

Table 2. summary of multipliers

It can be seen in Table 2 an investment in Transportation sector could triple the benefits during the investments and gain benefits eight times larger in the long run. If we treat the construction of road and railroad as an investment in Building and Construction sector, it still have a larger positive impact on other sectors.

Transportation capacity

Kenya's main industries are argriculture, manufacture and retailing. Most of its industrial zones are located in the center of the cities, among which Nairobi has the largest share of industries which is about 40%. Also, Kenya's cement production is its key industrial product, most of its factories are located in Mombasa and Athi River. Every year Kenya produces about 4 million tons of cement, three fourth are used domestically and one fourth is exported to neighbor countries.

In order to transport the goods and products between Nairobi and the port of Mombasa, in 1998, CRBC was commissioned to build the national road A109. It is a 150 km road mainly for trucks and container transportations. A109 is not only the exclusive road connecting Nairobi and Mombasa but also the only path to northwest and east African countries. It functions as a transportation lifeline connecting the Indian Ocean and the African Hinterland.

Before the completion of A109 project, the surface of the original road was damaged severely. There were large number of container trailers and trucks jammed on the road which took approximately 12 to 15 hours to transport goods from Mombasa to inland cities. Both the accessibility and efficiency were extremely low when the total number of car accidents was high. After the completion of A109

road, the speed increased 40% and the high standard of the road makes it much safer for trucks and trailers. Due to the high quality and efficiency of the road, it was named as the "China Road" and Kenyan government issued stamps commemorating it in 2003 to commemorate the 40th anniversary of the establishment of the diplomatic relationship between China and Kenya.

However road transportation is much more expansive and volume limited compares to railroad transportation. Though, after the completion of A109, the commute time between Mombasa and Nairobi has reduced to six hours. It is still time consuming and dangerous because all truck are overloading and still cannot meet the freight demand.

What's more, based on the statistic data of Kenya transportation department, currently, almost all the sections of A109 have traffic loads over 90%, some sections even reached the over-saturation states. For example, the traffic load of section Sultan Hamud and Mariakani has exceed A109's capacity while section Kibwezi and section Voi are near saturation.

However, the total amount of goods handling by the port of Mombasa is increasing every year. Based on the data provided by Mombasa port authority, the real handling capacity for Mombasa port in 2012 is 21.92 million tons, and its projected capacity id 450 million tons for import goods and 92.8 million ton for export goods in 2035 as shown in Table 3.

Goods			2020	2025	2035
Import	Import total	Total	2647.2	3544.9	4525.6
		Container	962.9	1330.1	1757.9
		Common Goods	61.7	50.0	40.6
		Dry bulk cargo	1110.3	1494.8	1905.9
		Liquid cargo	512.3	670.0	821.2
	Total for Neighbour countries		807.4	1081.2	1380.3
Export	Export total	Total	513.5	704.2	928.1
		Container	413.6	549.9	683.1
		Common Goods	93.8	151.0	243.2
		Dry bulk cargo	2.6	1.4	0.8
		Liquid cargo	3.5	1.9	1.0

	Total for Neighbour countries	807.4	105.6	139.2
Total		3160.7	4249.1	5453.7

Table 3, Projection of handling capacity of Mombasa port

It can be seen from Table 3, the capacity of Mombasa port increases rapidly. Now, Kenya railway cooperation is expending the Inland Container Deport in Nairobi which is located in the original railroad station, and it will have its own clearance procedures office which means the import and export goods will not need to wait in Mombasa port for clearance but directly shipped from there. In this way the goods shipped in Kenya and the capacity of Mombasa port will all be increased largely. Though A109 has cut the transportation time of materials and goods to half between Nairobi and Mombasa, the total amount of goods transported is still limited annually. Since the road transportation has reached its limit already, future most of the transportation will rely on railroad.

year	program	Import			Export			Total
		Kenya	Neighbouring countries	Total	Kenya	Neighbouring countries	Total	
2020	Port freight volume	669.2	293.7	962.9	351.6	62.0	413.6	1376.5
	Rail freight volume	100.4	132.2	232.5	105.5	24.8	130.3	362.8
	percentage	15%	45%	24.1%	30%	40%	31.5%	26.4%
2025	Port freight volume	924.4	405.7	1330.1	467.4	82.5	549.9	1880
	Rail freight volume	184.9	243.4	428.3	163.6	41.2	204.8	633.1
	percentage	20%	60%	32.2%	35%	50%	37.3%	33.7%
2035	Port freight volume	1221.7	536.2	1757.9	580.6	102.5	683.1	2441
	Rail freight volume	305.4	402.1	707.6	261.3	66.6	337.9	1035.4
	percentage	25%	75%	40.3%	45%	65%	48.0%	42.4%

Table 4, ratio of container transport by port and rail

Based on the projection of Kenya Railway Cooperation, in 2020, among the total amount of goods imported to the port of Mombasa, railroad will undertake 15% of freight volume. Since the distance

between port and neighborhood countries are much longer, the advantage of rail transportation is much obvious. After the Standard Gauge Railroad extended to Uganda and Ethiopia, the percentage of containers transported by railway will reach 60% in 2020 and in 2035 the total amount of container transported to neighboring countries is 75%.

After the completion of Standard Gauge Railroad, the cost of exchange goods and materials between counties will reduce largely and the most of the cargo transportation between other Eastern Africa countries and the port of Mombasa will be undertaken by it as well. Since most of the arable lands are concentated along the railroad, the Standard Gauge Railroad has a large portential of optimizing the transportation services. It will create great opportunities for agricultural development for cities along the Standard Gauge Railroad. The business activities will be increased if there are more frequent good circulations. Since different areas have their own main production, mostly agricultural, with frequent train transportations, the products could be sent to further areas and oversea by the Mombasa port. In this way, the farmers could have better earnings and encourage more business activities. In this way, there will be more job opportunities for these areas as well.

Not only industrial products like cement could be can be transported by the future railroad, daily products could be transported as well. In this way, the total amount of daily products will largely increase and the transportation expenses will be reduced. Based on the demand and supply curve, the cost of groceries and household items will be reduced which is beneficial to residences in Kenya. The improvement of the railroad will provide better access to health facilities and for schools. Extensions of agricultural services and social support programs will be facilitated by the new rail system too. It is common knowledge that among the major obstacles to accessing health care are long distances, inadequate and unaffordable transport systems.

Tourism

The government of Kenya's blue print for economic recovery, the Economic Recovery Strategy for Wealth and Employment Creation (2003) and vision 2030 recognize tourism as one of the major productive sector. However, transportation deficit is a great barrier for the flourish of tourism in Kenya.

Tsavo is one of the oldest and largest parks in Kenya. It opened in 1948 and was divided into east and west parts by the A109 road and the current railway. In the future, the Standard Gauge Railroad will pass through the park as well, as shown in Figure 7, Tsavo National Park is located along the route of A109 and the Standard Gauge Railroad between Maungu and Mtito Andei sections.

There are three gates connected to the park, one connected with the A109 road from Mombasa and the other two connected to single lane roads to Nairobi and the city Malindi. The conditions of the two single lane roads were bad, they are all unsurfaced with big stones on the surface. A109 has a better condition comparing to the other two routes. Based on the data from Kenya statistic department, tourism earnings grew by 52% from USD 370 million in 2003 to USD 560 million in 2004, 75% due to A109. However, A109 is mainly for truck trafficking, most of the vehicles are heavy trucks sometimes with dangers cargoes. It is still relatively unsafe for tourists.

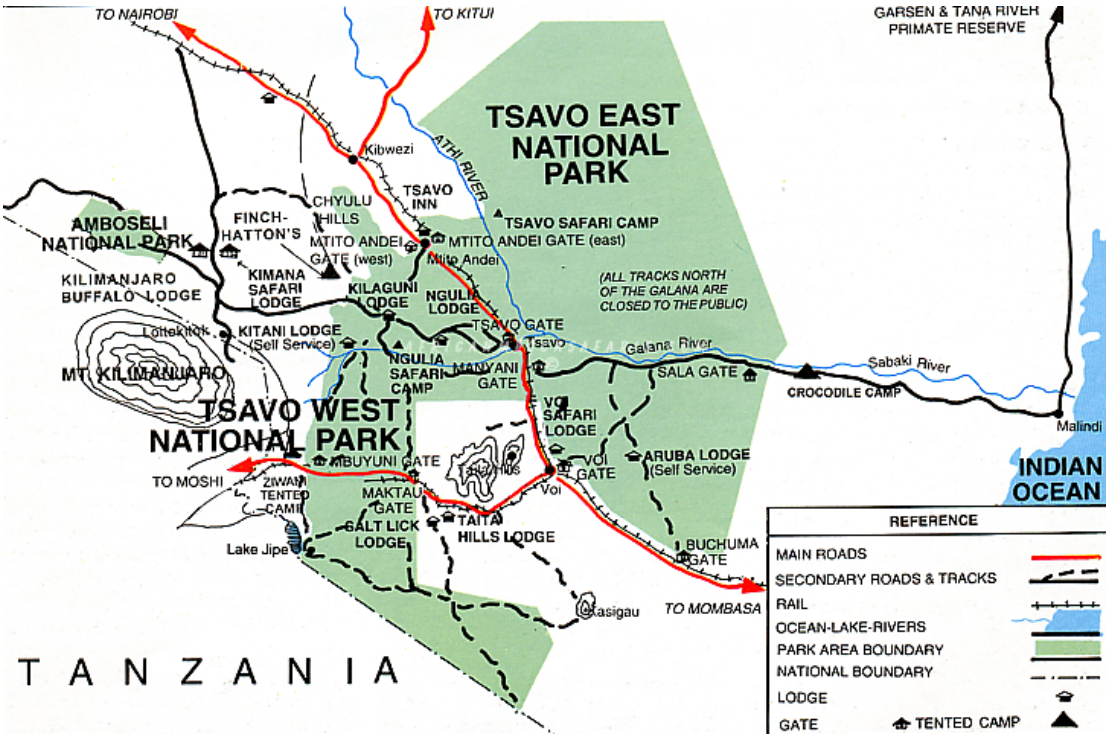

Figure 7, Tsavo East and West Map (AfricanMecca 2013)

During the night it is more dangerous to drive through these paths. These is no light along the roads, drivers only rely on the headlights. Sometimes there are roadblocks with shape edges in the middle of the roads for anti-terrorist purpose. If a car hits on the roadblock, a deadly accident may happen. Since the bad condition of the roads, it takes more than four hours to go through a distance of 150 km, and normally it will take less than two hours if the condition of the road is better. Though Tsavo has some light plane tracks for planes with less than ten people, the total number of tourists is limited and it is very expensive (more than $500 USD on average based on the price listed on Mombasa Air Safari website). Other than these two means, there is no other way to go into the park.

Because of the large size of the park and the low fare box collection, the cost of the park maintenance and animal protection creates a heavy burden to Kenya Wildlife Service, and costs a significant amount of the tax payer's money every year. Therefore, Kenya Wildlife Service, during the planning phase of the Standard Gauge Railroad, suggested a major stop mainly for passages inside the park which is the Miaseny station in the middle of the Standard Gauge Railroad.

Since nineteen century, many scholars had looked into the relationship between infrastructure development and the attractiveness of a tourism destination, the results always show that the accessibility of a scenic spot is a determinant (Chew 1987; Gunn 1988; Inskeep 1991; Martin and Witt 1988). The export on this field Kaul (1985) position the transportation as the most important component of the success of a park: "transport plays an important role in the successful creation and development of new attractions as well as the healthy growth of existing ones." Khadaroo and Seetanah (2007) has pointed out in their paper the railroad is responsible for connecting tourism origins to tourism destinations.

As shown in Figure 7 above, the Standard Gauge Railroad will bring the tourists from upper part of Kenya as well as the lower part. Foreign passages could get on the train directed once they landed in Jomo Kenyatta International Airport, which is located in Nairobi or Moi International Airport which is located in the west of Mombasa and come to Tsavo directly. The train will shorten the commute time by half from both directions and make it much safer and cheaper. Based on the future population development projected by the designer, the tourist flow will be doubled one year after railway's completion. And the literatures and the gravity model of the tourism services industry conducted by Khadaroo and Seetanah (2007) demonstrates that it is not a fallacious speculation. With the population growth, it will have a positive effect on fare box collection and the Kenya Wildlife Service could spend the extra money on creating a better living condition for wild animals and species diversity protection.

Labor importation

The unemployment problem is not unique for Kenya, it extensively affected every country especially after 2008 financial crisis which worries the working-age population globally. In Africa, unemployment and underemployment continue to be major obstacles to the full utilization of human resources despite relatively strong growth in the region over the last decade. But based on Table 5.3.1 below, it appears that comparing to neighbor courtiers and the country involved in the thesis, China, Kenya has an even severer problem.

Country	2000-2004	2005-2009	2010-2014
China	4.3	4.5	4.6
Ethiopia	5.4	5.4	5.7
Kenya	9.3	9.2	9.2
Sudan	14.8	14.8	15.2
Somali	6.9	6.9	6.9
Tanzania	3.5	3.5	3.5
Uganda	4.2	4.2	3.8

Table 5, Unemployment rate between 2000 and 2014 (% total labor force), source: World Bank

In order to resolve the problem, Kenyan government has launched a serious of job creation projects which turned out to be ineffective. Based on Table 5, Kenya's unemployment rate is higher than most of its neighbors over the last fourteen years. Except Sudan which is four point higher than Kenya all other countries share boarder with Kenya have lower unemployment rates

In recent years, Kenyan government is putting its increasing focus on infrastructure investments. Kenyan President Kenyatta once said: "I have no doubt that the expansion and modernization of our roads, airports, railways has brought jobs, and raised the level at which our economy - and the region's - can compete" (Chai 2014).

The benefit of FDI invested projects is not only job creation, but the technology transfer through MNCs' technology spillover effects. FDI by firms from technologically advanced countries functions as a vehicle of technology transfer. (Glass and Saggi 1998) There are several feasible channels through which FDI can benefit innovation activities of domestic firms in the host country.

1) Local firms can learn from the products and technologies brought in by foreign investors, by reversing engineering. 2) Spillovers can take place through labor turnovers whereby local firms obtain the technological know-how of foreign-investment-related firms by "stealing" their skilled workers. 3) FDI has a demonstration effect on local R&D activity. (Aitken and Haaaison 2001)

Though there are less Research & Development activities in construction sector, but the human capital trained by CRBC could be a huge gain in the long run for local Kenyan contractors. In "Technology, market characteristics, and spillovers", the author mentions that trained workers and managers who may later be employed by local firms is a key factor of the growth of local firms. (Kokko 1994)

No doubt, if the projects hired enough local labor, there are great benefits for the economic development of Kenya, especially a project as large as the Standard Gauge Railroad which applied many advanced technologies. However, many newspapers raised their concern about the labor importation problem as one of their major concerns of the project (Joseph 2014; TheStar 2014). Looking at the news, it seems like that China has shipped teams of workers for not only design and managerial works but low technique construction jobs. On October 3rd 2014, Protesters in Kenya blocked truckers on the only highway from port of Mombasa to Nairobi demanding jobs for a section of a railway in the area.

During my interview with Mr. Ochieng, the President of the The Kenya Alliance of Resident Associations (KARA), he expressed his worried of this problem. The KARA is the apex body representing the voice and pro-active action of resident associations on consumers and taxpayers' rights countrywide. As their president, Mr. Ochieng is an experienced and dedicated professional of civil society work with particular strengths in democracy and governance. He is a typical representative of the powerless voices of the Kenyan people. When I asked him about the labor import problem, he expressed his concerns. He said he has received several complaints and lawsuit consultations about this problem from the Kenyan workers as well as several local newspapers.

However, the expense of importing a Chinese labor is relatively higher comparing to hire local workforce, it is in fact inefficient if the Chinese contractor imported all labors from China. Therefore I asked the importing of labor during my interview with the Chinese project manager of the Standard Gauge Railroad, Mr.Li who is also the manager of the CRBC Kenya office and get a different answer. Based on the information he provided, there are only 572 Chinese managerial personnel and engineers on the scene. Meanwhile, the company and its subcontractors hired 2,162 Kenya engineers and 30, 000 local workers which consisted 90% of the total employees of the projects. Based on Mr. Li's projection, with the project going forward they will hire more local people. Mr. Li also mentioned that they hired local consultances and more than 100 permanent workers for the project. He told me that CRBC's wage level is 50% higher than average indian

companies and 30% higher than local companies' average wage level. In the meantime, they signed an agreement with the labor union stated that the wage level of their Kenyan employees needs to be higher than local level and remines a increasing rate of 15% to 20%. CRBC provided at least a week's pre-job training. In this way they could have reliable work force and they will receive educations specifically useful for construction jobs. This will be helpful for future job hunting after the construction finished.

To test his words, I visited the construction site of Nairobi section. The percentage of Kenyan and Chinese workers seemed to be nine to one. I talked to a Kenyan truck driver, Mr. Gathu on the construction site near Nairobi South station. Mr. Gathu told me that being a driver here is rewarding. Though working hours in CRBC are longer and his superviser is really stricted (he used the word "mean" here), the payroll is good and he can learn stuff which is not only beneficial for now but for future as well. He said he was learning Chinese so that after the project finished he could be hired by CRBC as a offcial vehicle driver which is more stable and beneficial.

Rresource plunder

Chinese companies which constructed infrastructure projects in Africa have been accused to be accomplices of Chinese government for plundering the resource. However, Kenya did not have much mining resource. Instead, agriculture and manufacturing are recgonized as twin engines of economic growth. Agriculture contributes 23 percent of the GDP on average (2004-6) while manufacturing sector's contribution has stagnated at around 10 percent.

Main Stations	Administrative level	Province	Supported Industry	Geographic Location
Mombasa Port	Provincial cities	Coast	Manufacture, Commercial, Tourism, Transportation	Close to Mokmbasa Port
Mombasa West	Provincial cities	Coast	Manufacture, Commercial, Tourism, Transportation	2km from the Moi International Airport
Mariakani	Town	Coast	Husbandry, Dairy, Sugar cane	0.6km from the Mombasa road, Sourth West of Mariakani
Voi	City	Coast	Tourism, Transportation	0.15km from A109 national road, 3km from Batchuma

Athi River	City	Eastern	Husbandry，mining industry，Manufacture	2km from town Voi, west of Tsavo East National Park, parallel with A109 with a distance of 150m
Nairobi South	Capital	Nairobi Special District	Husbandry, Dairy, Tourism, Transportation	In the East corner of Mtito Andei
Mutito Andei	Town	Eastern	Tourism, Transportation	In the middle of Sultan Hamud
Sultan Hamud	Town	Eastern	Tourism, Transportation	0.7km from Athi River town center

Table 6, major stations

Based on the information provided from Kenya railroad cooperation shown in Table 6, the support industries along the road as well as the railroad are farming, tourism and manufacture. The accusation of resource plunder is not convincing for A109 and Standard Gauge Railroad.

Integrity of the company

When reading the news report about the Standard Gauge railroad, most local Kenyan newspapers were questioning the transparency issue of the contract of the Standard Gauge Railroad as well as the integrity of CRBC. Since SOEs are at the forefront of China's engagement with Africa, people always treat SOEs as the representatives of the wills and needs of the central government of China. Therefore, instead of treating their investments as normal business activates, most Kenyan residences interpret them as part of an international conspiracy between the governments. These opinions might be excused since CRBC did not win the construction of the multi-billion standard gauge railway by bid or participate in the tendering process. Not much information on the contract details between Kenya Railways Corporation and the China Roads and Bridges Corporation was opened to the public which made people start to question the integrity of CRBC. However, positioning CRBC as a company cares nothing but money is too cursory. The company has made some effort to improve the Kenya society.

CRBC has noticed the drastic disputes over the transparency issue of the railroad contract. In order to reduce the harmful effects, the CRBC Kenyan branch has established a press office whose responsibility is responding to the accusations and slanders toward the projects CRBC conducted. This is the first time any Chinese SOEs took effort to clear their names instead of keeping silence in these situations. However, according to Mr. Zhao, the manager of public relation, when they saw some negative commons, they prepared a news report explaining the situation and explaining the

misunderstanding. However, this method is very costly and passive. The office can only take action when commons are influential.

However, the dignity of the company to Kenyan society could be noticed within some charity activities. Kibera is the largest slum in Nairobi and the largest urban slum in Africa with a population of around 250,000 through which the old colonial railroad runs. According to Mr. Newman and Mr. Muiru from Afritekt which is a NGO located inside Kibera, the first train comes around seven o'clock in the morning and the second one comes around six o'clock in the afternoon. The track passes the center of Kibera, Trains crawl through the slum, hooting constantly to warn people.

People built houses along the track, the average distance between the houses and the train track is less than one meter. Most of the time, train passes just inches away from those standing. When there are no trains, vendors set up temporary tables and sell products on the track, children play balls along the track. Mr. Newman told me that when there is a train, people move away from the track. However, every year there are killing accidents. In 2013, there was a huge accident, a train derailed inside Kibera, the compartment fell on the fragile living units and killed many people. Since right now, this is the only line between Nairobi and Western Kenya to Kampala and Mombasa, some of the companies have no options but transporting some products like liquefied petroleum gas (LPG) through the Kibera line. This is very dangerous because they are transporting fire explosion goods when people are cooking or smoking just next to the railway line.

The Kenyan government has, on several occasions, tried to evict the encroachers in the past, but without much success. Some insist they should be compensated before they are kicked out, since there is nowhere to go. Most of the people living close to the railway line in Kibera are casual laborers who walk to town or Industrial Area, and if the plan moves them 50 km away, it will be taking their livelihood away from them.

The new Standard Gauge Railroad construction site is located the edge of Kibera and there is a ditch to keep the slum from expending onto the rail track. After the completion of the project it will no doubt reduce the number of accidents created by the trains. This improvement can only happened through CRBC's construction of the Standard Gauge Railroad. CRBC's engagement with Kibera not only happened during the railroad construction. The company has donated a primary school to Kibera which will be opened in 2016.

In the meantime, the company has pay attention to environmental protection during the construction of the Standard Gauge Railroad. Because of the Standard Gauge Railroad, the possibility of animal getting killed by the train inside Tsavo National Park increased. Based on the information provided by the principle designer Mr. Zhang, the route of railroad will be as close as possible to the current transportation corridor and limit the area between A109 and railway line to avoid the re-segmentation of the park. In addition, there are some large animal corridors for large wild animals' migration and guiding facilities around animal habitats to guide animals through the railroad. In the meantime, this section of the railroad will be fenced to stop animal from crawling through the rail to reduce deaths of animals.

Suggestion

Based on previous analysis, it is fair to say that A109 and Standard Gauge Railroad have positive impacts on Kenyan society. However, it does not make them perfect construction projects. Many improvements could be made on Chinese contractor side and Kenyan Government side to make the project better.

Chinese side

Enhance the communication

Lack of communication is a serious problem between two parties though both parties acted based on good wills. As mentioned in the Analysis, there are accusations and rumors over the lack of transparency issue of the contract, labor importation and some other issues. Some of these accusations were true and some were not. Though the company has assigned employees to deal with the problems, these efforts were relatively puny.

In order to remit the problem, a more open and communicative attitude need to be established on the Chinese side. Though some key information could not be released to the public, CRBC could attend some community board meetings and hold public hearings to discuss the project details with the residences about the impacts on the community. In this way, the trust between the company and the residents could be built which will make the project construct smoother.

History preservation

The route of the Standard Gauge Railroad will go through a historical site which is called the Adams House. Though it is built in the seventies which is not too old, it is famous for its beautiful murals. The railroad will go through the mountain where Adam House located on which means the demolition of the building. Though the route is not decided by CRBC, the public will be respectful if CRBC could find a way to save the house.

Kenya side

Mombasa port

After the completion of such a high standard railroad, it will greatly increase the transporting capacity between inland and port. With the new connections and capacity, the port could benefit from the railway largely. Around the port of Mombasa, there are a large number of blight lands which could be developed. The Kenyan government could plan a free trade zone with an aim to promote industrial and economic development. In this way, Developed countries could outsource their manufacturing factories to Africa with train workers and advanced technologies. This kind of

plan will have socio-economic benefits and impacts on the country at large, as well as financial returns. With good infrastructure and transportation access, it not only can bring job opportunities, but also bring GDP growth and more tax revenue.

Unionization

Solving the unemployment problem by creating more jobs is not the once-for-all solution. Though these Chinese FDI infrastructure projects provided some job training and short term jobs, after the railroad finished, most of the employees still will be unemployed. If the workers could form a union under the help of the government, it will be beneficial to any employees working in construction sector. Firstly, the union as an organization could have more information about job opportunities. If the union get some related construction jobs, it could inform its members and give them more chances to find jobs. Secondly, Unions play a pivotal role both in securing legislated labor protections and rights such as safety and health, overtime, and in enforcing those rights on the job. In addition, unions raise wages, since this has always been one of the main goals of unions and a major reason that workers seek collective bargaining.

Limitation

The analysis and recommendations included in this thesis are necessarily limited by the existing data and figures for these projects. Since the A109 finished two decades ago, there is not much information for the construction process and follow up studies. In addition, it is relatively hard to find relevant personals of the projects. It is the main reason why most of the qualitative study are focused on the Standard Gauge Railroad project.

Another aspect which could affect the result is the projections related to Standard Gauge Railroad. Though all interviews were conducted personally, the population and freight transportation projections were provided by the A/E Company which belongs to CRBC. Therefore the data could be relatively optimistic in terms of the positive impacts the finished railroad project could bring. On the other hand, the data has been studied by Kenya Railways Corporation and transportation personals, it is relatively reliable. In the future, it will be better if more evidences could be gathered to support the arguments from other sources.

Conclusion

As Flyvbjerg, Bruzelius, & Rothengatter (2003) argue, the enormous physical and economic scale of mega projects could affect the whole nation in both the medium and long term by a single project's success or failure. The A109 National Road and Standard Gauge Railroad are all qualified as mega project which could bring dramatic changes to Kenyan society. Based on the first hand data as well as the quantitative projections, it is safe to say that these infrastructure projects have in some level improved the living standards of Kenya after Chinese SOEs took advantage of opportunities and filled a void left by the West due to the economic recession. This is consisted with the literatures, that infrastructure constructions provide job opportunities and economic development directly and indirectly.

I remembered when I was talking to Prof. Klopp, a well-known academic scholar about the Standard Gauge Project, she said that: "Development is not improvement." Only rely on infrastructure constructions along cannot guarantee the improvement of economy. Therefore, Kenyan government cannot simply rely on mega infrastructure projects but prepare related economic incentive plans act in cooperation with the transportation projects, such as the port city plan.

However, for an international cooperation, a balance needs to be achieved among private sector capacity, government regulatory function and public satisfaction (Ke et al. 2010). Though the accusations of unlawful contracts, plundering of resource and labor importation turned out to be exaggeration, there is room for improvements on both Kenyan and Chinese side. By enhancing public communication and community engagement, it is conducive for Chinese SOEs to gain the trust of Kenyan residents and reduce misunderstandings because of asymmetrical information.

Reference

AfricanMecca. 2013. "Tsavo East and West Map." *AfricanMecca*. http://www.africanmeccasafaris.com/kenya/guide/tsavomaps.asp.

Agarwal, JP. 1996. "Does Foreign Direct Investment Contribute to Unemployment in Home Countries? An Empirical Survey." http://www.econstor.eu/handle/10419/47220.

Aitken, BJ, and AE Haaaison. 2001. "Do Domestic Firms Beneit from Direct Foreign Investment? Evidence from Venezoeli." *Mexico, Central, and South America:* …. http://books.google.com/books?hl=zh-TW&lr=lang_en|lang_zh-TW|lang_zh-CN&id=aaJVwU7PGTMC&oi=fnd&pg=PA1&dq=Do+domestic+firms+benefit+from+direct+foreign+investment&ots=0Uwujuv108&sig=3NJktXZAelnhhXWw_o0GGE238oA.

Andersson, DE, OF Shyr, and J Fu. 2010. "Does High-Speed Rail Accessibility Influence Residential Property Prices? Hedonic Estimates from Southern Taiwan." *Journal of Transport Geography*. http://www.sciencedirect.com/science/article/pii/S0966692308001257.

Ankomah, PK, and JL Crompton. 1990. "Unrealized Tourism Potential: The Case of Sub-Saharan Africa." *Tourism Management*. http://www.sciencedirect.com/science/article/pii/026151779090004S.

Arsene, Codrin. 2014. "Top 10 Misconceptions about Chinese Investment in Africa." *Congoforum*. http://www.congoforum.be/en/analysedetail.asp?id=146236.

Arshad Dudhia, Musa Dudhia & Co. 2012. "Silk Road or Dragon Path? The Impact of Chinese Investment in Zambia." *ALN INSIGHT*. http://www.africalegalnetwork.com/wp-content/uploads/2012/10/The-Impact-of-Chinese-Investment-in-Zambia-Arshad-Dudhia-Musa-Dudhia-Co-ALN-Insight-September-2012.pdf.

Atack, J, F Bateman, M Haines, and RA Margo. 2010. "Did Railroads Induce or Follow Economic Growth." *Social Science History*. http://ssh.dukejournals.org/content/34/2/171.short.

Banerjee, A, E Duflo, and N Qian. 2012. "On the Road: Access to Transportation Infrastructure and Economic Growth in China." http://www.nber.org/papers/w17897.

Bell, D. 1976. "The Coming of the Post-Industrial Society." *The Educational Forum*. http://www.tandfonline.com/doi/pdf/10.1080/00131727609336501.

Blonigen, BA. 2005. "A Review of the Empirical Literature on FDI Determinants." *Atlantic Economic Journal*. http://link.springer.com/article/10.1007/s11293-005-2868-9.

Briceño-Garmendia, C, and M Shkaratan. 2011. "Kenya's Infrastructure: A Continental Perspective." *World Bank Policy Research* …. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1792254.

Broadman, HG. 2007. *Africa's Silk Road: China and India's New Economic Frontier*. https://books.google.com/books?hl=en&lr=&id=fkBJ0HL34WsC&oi=fnd&pg=PR5&dq=Africa's+Silk+Road:+China+and+India's+New+Economic+Frontier&ots=udvCcWweqL&sig=PfGj5Nkzl_EzORTAlQ4cMQiiGbw.

Brown, TR, and AB Hatch. 2002. "The Value of Rail Intermodal to the US Economy." *An Article by American* …. http://intermodal.transportation.org/Documents/brown.pdf.

Carruthers, R. 2008. "Improving Connectivity: Investing in Transport Infrastructure in Sub-Saharan Africa." *Background* …. http://infrastructureafrica.org/system/files/library/2011/05/BP07_Transport_maintxt.pdf.

Chai, Kazungu. 2014. "Kenya: President Kenyatta - Infrastructure Development Key to Job Creation." *Allafrica*. http://allafrica.com/stories/201407250202.html.

Chew, J. 1987. "Transport and Tourism in the Year 2000." *Tourism Management*. http://www.sciencedirect.com/science/article/pii/0261517787900033.

COLLIER, SARAH. 2014. "End of the Line? Allegations of Corruption Knock Kenya's Railway Project Off-Track." *Think Africa Press*. http://www.thinkafricapress.com/kenya/allegations-mismanagement-unlikely-significantly-derail-east-african-rail-megaproject.

Combes, PP, and M Lafourcade. 2001. "Transport Costs Decline and Regional Inequalities: Evidence from France." http://papers.ssrn.com/sol3/papers.cfm?abstract_id=285267.

Corkin, L, C Burke, and M Davies. 2008. "China's Role in the Development of Africa's Infrastructure." *Documents de Travail Du SAIS Dans* …. http://www.sais-jhu.edu/sites/default/files/China's-Role-in-the-Development-of-Africa's-Infrastructure.pdf.

Debrezion, G, E Pels, and P Rietveld. 2007. "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis." *The Journal of Real Estate Finance and* …. http://link.springer.com/article/10.1007/s11146-007-9032-z.

Ding, C. 2013. "Transport Development, Regional Concentration and Economic Growth." *Urban Studies*. http://usj.sagepub.com/content/50/2/312.short.

Easterly, W. 2003. "Can Foreign Aid Buy Growth?" *The Journal of Economic Perspectives*. http://www.ingentaconnect.com/content/aea/jep/2003/00000017/00000003/art00002.

Faini, R, G Galli, and C Giannini. 1993. "Finance and Development: The Case of Southern Italy." *Finance and Development: Issues* …. https://books.google.com/books?hl=en&lr=&id=0OAs9PL8fbsC&oi=fnd&pg=PA158&dq=Finance+and+development:+the+case+of+southern+Italy&ots=eD9a6i33tU&sig=mqcoxd8vH953XzgH0S4ZMi24VMU.

Fletcher, Harold. 2003. "Manageable Predictors of Park Visitor Satisfaction : Maintenance and Personnel" 21 (1): 21–38.

Flyvbjerg, B. 2004. "Procedures for Dealing with Optimism Bias in Transport Planning." *The British Department for Transport*. http://www.researchgate.net/publication/244538868_Procedures_for_Dealing_with_Optimism_Bias_in_Transport_Planning/file/60b7d51d438f4b7a41.pdf.

———. 2005. “Measuring Inaccuracy in Travel Demand Forecasting: Methodological Considerations Regarding Ramp up and Sampling.” *Transportation Research Part A: Policy and Practice*. http://www.sciencedirect.com/science/article/pii/S0965856405000273.

———. 2013. “Delusions of Success: Comment on Dan Lovallo and Daniel Kahneman.” http://ideas.repec.org/p/arx/papers/1305.0741.html.

Flyvbjerg, B, N Bruzelius, and W Rothengatter. 2003. *Megaprojects and Risk: An Anatomy of Ambition*. http://books.google.com/books?hl=en&lr=&id=RAV5P-50UjEC&oi=fnd&pg=PR6&dq=bent+flyvbjerg&ots=RYun3fd0hX&sig=nFF29HWA0IL22ZmKbpd9vO8_bDM.

Flyvbjerg, B, C Glenting, and AK Rønnest. 2004. “Procedures for Dealing with Optimism Bias in Transport Planning.” *London: The British* …. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2278346.

Flyvbjerg, B, MK Skamris Holm, and SL Buhl. 2004. “What Causes Cost Overrun in Transport Infrastructure Projects?” *Transport Reviews*. http://www.tandfonline.com/doi/abs/10.1080/0144164032000080494a.

Flyvbjerg, B, MS Holm, and S Buhl. 2002. “Underestimating Costs in Public Works Projects: Error or Lie?” *Journal of the American Planning* …. http://www.tandfonline.com/doi/abs/10.1080/01944360208976273.

Gammeltoft, P. 2010. “Emerging Multinationals: Home and Host Country Determinants and Outcomes.” *International Journal of* …. http://www.emeraldinsight.com/doi/abs/10.1108/17468801011058370.

George, TY. 1975. “China’s African Policy: A Study of Tanzania.” https://scholar.google.com/scholar?q=“China’s+African+Policy&btnG=&hl=en&as_sdt=0,33#0.

Geurs, KT, and JRR van Eck. 2001. “Accessibility Measures: Review and Applications: Evaluation of Accessibility Impacts of Land-Use Transport Scenarios, and Related Social and Economic.” https://scholar.google.com/scholar?q=accessibility+economic&btnG=&hl=en&as_sdt=0,33#4.

Glass, AJ, and K Saggi. 1998. “International Technology Transfer and the Technology Gap.” *Journal of Development Economics*. http://www.sciencedirect.com/science/article/pii/S0304387898000418.

Gunn, CA. 1988. *Tourism Planning*. http://www.cabdirect.org/abstracts/19891865791.html.

Gutiérrez, J. 2001. “Location, Economic Potential and Daily Accessibility: An Analysis of the Accessibility Impact of the High-Speed Line Madrid–Barcelona–French Border.” *Journal of Transport Geography*. http://www.sciencedirect.com/science/article/pii/S0966692301000175.

Gwilliam, K, and V Foster. 2008. “The Burden of Maintenance: Roads in Sub-Saharan Africa.” *Background* …. http://www.infrastructureafrica.org/system/files/BP14_Roads_maintxtnew_2.pdf.

Heng, Z. 2010. “An Analysis on the History, Form and Essence of Chinese Aid to Africa.” *Journal of Qiqihar University (Philosophy & Social* …. http://en.cnki.com.cn/Article_en/CJFDTOTAL-QQHD201003009.htm.

Holstein, JA, and JF Gubrium. 1995. “The Active Interview.” http://psycnet.apa.org/psycinfo/1995-97836-000.

Hsu, Sara. 2014. "China's Model for Africa." *The Diplomat*. http://thediplomat.com/2014/08/chinas-model-for-africa/.

Hubbard, RG, and W Duggan. 2009. *The Aid Trap: Hard Truths about Ending Poverty*. https://books.google.com/books?hl=en&lr=&id=wIbGAgAAQBAJ&oi=fnd&pg=PT9&dq=R.+Glenn+Hubbard+china+africa&ots=mVm3cjKBLx&sig=T0vQ35DmEnechofhz5E53rmk7NU.

Information Office of the State Council. 2013. "China-Africa Economic and Trade Cooperation (2013)." *Information Office of the State Council*. http://news.xinhuanet.com/english/china/2013-08/29/c_132673093.htm.

Inskeep, E. 1991. *Tourism Planning: An Integrated and Sustainable Development Approach*. http://www.cabdirect.org/abstracts/19931851981.html.

"Investment in Infrastructure Crucial to Africa's Economic Growth." 2011. *Voice of America*. http://www.voanews.com/content/investment-in-infrastructure-crucial-to-africas-economic-growth030211-117248018/157566.html.

Joseph, Akwiri. 2014. "Kenyans Protesting over Jobs Block Highway from Mombasa Port-." *The Star*. http://www.thestar.com.my/News/World/2014/10/03/Kenyans-protesting-over-jobs-block-highway-from-Mombasa-port/.

JOSEPH, KARIUKI. 2014. "Kenya Signs Sh314 Billion Railway Deal with China." *The Star*. http://www.the-star.co.ke/news/article-166618/kenya-signs-sh314-billion-railway-deal-china.

Juma, Calestous, George, Ayittey. 2015. "Economist Debates: Africa and China." *The Economist*. http://www.economist.com/debate/overview/165.

Kandiero, Tonia. 2009. *Infrastructure Investment in Africa*.

Kaul, RN. 1985. "Dynamics of Tourism: A Trilogy." https://scholar.google.com/scholar?q=Dynamics+of+tourism:+A+trilogy&btnG=&hl=en&as_sdt=0,33#0.

Ke, Y, SQ Wang, APC Chan, and PTI Lam. 2010. "Preferred Risk Allocation in China's Public–private Partnership (PPP) Projects." *International Journal of Project* …. http://www.sciencedirect.com/science/article/pii/S0263786309000933.

Khadaroo, J, and B Seetanah. 2007. "Transport Infrastructure and Tourism Development." *Annals of Tourism Research*. http://www.sciencedirect.com/science/article/pii/S0160738307000837.

Klopp, Jacqueline. 2014. "Transportation Infrastructure Integration in East Africa in a Historical Context." In *Linking Networks: The Formation of Common Standards and Visions for Infrastructure Development*, edited by Schiefelbusch Martin, First, 115–36. Ashgate.

Kokko, A. 1994. "Technology, Market Characteristics, and Spillovers." *Journal of Development Economics*. http://www.sciencedirect.com/science/article/pii/0304387894900086.

Lau, JCY, and CCH Chiu. 2003. "Accessibility of Low-Income Workers in Hong Kong." *Cities*. http://www.sciencedirect.com/science/article/pii/S0264275103000131.

Liu, Dongkui. 1996. "东非明珠——肯尼亚, Eastern Africa's Pearl-Kenya." *Guangdong Foreign Business*. http://www.cnki.com.cn/Article/CJFDTotal-DJMZ199612038.htm.

Luo, Y, and RL Tung. 2007. "International Expansion of Emerging Market Enterprises: A Springboard Perspective." *Journal of International Business Studies*. http://www.palgrave-journals.com/jibs/journal/v38/n4/abs/8400275a.html.

Martellato, D, P Nijkamp, and A Reggiani. 1998. "Measurement and Measures of Network Accessibility: Economic Perspectives." http://dspace.ubvu.vu.nl/handle/1871/7827.

Martin, CA, and SF Witt. 1988. "Substitute Prices in Models of Tourism Demand." *Annals of Tourism Research*. http://www.sciencedirect.com/science/article/pii/0160738388900862.

Murphy, JT. 2007. "The Challenge of Upgrading in African Industries: Socio-Spatial Factors and the Urban Environment in Mwanza, Tanzania." *World Development*. http://www.sciencedirect.com/science/article/pii/S0305750X07001155.

Mwilima, N. 2003. "Foreign Direct Investment in Africa." *Social Observatory Pilot Project, Final Draft Report for* …. http://www.sarpn.org/documents/d0000883/P994-African_Social_Observatory_PilotProject.pdf#page=31.

Najafova, Lala. 2015. "BBC - BBC Africa Debate Questions China's Role in Africa - Media Centre." http://www.bbc.co.uk/mediacentre/worldnews/220512bbcworldservice.

Olds, K. 2002. "Globalization and Urban Change: Capital, Culture, and Pacific Rim Mega-Projects." *OUP Catalogue*. http://ideas.repec.org/b/oxp/obooks/9780199256969.html.

Onjala, J. 2008. "A Scoping Study on China-Africa Economic Relations: The Case of Kenya." *AERC Scoping Studies on China-Africa Relations*. …. http://www.researchgate.net/profile/Joseph_Onjala/publication/239732019_A_Scoping_Study_on_China-_Africa_Economic_Relations_The_Case_of_Kenya_Revised_Final_Report/links/0deec51c27bde2ac11000000.pdf.

Ott, Stephanie. 2014. "End of the Line for 'Lunatic Express?' Kenya's New Railway." *CNN.com*. http://edition.cnn.com/2014/01/06/business/end-of-the-line-kenya-railway/.

Pyatt, G, and JI Round. 1979. "Accounting and Fixed Price Multipliers in a Social Accounting Matrix Framework." *The Economic Journal*. http://www.jstor.org/stable/2231503.

Richards, J, and JM MacKenzie. 1986. "The Railway Station." *A Social History*. http://books.google.com/books/about/The_railway_station.html?id=mjVSAAAAMAAJ.

Round, J. 2003. "Social Accounting Matrices and SAM-Based Multiplier Analysis." *The Impact of Economic Policies on Poverty and* …. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.201.3553&rep=rep1&type=pdf.

Servant, JC. 2005. "China's Trade Safari in Africa." *African Rennaissance*. http://reference.sabinet.co.za/sa_epublication_article/aa_afren_v2_n4_a8.

Simmons, J. 1968. "The Railways of Britain: An Historical Introduction." https://scholar.google.com/scholar?q=simmons+rail&btnG=&hl=en&as_sdt=0,33#2.

TheStar. 2014. "China to Ship in 5,000 Foreign Workers for the Mombasa-Nairobi Standard Gauge Railway Project." *The Star*. http://www.the-star.co.ke/news/article-183358/china-ship-5000-foreign-workers-mombasa-nairobi-standard-gauge-railway-project.

UNCTAD. 2006. *World Investment Report: FDI from Developing and Transition Economies: Implications for Development*. New York and Geneva.

Vatsyayan, A. 2010. "Multinational Companies from Emerging Economies." http://www.tandfonline.com/doi/full/10.1080/09614524.2010.491539.

Vickerman, R, K Spiekermann, and M Wegener. 1999. "Accessibility and Economic Development in Europe." *Regional Studies*. http://www.tandfonline.com/doi/abs/10.1080/00343409950118878.

Wanjala, Bernadette , Were, Maureen. 2013. *Impact of Investment in Kenya's Priority Sectors on Gendered Employment Outcomes: A Social Accounting Multiplier Analysis Approach*.

Williamson, OE. 1981. "The Economics of Organization: The Transaction Cost Approach." *American Journal of Sociology*. http://www.jstor.org/stable/2778934.

WorldBank. 2011. *Annual Report 2011*. New York. http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTANNREP/EXTANNREP2011/0,,menuPK:8070643~pagePK:64168427~piPK:64168435~theSitePK:8070617,00.html.

Writer, Staff. 2015. "China-Africa Relations: Something besides Natural Resources." *Fahamu*. http://fahamu.org/node/1610.

Zhao, YZ. 2006. "Globalization, Urbanization and Mega-Projects." *City Planning Review*. https://scholar.google.com/scholar?q=Zhao,+Y.Z.,+2006+globalization&btnG=&hl=en&as_sdt=0,33#0.