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China's role in African infrastructure development – Cooperation or Exploitation?

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Abstract

The need for infrastructure development on the African continent have left African governments open to foreign investments for this sector. It therefore became easy to let the Chinese involve themselves when it was suggested to them and as much as China's relationship with Africa has grown, the sceptics have also made sure that their voices and critical viewpoints are being read and heard. At the same time myths and stories that do not match up with reality has taken over the headlines. This paper seeks to investigate what role China plays in African infrastructure development and what the investments actually leads to in relation to creating new opportunities and businesses on the continent. At the same time as this paper attempts to provide an overall picture of the advantages of this relationship when it comes to the infrastructure sector specifically, it also attempts demonstrate backward and forward linkages of different infrastructure cases that China has invested in so far.

Key words: China, Africa, Economic relations, Infrastructure development, Backward and Forward Linkages.

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1. Introduction

Chinese economic engagement and investments in African countries has created an on-going controversial debate and questioned Chinese incentives towards the continent. Whilst China's investments and interests in Africa is not a new phenomenon, it has been difficult for outsiders to grasp the scope and size of China's current involvement on the continent, especially when it comes to the infrastructure sector. On the one hand there are those who are in favour of the relationship between China and Africa as it has demonstrated positive effects such as creating new jobs, development of highly demanded infrastructure and an overall increase in economic growth. On the other hand authors have presented harmful effects of the relationship such as helping nondemocratic governments to receive more power, increased dependency for African countries on raw materials and unskilled labour that contributed to a decrease in certain industries which has put countries in high debt, debt that these countries cant afford as they are already struggling on many different levels.

Furthermore, somewhere in the middle ground there are also those who argue that as much as Africa needs China, China is also in need of Africa. Currently China needs Africa for its oil and minerals, for the development and growth of its private sector and vice versa Africa is in need of training, infrastructure and new technology – all which China is providing Africa in areas were these developments are much needed. Whilst China has many different hands in different businesses around Africa, China's current engagement in Africa primarily circles around sectors such as infrastructure development, rebuilding of public services and natural resource extraction. Due to the unknowns of the scope and size of China's infrastructure investments in Africa including the rebuilding of public services such as schools and health care centres, people who currently discuss the subject are hanging onto myths and stories with little or no truth in and many times it has grabbed the medias attention and created general statements that does not match up with reality. However, in recent years scholars have picked up on this and an effort has been made to attempt to show what's actually happening on grounds, which has led to an even more important debate that demonstrates how there are many advantages for both China and Africa to continue their partnership and why Africa should use this relationship even more to its advantage.

At the same time as this has occurred other extreme view has risen from the sceptics side, primarily from Western observers over the past couple of years. Sceptics with the most extreme view argue that China only has a hunger for natural resources and that its relationship with the African continent is just a new way of exploiting these countries and some even going as far as stating that this is just a new form of colonialism. Author Teke Ngomba is one of many who argue that China is for instance undercutting the textile industry in Africa, offering unfair labour relations for Africans, and ignoring human rights. Ngombo goes to the far extreme as criticizers stating that China is nothing by a dangerous dragon that is with pleasure abusing and using the continent of Africa for its own advantage (Jiao & Spring). However, this view has been challenged by many others both within and outside of the Western World who have demonstrated not only that the argument ignores the benefits that China's investment bring to these countries but also that one does not need to dig very deep to find data that demonstrates the opposite (The Economist, 2008). A specific example of criticism in relation to

infrastructure investments in Africa is the status of labour. The view among this part of the Africa-China relations is that Chinese firms only tend to bring in their own labour from China and if they do employ local workers, the conditions and wages are significantly low. However on the flipside, some studies have demonstrated that this is not completely correct. In some African countries such as Zambia and Tanzania many locals are for instance employed for the administrative and manager roles, however at the same time and from the same study it has been demonstrated that for instance in Sierra Leone and Angola, the critique towards labour status becomes more valid.

On a more broader aspects concerning China's intentions with investments in other countries Dambisa Moyo, a Zambian born international economist who is well known within international and global affairs argues that we should not only be looking at China's relationship with Africa but with the rest of the world as well. In her book published in 2010 with title *'Winner Take All: China's Race for Resources and What it Means for the World'*, she investigates the commodity sector worldwide by specifically focusing on China's urge for natural resources, not only in Africa but all over the world and demonstrates that whilst many are concentrated on the investments made in Africa the overall picture of China's actions worldwide is far more important for one to be aware of if the fear is that China will take over the global economy (Moyo, 2012).

1.1 Purpose and Research Question

The purpose and aim of this paper is to outline an overall perspective of China's role in the emerging infrastructure projects on the African continent and give an image of this long-term on-going process. More explicitly, this paper attempts to understand the process by digging deeper into reality examples and the myths and stories behind these processes. Moreover, the paper also attempts to scrutinize the critics of this field by outlining the significant critical points that have been made and investigated and question whether these are valid in relation to emerging data concerning this subject. The central research questions for this paper are:

- 1) Where in Africa do Chinese infrastructure investments occur and why in those certain parts of the continent?**
- 2) What is the critique towards these investments, do they match up with current data and what can be the underlying reasons behind these critical points?**
- 3) Is the relationship built on cooperation or is it history only repeating itself with an exploitation of the African continent?**

Limitations and importance of study

It has become obvious to the whole world that China is a major source of income when it comes to financing infrastructure developments in Africa, however the most challenging part for outside analysts when it comes to these investments is to identify the trends and scale behind these projects. It is important to recognize these limitations will most likely have a challenging effect on any studies concerning this subject. When it comes to limitations, there are two main points that need to be

explained before starting to discuss and analyse the distribution of Chinese infrastructure investments in Africa (Gutman et al, 2015).

The first point is that there is no central database in which reports are being sent regularly in order to monitor what is actually going on in reality. Bigger organizations such as the World Bank and ICA have purely based their data and analysis on information provided by Chinese media reports or general statements, which have been made by the Chinese government. Secondly, receiving secondary information concerning commitments, start dates, aims of dates for finishing up projects and how much of these projects are actually funded by China remains as a big challenge (Gutman et al, 2015). However, although organizations such as the World Bank are collecting different amounts of data there has been insufficient updating and therefore it becomes difficult for analysts to follow up on this field. For instance, one of the most crucial questions currently is how much China in real numbers is financing Sub-Saharan Africa for infrastructure projects. The World Bank published a report in 2009 concerning this however no report has been published since then which creates uncertainty amongst scholars (Gutman et al, 2015).

Finally, although this subject is a challenging one for several of different reasons it is still crucial that there is continuing research done about it and that it doesn't become a hopeless case for academics around the world. It is significant to understand what is going on in Africa, not only for African economic, political and social development but also for the rest of the underdeveloped world as successes and mistakes from these cases can teach us important lessons for the future. Furthermore, it is significant to recognize that many countries in Africa are already suffering from poverty and specifically related to this paper, old and non-functional infrastructure. Many of these countries cannot offer to experience unsuccessful cases of implementing new infrastructure and therefore it is crucial that it is being reported to the world what is actually taking place in these countries and that there are many controversial questions.

1.2 Methodology

This paper is an exploratory research that is mostly relying on qualitative methods of research and analysis in order explain and understand an on-going process of China-Africa relations focusing on infrastructure projects. By visiting research that has already been undertaken on this matter, a longer literature review will be offered early on in the paper. This will include primary and secondary sources arriving from central authors and experts on the. Reports and statements from the data on this subject from the World Bank will be provided. The in depth part of this paper will be case studies of different infrastructure projects such as railways, roads, schools, health clinics etc. that demonstrated a small part of the reality of this topic. From these case studies an identification of linkages will be provided and discussed.

1.3 Disposition

The disposition of this paper will be as followed; The paper will start of by introducing the subject by providing an overall demonstration of the papers, aim, argument and structure followed by limitations of the field at hand. Following this, the theoretical framework of this paper will be presented which includes two separate perspectives, one known as South-South Cooperation and the other, which is known as backward and forward linkages. Both frameworks will be presented and its purpose for the use of this will also be provided for the reader. Thereafter a literature review will be offered in order to give an overall picture of the most recognized voices within this specific topic. Furthermore, a background to the subject will be provided and include A) a short modern background of the Africa-China relations and B) a background to China's investments in Africa focusing on infrastructure developments. Furthermore, as infrastructure is a branch of development, a demonstration of its importance for development will be provided as well as specifically the need for new infrastructure in Africa will be addressed. Furthermore, reaching the main body of this paper, examples of historical and current infrastructure investments will be provided, alongside an analysis and discussion of the findings.

2. Theoretical framework

2.1 South-South cooperation

The theoretical framework that this paper will apply to the findings is known as South-South cooperation (SSC). SSC is a concept used by policymakers and academics to describe the exchange of resources, technology and knowledge between developing countries. The concept has been developed into a theoretical framework in order to help academics to understand and study the political and economic change that is occurring in developing countries, which cannot be explained by the traditional paradigm of North-South cooperation (NSC). SSC emerged as a concept post World War II when developing countries in Asia and Africa were recently liberated from colonial powers challenged the established international system that was not balanced towards them (Modi, 2011).

The idea of this concept started to be promoted by academics in 1978 when it was first established by the United Nations (UN) and more specifically when the New International Economic Order (NIEO) and the United Nations Conference on Trade and Development (UNCTAD) started to encourage trade among developing countries. However, it was not before the late 1990s that the idea was actually contributing to the field of development. It has been shown that this form of cooperation has resulted in a decreasing dependency on aid from developed countries and in an overall more balanced world, economically and politically. The term 'South' in this case refers to the countries that are in opposition to the category of 'North' (Modi, 2011).

In the past decade we have been experiencing a dramatic rise of countries of the South. Brazil, Russia, India, China known as the BRIC countries together with several of countries in Africa have undergone

great and significant transformation economically that has essentially changed the structure of the global political and economic order. As the president of the World Bank stated not long ago:

"The developing world's share of global GDP in purchasing power parity terms has increased from 33.7 percent in 1980 to 43.4 percent in 2010. Developing countries are likely to show robust growth rates over the next five years and beyond. Sub-Saharan Africa could grow by an average of over 6 percent to 2015 while South Asia, where half the world's poor live, could grow by as much as 7 percent a year over the same period ... Development is no longer just North-South. It is South-South, even South-North, with lessons for all with open minds ... It is a new world where developing countries are not only recipients but providers of aid and expertise" (Rudi 2011: 22).

Of the BRIC countries China has become the largest economic player on the international arena. It has not only grown individually but also made some significant stamps geopolitically by providing developmental assistance such as Lines of Credit (LOC), infrastructure and loans on less strict terms without demanding access to resources in many African countries and this has essentially made China into a significant development agent for the continent (Rudi, 2011).

As SSC mainly refers to a successful cooperation between developing countries, this paper will partly investigate to what extent SSC has emerged in China's relationship with African countries by pointing out examples from the infrastructure investments made. Furthermore, this paper will also critically assess and investigate the weaknesses of the theory in order to find out whether it fails to explain certain outcomes and findings.

According to the World Bank China has raised approximately 300 million people out of poverty without implementing the Washington Consensus model or using other external intervention demonstrates that the country offers hope to the continent. Academics have argued that the economic relationship between China and Africa has given African countries more policy space for negotiations with other countries outside of this relationship as the countries have a broader range of options to choose from (Rudi, 2011). A specific example of successful cooperation between the two parts is found in one of Deborah Brautigam's reports where she explains how she was once introduced to SSC in real life. She refers back to 2007 when she met chief of mission for the Chinese team on the SSC project of the UN Food and Agriculture Organization (FAO), Wang Yibin. Yibin was one of the 500 Chinese experts posted to Nigeria under the South-South project in 2004 (Brautigam, 2009).

This project specifically aimed at linking developed countries in relation to food security. Many of the experts decided to go back to Nigeria for further work, although Yibin chose to go to Sierra Leone instead. *"Nigeria has money, oil" Wang explained. "Why did you decide to come to Sierra Leone" Brautigam asked him. "To help the African people" Wang replied. "I was also poor when I was a child. People need food. Also he added "I am a Chinese government officer. If the Chinese government ask me to come, I must go."* (Brautigam 2009: 242). Yibin continued to explain how much potential

there is in Africa and how they could develop just like China has done, with a little bit of help. But this is not going to happen in an instant, it will take many years but on the progress will be shown and a lot has already been shown with the building of dams, roads, power plants etc. (Brautigam, 2009). These forms of detailed examples show that China is actively trying to figure out different ways of how to intervene and invest in Africa. It also demonstrates that SSC is highly relevant to this topic and that the concept and theory fits with reality and in particular with China-Africa relations. (For other examples please visit Deborah Brautigam's book *The Dragons Gift*, 2009).

2.2 Backward and Forward Linkages

Due to the broadness and complexity of this topic as well as that it being mainly a theoretical article, this paper will use a second theoretical framework in order to examine whether the findings fits into more than one perspective. The second theoretical framework that the discussion of this paper will lean on is a concept known as backward and forward linkages, introduced by Albert Hirschman (Brautigam, 2009). According to this theory, backward linkages emerge when the growth of one business or industry leads to growth amongst other businesses that supply it and forward linkages emerges when the growth of one business leads to the growth of firms that use the initial firms inputs and outputs. Essentially what it does it that it attempts to describe the economics relationship between the customer and the company (Guo, 2013). Now it has been said that normally projects produce both of these linkages and the argument of the theory is that the more linkages a project creates the better it is and therefore the majority of investments should be boosted into that certain project than anywhere else. A clear example to describe these linkages is by using the example of the steel industry were the backward linkages are coal and iron mining and forward linkages are for instance canned goods. When trying to understand a long-term, ongoing process such as infrastructure projects this theory can be a good way to demonstrate in real terms what these projects actually result in (Hirshman, 1969). Moreover, speaking in more modern terms of development that circles very much around foreign aid, in order for these investments to contribute to an industrial transformation it needs to substitute backward and forward linkages (Brautigam, 2009). One of the significant aims of this paper is therefore to identify linkages that emerge from infrastructure projects in Africa coming from Chinese aid.

3. Literature Review

The topic 'China in Africa' has created a controversial debate amongst academics. As mentioned before, there are many different views on this topic, those in favour and those against. In order to arrive at a better understanding of the subject it is important to present a couple of significant characters from both sides of the debate who hold expertise within the subject.

One of the significant voices on this topic is Deborah Brautigam. Brautigam has published books and articles that are today well-know amongst academics and considered as a leading expert on China in Africa. In the book '*The Dragons Gift*' (2009), Brautigam states that China's rise in Africa has become a highly blurry topic due different reasons such as rosy pictures painted by the Chinese press, the

positive waves without any form of scepticism from African leaders, the unsettledness of the Western World on this relationship, and general myths about what the rise of China in Africa actually entails (Brautigam, 2009). According to Brautigam no one has succeeded in answering central questions such as: *“what are the Chinese doing in their new wave of aid and economic cooperation across Africa? What will this mean for poverty and development in Africa? And what will it mean for the West and our approach to development and aid?”* (Brautigam 2009: 3). In ‘The Dragons Gift’ she attempts to answer these questions. One of the important notes in this book is that there is a lot of truth behind China lifting millions of its own population out of poverty without foreign aid being the central prerequisite, something which Western governments have failed with in African countries. For this reason, she argues that this might be a lesson, which can be taught to African leaders. Another aspect of the book is that it provides the reader with credible and reliable data when drawing upon different examples (Brautigam, 2009).

Furthermore, also worth noting is Brautigam’s most recent book on China in Africa called ‘Will China feed Africa?’ which outlines the reality of Africa’s current status on agriculture and farmland. By doing fieldwork in several African countries as well as China Brautigam manages to reveal a reality perspective of what is actually going on in the China-Africa relation when it comes to the agricultural sector. Her findings demonstrate unsuccessful projects and that the investment in this sector differs highly from others such as infrastructure and multinational corporations. However, she still points out that there is no truth in the accusation that Africa is only being used to produce food to be transported to China (Brautigam, 2015). Although this sector is a divergence from what this paper is actually investigating it is still worth mentioning as it contributes to the analyses and overall picture of China’s role in development for the African continent. Most importantly, it shows that the answer to if whether China is good for Africa or not depends highly on what sector one is looking at.

Another recognized spokesperson within this field is Justin Yifu Lin who is Chinese economist and the former chief economist and senior vice president of the World Bank. Lin is very much in favour of China’s work in Africa and views it as a new phenomenon that simply cannot be compared to historical examples from the colonial era. He argues that the era we are living in has given a chance for low-income countries in Africa to grow due to globalization and the economic openings that arrives with that. He refers to studies that have shown how Sub-Saharan Africa has experienced economic growth in relation to living standards with over three per cent per year, which can be a result of the continent opening itself up to China and entering the globalized world simultaneously. However, Lin also points out that it is highly significant that Africa grows on its own as well by implementing new policies and that the decision makings comes from their own governments and people rather than from China. More explicitly Lin believes very much in the flying geese model and argues that one country can take advantage of other previous low-income countries development processes and follow the path of development (Lin, 2011). The flying geese concept is being used more often these days when discussing China-Africa relations and Deborah Brautigam is one of them who argues that it always helps when someone who has more experience leads the development process (Brautigam, 2009).

4. Background

4.1 Brief summary on current China-Africa relations

When it comes to Chinese investment in the infrastructure sector in Africa it can be tracked back in history as far as 1976 when a railway was completed for Zambia. In those days ideological motives seem to have been the dominant factor behind the investment. Since then the relationship between China and Africa has grown massively and during the 1990s the trade between the two parts increased by 700%. Furthermore, the forum for African and Chinese cooperation was established in 2000 and in 2006 *The Africa Policy paper* was published were one of the ten key elements that were mentioned for Africa's economic development in the paper was an improvement of the infrastructure. Moreover in 2007-2009, the Beijing Action Plan notes a specific reference to a development process of a continuing cooperation in the construction and infrastructure sectors (Corkin, Burke et al., 2008).

In November 2006, delegations from 48 African countries gathered in China's capital city for the Beijing Summit of the Forum on China-Africa Cooperation. Chinese leader, Hu Jintao provided the delegations with a structured plan for a new strategic corporation and an expanding of an economic relationship with African nations. It was promised from China's part that the aid would be doubled, further intensified investments in infrastructure and trade and let duty-free entry for many African exports. Furthermore, it was stated that China would build around one hundred new schools, thirty hospitals and create easier zones for trade in between the countries (Brautigam, 2009).

According to China, this strategic relationship would be based on a "win-win cooperation". Following this China was starting to become Africa's biggest trading partner, outperforming Britain and the United States. By 2009, almost 900 companies, most of them private businesses had started to invest in sectors such as energy, banking and infrastructure and this was essentially a result for a decade of planning and developing the relationship (Brautigam, 2009). Investments for the development of infrastructure have been focusing mainly on countries such as Angola and Zambia. The reason for this is that these countries are the most resource rich countries in Africa and it had been demonstrated before the investments that they were the countries that were most in need of a support for the development of their infrastructure (Corkin, Burke et al., 2008). Other specific examples are investments focused on loans offered for infrastructure in countries that were recovering from conflict, such as the Democratic Republic of Congo (DRC) (Brautigam, 2009).

4.2 Realization of the importance of infrastructure for economic development in Africa and in particular for Sub-Saharan Africa.

Sub-Saharan Africa is currently one of the poorest regions in the world were income per capita stays extremely low and were the group of people living under less than a dollar a day is one of the largest in the world (Zafar, 2010). Knowing these facts one would assume that it is not particularly shocking when governments of these countries depend on any form of help they can receive from outside of their

own borders. It has not been difficult for these governments to understand the significance of infrastructure for countries economic development and this has been demonstrated time after time when African leaders have signed and committed to projects with more developed countries and in many cases with China. More explicitly recent reports have also stated the importance of infrastructure for this region.

Significant findings from a 2009 World Bank Report concerning the importance of infrastructure for Sub-Saharan Africa:

- Infrastructure has been counted for more than half of the region's economic growth.
- One of the most damaged ones in comparison to other developing countries.
- Highly challenged economically and geographically, as it is not surrounded by effective development.
- Infrastructure services are twice as expensive in comparison to other parts.
- Lack of power due to damages infrastructure has left 30 countries with regular power shortages.
- Infrastructure in this region is in need of around 93 billion US dollars a year.

Source: (Gutman et al, 2015).

5. Supporters and Sceptics of China's involvements in African infrastructure development

5.1 China's perspective on boosting African development

The global image of Chinas support for other countries is through aid and investments to upkeep three main significances, strategic diplomacy, ideological values and commercial benefit – and China's involvement on the African continent shows these images and the reason for why this is significant to recognize is that, this is often forgotten when discussing China-Africa relationship. Firstly, China is looking for partners abroad were diplomatic ties can be tightened and African countries have become one of their many targets. China is need of countries that will recognize China for what it is and for instance stand by China when it comes to the rejection of Taiwan. Secondly, when it comes to ideological values China's involvement in Africa is mostly influenced by its own development experience and growth. China went through a drastic economic transformation and has now simply applied similar agreements, projects and ideas when it comes to the economic transformation they are involved in with African governments. As stated by (Haroz, 2011). "*China has recognized that in order for African consumers to afford Chinese exports and for African markets to be able to produce prime investment opportunities for Chinese firms, Africa must develop men become richer*" (Haroz 68: 2011). Thirdly, China's overall view is that China works as a foreign assistance, were both Chinese interest are put forward but also were Africa's need for certain development processes it managed through investments. It has been argued that it is clear that China does not want its relationship with Africa to be a zero-sum game (Haroz, 2011).

Furthermore, in order to understand this relationship one must have hold the knowledge of what China's view on itself and its action for African development is. China upholds that the investments made in Africa are honest and unconditional. A high level minister said: "We do not attach conditions to our aid and we will not do it in the future" (Xinhua News 2007). What China is offering to Africa is often explained as it being an alternative to what the West offers and this is something, which the Chinese themselves are aware of and agree with. China's perspective on their role in boosting Africa's development process is partly linked to their overall global strategy. As a reaction to globalization China decided to become a member of the World Trade Organization (WTO) in 2001 and a reaction from joining the WTO was to develop south-south economic relationships, which they quickly did especially with Africa (Jiao, 2008). So one might argue that bringing in such a large and economically powerful country into as organisation such as the WTO, it can't be too much of a shock when this country especially being a developing country that has improved since 1970s drastically financially to not be interested in investing in other parts of the world. In the grander scheme of things, appears that China is trying to impose a model on Africa that they once experienced and models that lead to China becoming an economic power in the era of globalization.

5.2. African reactions to China's involvement in the continent

The overall view of African leaders when it comes to China has been described as positivism as they believe that China is much closer to their development ideals than any other country in the world and therefore welcomes China for investing in the continent. However, there are those who have expressed concerned such as President Mbeki of South Africa who said that as much as China's investments open doors for African development it still feels like a terrifying threat (Jiao, 2008). Moving down to a local level the reaction of African people in relation to China's investments on the content is more mixed. When it comes to the knowledge of China-African relations on a more governmental level, the locals have expressed that they are not really sure of what is exactly taking place. Some wonder how a country such as China who still today has a big part of its own population in poverty, will help the African people (Jiao, 2008).

Others have expressed their concern for work and fear about that the Chinese will replace the African people in the informal sector and some have even gone as far as agreeing with the sceptics – that China is only in Africa to exploit the continent. However more specifically, people have a very positive attitude towards China's investments in the infrastructure sector as this is were hospitals, schools, training centres, airport, buildings emerge. (Jiao, 2008). From these statements it is clear that the view of the locals when it comes to China in Africa is varied. Perhaps an increase of providing information and knowledge about the relationship is a way of solving some of the disturbing views that were mentioned above. To not involve populations when big changes like these occur may have negative impact in the future and one could even argue that it already has as these views are often used as a proof of evidence for the arguments that the sceptics put forward.

5.3. Main concerns of sceptics

Whilst there are those who argue that China-Africa relations is a two-way relationship where both parties adjust to new policies and where the results of these new policies benefit both counters, some have come to argue differently and even the opposite. Whilst these critical perspectives vary amongst authors, the main criticism that has been pointed out is that the relationship doesn't involve a balanced relationship when it comes to human rights. An example to draw upon was this was highly recognized was during China's involvement in the 2008 summer Olympics. Many human right groups and other non-governmental organisations were highly concerned with China's involvement in the games as when it came to their actions on the African continent, China showed lack of understanding when it came to the importance of human rights for their relationship with African countries. In Zimbabwe, China was accused of supplying the country with military equipment's and less humanitarian aid. Furthermore, groups also criticized China for its relationship with the government of Sudan and its continuing economic ties with the country as the regime had been involved in accusations concerning killings of hundreds of people in Darfur (Brautigam, 2009).

The second main criticism towards China-Africa relationships is the concern for African markets and how they are being affected negatively by product made by China to a low cost. This does not only harm the African markets in general but specifically puts pressure on local firms that are trying to grow. The competition is not balanced out according to critics and is therefore in the long-term resulting in a market where only one side benefits, in this case Chinese firms (Brautigam, 2009).

The third and most extreme view of the China-Africa relations is the argument that China is nothing but a neo-colonialist on the continent. This argument was formed when China started to engage with Africa at a faster speed. Multinational corporations were starting to emerge according to western authors a sudden unbalance of power emerged amongst the parties. The general argument for why this was a negative occurrence was that investments by large foreign firms only enriches the already rich in developing countries and at the same time they harm the continent by causing environmental and humanitarian devastation to the people of those countries. Furthermore, according to this view the relationship only results in a dependency relationship where African countries become dependent on Chinese firms and where economic relations between China and Africa is on the cost of the poor populations in African countries. Western authors mainly started to express anxiety concerning the situations and were partly concerned with that western influence would diminish on the continent and this included the concern for human rights, democracy and protection of populations. The response from China was clear and had no other incentives than to show that critiques were incorrect (Haroz, 2011).

So, is it fair to argue that the relationship between China and Africa is not a well-suited one? It is important to remember this is also a relationship where many African governments have made it clear that whilst they might be resource rich they are much in need of investments in infrastructure due to the large deficiency in it. What China has done is to acknowledge this and taking the opportunity to invest

in the continent were China also gains from it. To many it might be a surprise that China has and is playing a large role on the continent for its development, however what one must recognize is that for Africa the Western World is much more of a threat in comparison to China, simply because China does not hold a colonial legacy in the continent (Haroz, 2011).

5.4. Western investment and incentives versus Chinese ones

Since many scholars who challenge the China-Africa relationship are Western observers it is significant to mention that Western investments in Africa do exist – often more than what our knowledge is aware of. Since the 1950s Western countries have expended a trillion US dollars if not even more to Africa in aid money, however, for the most the has been spent on the continent not enough effects have been shown and so the model which westerners go by to help African countries develop have throughout the years been criticized by authors around the world. The main argument for why the Western World has failed Africa is that Western countries never saw to the needs of African countries and instead tried to impose ideas and models coming from the west (Pratyush, 2013).

Furthermore, while it has been argued that Chinese primary incentives with investments in Africa is to get access to new technology and establishing long term contracts with high brands the intentions of the Western World has shown different motives. European firms and US are mostly interested in cost advantages, consumer markets and new platforms for exports. When it comes to these sectors, Africa offers cost advantages and consumer markets easily, whilst when it comes to new export platforms it can become more challenges, however there are still opportunities to establish that also. In 2014, it had been estimated that Western Europe was in charge of more than half of all Greenfield investment into Africa with an estimated number of 47,6 billion dollars according to FDI Intelligence agency. Africa's relationship with China has been explained more as a two business partners coming together, were goods and services are exchanged. Currently, China needs Africa for the oil, minerals the existing space for growth within the private sector and also for its political commitments. Nevertheless, Africa is in need of Chinas support in areas were many African countries are lacking development such as infrastructure, technology, training of new skills and also access to capital. Due to these circumstances the relationship is viewed by themselves and also outsiders as a more equal relationship than the one that Africa has with the Western World due to its colonialism but also due to the fact that Western countries are not investing were Africa's governments and populations are as hungriest for development and help, meaning the poorer regions (Haroz, 2011).

It is more than understandable that western groups worry about this relationship. However, instead of feeding of fears it might perhaps be better if Western groups could create a different approach to deal with China and Africa's relationship, perhaps with a more open mind. If these fears in the end only truly circles around the best for Africa, parties such as China and the Western World should battle for a better relationship so that the assistance to Africa can become broader and create a global relationship amongst the West, Africa and China.

6. Empirical findings, identification of linkages and analysis of results and cases

6.1 An overall image

The years leading up to 2008 from 2001 and onwards demonstrated that China had made a great retaliation in African infrastructure sector by providing 4 billion US dollars for this particular sector. It was originally planned that this financial support would be used for renewing more than 1,350 kilometres of railway that already existed including 1,600 kilometres of completely new railway building. According to the World Bank report the countries were great amounts of these investments went into were Nigeria, Gabon and Mauritania (Foster et al, 2008).

Many of China's infrastructure investments and rebuilding of public services have been directed towards Sub-Saharan African countries. The sceptics have many times asked the question, why is China specifically investing in these countries? Previously and historically the assumption has been that China is mainly investing in countries with different forms of natural resources. However, in 2009, this statement became a form of truth when a report from the World Bank stated that of those 35 countries that are currently receiving support from China include large amounts of financial support to those countries known as, resource rich countries. Sceptics started to become even more unsure about China's incentives with its projects in Africa and academics in favour had difficulties proving that China was there for other reasons than to benefit themselves. However, it was still noted by many that although the World Bank came out with this report there was no clear evidence on that China was only taking advantage of these countries. Essentially it only become a report stating which African countries China was active in and for some outsiders this was not enough to argue that China was only active in Africa for the existing natural resources, and even if this was true there was no evidence of that that these countries were stuck in a relationship were only one side, China in this case became a winner and since 2010 the picture of this situation has becomes slightly more clear (Gutman et al, 2015).

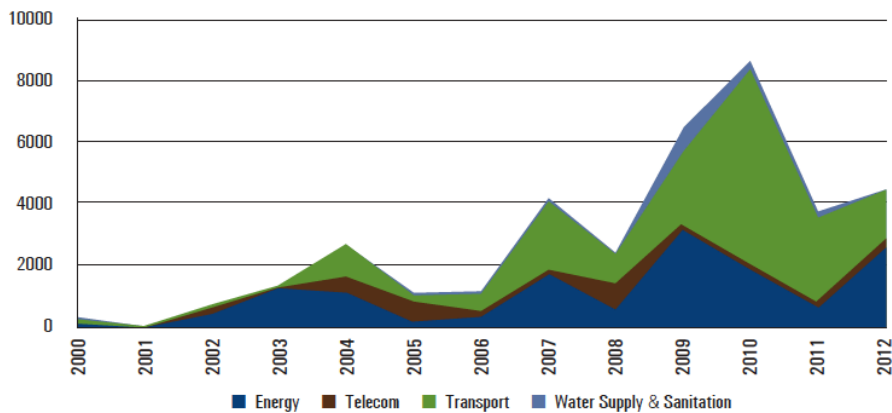
Since 2010, a report the International Monetary Fund (IMF) has recognized that Chinas investments in Africa have broadened. The report has recognized that although China's financial support to resource rich countries have doubled from 300 million US dollars to around 622 million US dollars between 2005-2008 and 2009-2012, over the same time period China's financial support to non resource rich countries have also increased from 43 million US dollars to 285 millions US dollars with an increase of a total of 550 per cent. Essentially the result of this has been that the gap between investments in resource rich countries and non-resource rich countries has shrunk (Gutman et al, 2015).

More explicitly, it has been reported to the world that between 2009-2012 China's infrastructure projects enlarged intensely in low-income countries. From 2010, investments in low-incomes countries grew from 3.8 million US dollars to 18.9 billion US dollars from the period of 2005-2008 to 2009-2012, this includes projects for railways, schools, hospitals and airport primarily. Ghana and Ethiopia received more than 6.7 billion US dollars and 4.7 billion US dollars over a three-year time period

2009-2012, by replacing Sudan who was the largest recipients between 2005-2008. Another country in Africa that was receiving great amounts of financing during these years was Cameroon. Ghana, Ethiopia and Cameroon were therefore the largest recipients of Chinese infrastructure financing between 2009-2012 (Gutman et al, 2015).

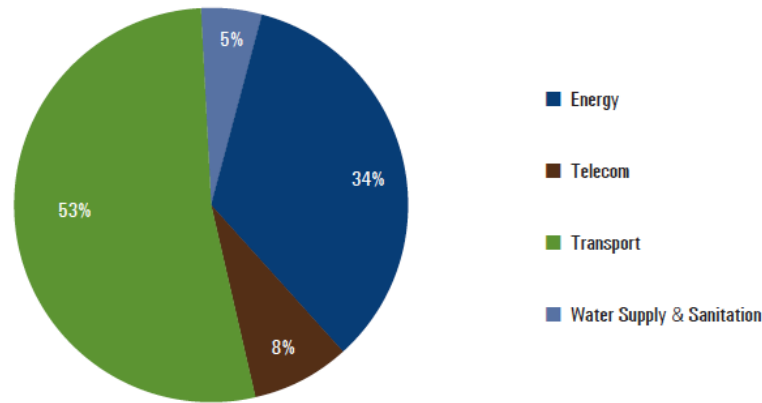
Furthermore, it has been clearly stated by these reports that the commitments between China and these countries have remained fairly stable over the years (Gutman et al, 2015) which puts the controversy of this relationship in perspective, what is it that we are actually criticising? Before digging deeper into attempting to answer this question this paper will now present some cases of infrastructure projects in Africa where one could identify backward and forward linkages and a clear picture of where foreign aid, in this case Chinese investments contribute to industrial change.

The diagram below demonstrated Chinese infrastructure investments in Sub-Saharan Africa between the years 2000-2012. Sectors included in the diagram are: Energy, Telecom, Transport and Water Supply & Sanitation. The diagram shows an increase of investment in all sectors from the years 2000-2012, but more importantly it shows how transport (highly related to the infrastructure sector such as development of railways and roads) is the segment that China has increased its investments in by large numbers and between 2010 and 2011 it had reached its peak to an investment of 8000 million US dollars.



Source: Gutman et Al (2015)

Figure two gives a simpler image of the diagram above and shows how Chinese infrastructure investments in Sub-Saharan Africa between 2005-2015 in proportions. Sectors included there are energy, telecom, transport and water supply & sanitation. By proportion this figure demonstrates clearly that it is the transport sector, which takes up most of the proportion percentage wise. By 53% the transport sector became China's most favourable sector to invest in between 2005-2012.



Source: Gutman et Al (2015)

6.2 Case 1: Tanzania-Zambian railway

Tanzania and Zambia are considered to be China's oldest partners in Sub-Saharan Africa. During the Cultural Revolution in China, China's prime minister offered the two countries to build Africa's longest railway of 2000 kilometers, going all the way from Zambia through Tanzania and after many negotiations a contract was signed between the three parties in 1967. The building on grounds started in 1970 and finished in 1975 barring in mind that this was two years ahead of schedule (Brautigam, 2009). The railway included ten kilometres of tunnels and 300 bridges, which have made other infrastructure projects, look very small. Currently, transport services are offered through two types of trains, including traffic and local traffic trains. Traffic trains convey cargo originating and local trains convey intermediate cargo. Furthermore, the railway also provides with other forms of train services depending on what the requirements of the client is. Furthermore, a report from the World Bank states that in 2001, China promised to provide financial support for the railway, however, it was not clear to the outside world whether this was actually happening (Foster et al, 2008).

The most significant for Africa as well as for the outside world is to know if these sorts of project have created backward and forward linkages. Drawing upon this example many of these can be pointed out. For the building of this project, 16,000 skilled Chinese workers were hired and also tens of thousand African workers which supports the argument that Chinese rarely employ locals when it comes to these forms of projects (Brautigam, 2009). The consultants of the railway have become a large state employed and in 40 years during and post the building of this railway around one million people have been employed by the initial group that started up this project. This contribution relates to intensifying labour and putting local people into work, which means that the forward linkage for intensifying labour are the skills learnt that these workers gain and may perhaps take into other companies in the future. On the other hand this could also be viewed as a backward linkage seeing that in order to build and improve the railway the project is in need of people and therefore people becomes a necessary factor for the development of this project, whilst putting people into work is not only an investment for the project but also for the future of the economy. In relation to labour, training centres as well as engineering workshops have emerged as a way of equipping and raising knowledge to new employees

about this certain type of industry but also as a way of training people and giving them access to the skills that are required to work with infrastructure. Again, these investments can both be referred to as backward linkage as investing in railway has directly lead to a growth in training centres, what you essentially are doing here is that you are directly investing in human capital. Furthermore, the railway has had different social impacts on the region as it has made it possible for different villages to be connected and for instance to trade much easier with each other. The railway facilities trade for importance goods such as food products, rice, beans vegetables (Monson, 2009). This shortens the distance for communication and enables the distance for regions and entrepreneurs to take advantage of new business opportunities and creates a forward linkage.

Furthermore, the railway has also lead to economic development in other parts of the region and in other sectors, this includes a hydroelectric power plant at Kidatu and a paper mill at Rufiji (Monson, 2009). This is another backward linkage created from the building of the Tanzara Railway but also can be a forward linkage seeing as the power plants provide electricity for the trains to run on. And in the overall power sector China have given a big amount on attention to hydropower schemes and by the end of 2007 China was providing 3.3 billion US dollars for creating 10 major hydropower projects amounting to around 6,000 megawatts. The finishing result of these investments will be that the total hydropower generation will be increased and the capacity for electricity will rise by around 30 per cent in Sub-Saharan Africa (Foster et al, 2009) not only does these investment foster short-term direct linkages but also long-term by making people's life easier and perhaps increasing their human capital by having access to electricity.

6.3 Case 2: Building of schools

Leaving the Tanzania-Zambian railway and moving on to infrastructure that has lead to new emerging schools across the continent. The Chinese government has over some years been fulfilling a commitment to build around 100 primary schools in different African countries. Brautigam has done some research in two African countries in relation to the Chinese building schools in Africa and her findings have been that many schools are being built and the one downside of it is that at least one school out of three built has been located in the home town of the country's leader which she argues has to do with the Chinese building a diplomatic, soft power with governments. However, comparing this to schools that should have been built by the Western World indicates very quickly how much more the Chinese are doing than the West. The World Bank funded a school construction project in Malawi which came back as an aim of building 1600 classrooms, the result was that half of them were never built and according the World Bank's own report, 340 of 858 classrooms that they had started to built were never finished and left half way through (World bank, 2011).

Not only does this data demonstrate that China is doing more than the West when it comes to establishing schools on the continent but it also demonstrates significant backward and forward linkages. Viewing it from a more short-term perspective, backward linkages of building schools emerge when the school is being built. Projects like these would need workers, this include construction workers but also long-term backward linkage, finding teachers. Depending on the demand

and offer of teachers out there, from this, training centres can emerge in order to train these teachers for their future job at that school. Forward linkages relates more the long-term effect of education and that the more engaged young people are especially with primary education, the more successful they will be in the future many studies have shown. One could argue that this is an investment which creates many different forms of linkages, important ones both short and long term which goes and in and with the concept of backward and forward linkages, the more linkages that are created the better the investment is for the country. Although, investing in human capital does not directly go and in the hand with the theory of backward and forward linkages, it does demonstrate that the result of the backward and forward linkages for building the schools has a positive result on the overall economy as people become educated and employed in the future.

6.4 Case 3: Building of health care centres

China's investment in health assistance in Africa took place in Algeria in March 1963 for the first time. It was formed as a health program consisting of Chinese medical teams that trained the country's people who were working within the healthcare sector. Between 1976 and 1997 China established medical team programs in 25 different countries in Africa and by the end of 2009 China had financed and equipping the more than 100 hospitals and health care centres worldwide which included 54 in Africa. A significant remark was established in 1993 when the World Health Organization (WHO) approved a Chinese antimalarial medicine known as Cotecxin and that by 1996 all Chinese medical teams had to use this in Africa. Furthermore, China built pharmaceutical factories in Mali, Tanzania and Ethiopia some that became privatized and some not (Boynton, 2011).

In 2005, at the UN high-level meeting on financing for development China stated that they would aim at providing increase assistance with anti-malaria drugs and other medicines, setting up medical facilities including training for medical staff. After this meeting, in 2006 Chinese leaders started turning this promise into reality, by promising to build 30 hospitals in Africa, provide 300 million US dollars worth of drugs and build 30 malarial prevention and treatment centres. In 2008, it was announced that China would also train up to 1000 doctors' nurses and managers for the health sector in Africa were these centres and hospitals were going to be built. Evidence shows that the cost of Chinese investment for hospitals pre 2011 ranged from 3.5 million US dollars to 12 million US dollars and this included specifically the building of malaria centres also. Chinese medical teams will are and will continue to supply medical care directly and according to Chinese data and statements over the past 46 years pre 2011, more than 20,000 Chinese medical teams have worked all over the world and treated 240 million patients, and a large section of these numbers if or Africa. Furthermore, China has donated reproductive health equipment to Kenya and Uganda including building a new reproductive health care centre in Uganda. China has also provided family planning support for Zimbabwe, Mali and Nigeria (Boynton, 2011). In the case of infrastructure investments for the health care sector, one input and emergence of a backward linkage to these hospitals and health care centres is the labour because hospitals require doctors and medical staff.

6.5 Case 4: Most recent example of an infrastructure development project: Kenya

A big Chinese company has come to an agreement together with the government of Kenya to build a rail link that runs across Kenya in order to connect the country with the rest of East Africa more effectively. This new railway will essentially replace the one that was built during the colonial-era and according to the contract up to 30 000 local workers are expected to be given work placements within the construction branch and 5000 more workers will be trained accordingly in order to be able to work and apply skills that are needed in order to work with building railways. This would imply on one hand that forward linkages would be created as the building of the railway would need to be in need of a great amount of labour, workers who then contribute to the creation of the railway, the quality of their own life's by earning and for the entire economy of the country they are working for. Furthermore, the company has also stated that they will buy the materials, services and machinery that will be needed in order to complete the project from the locals, if these goods and services are available (Reuters in Nairobi, 2015) which would create backward linkages to different sectors that can offer the materials and goods needed to complete the project.

On the flipside, Kenya attracts tourists from across the world for their safaris and wildlife and in order to build this railway it must be built across the bigger national parks. This has become a main critique for why the railway should not be built in that location however, according to Kenya's governments the country is in need of a speeding up of the development for infrastructure as poverty is still high and it sort of was a blessing knowing that a company wants to support Kenya with its infrastructure development (Reuters in Nairobi, 2015). So, whilst the project may cut current existing linkages it may and by looking back to previous bigger projects such as the railway built between Tanzania and Zambia, many new linkages could be created. The question for future buildings including this one is therefore – can these sorts of project create more linkages than be to a disadvantage and only costly project for the continent?

6.6 Case 5: Chinas investments in Angola

Angola receives the second highest level of Chinese infrastructure investment in Africa after Nigeria and it is also the biggest oil producer on the African continent and many argue that this particular case demonstrates the real incentives of China's current relationship with African countries. China's support to Angola during the war for independence from Portugal in 1975 created a bond between the countries and by 2002 China and Angola had created a strong commercial relationship. By 2004, China extended 2 billion US dollars to Angola in order to support investments for the reconstruction of the country in exchange for oil. China then continued to offer loans for the construction of Angolan infrastructure and as previously China continued to pursue its own interest by securing commitments, which lead to China having access to more oil. (Haroz, 2011).

The trading of oil and loans for construction for infrastructure investments between the two parts continued until 2007. The China-Angola agreements identified the need for significant development processes for Angola and in return satisfied China with the gaining of oil barrels. Haroz argues that on

balance, this is nothing but a win-win relationship and a one, which is similar to current relationships that China has with other African countries. Besides from these benefits the relationship has brought other advantages to the table. The bilateral trade commitments have expanded from 1.8 billion US dollars to 12 billion US dollars in 2006, and now China is therefore Angola's second largest trading partner. Furthermore, the confidence that Chinese investors has brought to the Angolan people and the growth of the countries economy has helped Angola to negotiate similar commitments with other countries, including Western groups (Haroz, 2011). It is however important to recognize that during difficult times when Angola has been hit by a financial crisis, the country has had many challenging occasions due to the amount of loans it has taken to rebuild its country. The analysis of this paper does not view this as a minor problem and agrees with the critics that it is something, which needs to be addressed at all, times. However, what needs to be taken into account is the total outcome of a particular countries result, in this case Angola. Due to its tight relationship with China, the government of Angola has been able to build up the country and in many sectors, the country has never done as well as after the result of its cooperation with China. Not only does this demonstrate that there are many good reasons for why one should worry less when it comes to China's investments in Africa today but it also proves all the myths wrong, these include the myths that state that China's relationship with these countries can never become a win-win situation.

Backward linkages emerge when the growth of on business or industry leads to growth amongst other businesses that supply it and forward linkages emerges when the growth of one business leads to the growth of firms that use the initial firms inputs and outputs (Guo, 2013).

6.7 Final marks of identifying linkages

In an overall perspective this paper has also identified some bigger common linkages that can be found in most of these cases. Africans interacting with groups outside of themselves for business development creates linkages for all sorts of industry and African traders that buy goods and services directly from foreign factories can at the same time pick up ideas for future projects. Furthermore, besides from this form of knowledge spill-overs, there are others that can occur of just the presence of foreign workers on the continent. Brautigam argues that this can happen in at least four different ways. Firstly, if the level of technology is not highly advanced, a foreign owned business can act out as a role model for other firms. Secondly, skills themselves amongst workers can spill over from the job that the workers are currently in to other businesses or when their local employees leave to either their own firm or another company. Thirdly, foreign firms might perhaps subcontract a few parts of their work to local businesses when the local firm is set up by someone who has been trained by the foreign company (this is more of a networking circle). Furthermore, competition in local markets can push local companies to invest in new technologies (Brautigam, 2009). Nevertheless, previous traditional models of infrastructure investment might perhaps be more linked to tied aid or resource-backed loans. However, it has taken a long time before these forms of investments have shown any result and therefore the argument might be that it is time to step away from a traditional model to other alternatives such as what the Chinese are doing at the moment – it might be the best way were Africa's

needs are met. Lastly, to tie these final marks together it is significant to go back to the central question of this paper, which also is included in the title itself, is China's involvement in African infrastructure a cooperation or an exploitation? As this paper has attempted to demonstrate, and as the final analysis shows by drawing upon the different cases – currently the relationship is considered to be by the analysis and findings throughout this paper as a cooperative one where both parties are winning from it.

6.8 What about the future? Continued to be faced by challenges

Although China's involvement in African development has brought positive trends to the continent the relationship between the two parts are facing crucial challenges that need to be dealt with in order for the positive trends that already exist remain and for new ones to arrive. One of the significant challenges is that China has no long-term strategy under national agenda that points out what the aims and goals are of their continuing presence in Africa. Not only does this reflect badly upon China's intentions for the African people but it also leaves a big empty gap for sceptics to push on the argument that China is only a new colonial power, if no grand plan is presented to the international community. Furthermore, another challenge that is very much linked to the one mentioned above is the internal bureaucratic conflicts. Without a grand set strategy plan the conflict between China's economic and political goals will intensify between different political and economic groups within themselves. Furthermore, the conflict between economic and political aspects of China's role in Africa will have a direct negative effect on existing Chinese companies and businesses in Africa. Some are even arguing that there is a lack of knowledge among Chinese companies that establish themselves in Africa, for instance they do not know much about significant factors such as risk assessments therefore it would be important that this knowledge reaches the Chinese before any further decisions are taken. Not only can this harm the Chinese firms but most likely also the African country they are investing in if investigated from a long-term perspective (Sun, 2014). The ultimate goal for African government is to make sure that the relationship continues to be as cooperative as it, if not even more, in order to avoid being exploited at any times.

Conclusion

This paper has focused on Chinese involvement and relationship with African countries in relation to infrastructure projects. By drawing examples upon different projects this paper has attempted to outline some of the most significant infrastructure projects that have emerged in Africa simply due to China's interest in investing within the sector. The topic holds some limitations in terms of precise data and primary sources of what is actually happening on the grounds, however with the research that has been made today especially by author Deborah Brautigam the world has gotten to know a different story next to the very critical one. The scale of China's involvement in Africa are significant and large, has this been good for the development of Africa's infrastructure sector? The analysis of this paper says it has. The relationship between China and Africa has become to divert from the traditional ways of getting countries back on track such as through aid or massive amounts of resource loans, it is also diverting partly from the traditional model as it has formed a clear south-south cooperation model where

a developing country is investing in the future of other developing nations. Now as some sceptics have argued that these investments only benefit authoritarian leaders on the continent it must be recognized that this is not the case and that previous investors including Western aid has despite its more democratic viewpoints had very little success in reconstructing African countries and especially African infrastructure. With the help of this new research as well as previous research this paper has identified backward and forward linkages that has been created with the emergence of different infrastructure projects. Although there are those who would argue that the relationship between China and Africa is mostly a toxic one, by drawing upon different examples of infrastructure projects it can be demonstrated that there are some significant results being made in this sector were backward and forward linkages are created and offers new opportunities for African countries to develop.

Sahr Jonny, Ambassador for Sierra Leone in Beijing, ones said *“The Chinese just come and do it. They don’t hold meetings about environmental impact assessments, human rights, bad governance and good governance. I’m not saying it’s right, just that Chinese investment is succeeding because they don’t set high benchmarks.”* (cited in Hilsum, 2005, 239) (Mohan, 2013). This does not mean that one should be ignorant towards the development of good governance and human rights, however, this does explain why the Chinese are somewhat succeeding on the African continent and why others previously have not. The challenge for African governments currently and in the long-term will be to deal with these issues outside of the development of a specific sector such as infrastructure. In other words, governments across Africa must develop a plan that sets out the significant points of how to make use of foreign sources, this includes China’s investments but also other funding’s in order for these sources to properly result in economic growth over the continent.

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