Factors Leading to the Delayed Construction of Infrastructure Projects: A Case Study of Standard Gauge Railway Project in Uganda

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ABSTRACT

It is more than Seven years since the four East African partner states signed the Regional Standard Gauge Railway (SGR) protocol in (2014), providing ways for cooperation and critical timelines for SGR project completion.

This study was carried out to determine the factors leading to the delayed construction of major construction projects concerning the SGR development in Uganda. Documentary analysis was used in this study which looked at an overview of literature from past research and studies reported on standard gauge railways, which were available online. Policy documents, laws, regulations, and contract documents were also utilized in the study. Findings were reported as themes in this study.

Various factors leading to the delayed construction of the SGR in Uganda were studied, like utilization of traditional methods in procurement, length of feasibility studies and consequences, work scope and project design uncertainties, deficiencies in the contract documents or contract uncertainties, political interference, inadequate funding/resources, delayed compensation of Project Affected Persons (PAPs), delay in payments to contractors and consultants, high inflation and interest rates, Bureaucracy/corruption, limited technology, environmental factors such as regulations from NEMA, donor conditionalities in respect to ESIA such as International Financial Credit (IFC) conditionalities, Equator Principle, COVID 19 pandemic that set in and legal factors concerned with land acquisition, compensation, and work permits. The need to carry out market sounding for a potential financier for the project was explored arising from the Chinese being hesitant in financing the SGR as anticipated. However, this will accompany other financiers' conditionalities, which must be studied, and mitigation factors sought. What the Government of Uganda needs to do to mobilize adequate resources or allocate more resources or propose some special duty tax or else make budget cuts on some sectors of the economy to cater for the infrastructure development (construction of the SGR).

Key words: SGR, Infrastructure Projects, Delayed Construction, and East African Partners

INTRODUCTION

Throughout history, railways have been identified as a major enabler of economic change due to their capacity to propel production and improve the competitiveness of a country (Aritua, 2019). However, for a long time, railway development has lagged behind demand in Uganda, yet it is a major driver of economic growth (Hazlewood, 1966). In the recent past, the Government has prioritized chiefly the road transport subsector to the extent that over 85% of the transport sector budget has been allocated to road sector (Ggoobi et al., 2020), where the road network has improved significantly.

The existing Meter Gauge Railway (MGR) from Malaba to Kampala was built over 70 years back, characterized by low freight capacity, very low speeds, numerous temporary speed restrictions, and low reliability and safety, all resulting in poor railway transport services. As a result, railway services have generally needed to be more efficient, reliable, and thus unattractive to the public, leading to a very marginal performance in cargo volumes per year.

To improve railway transport, the Government of Uganda, through the Standard Gauge Railway Project under the Ministry of Works and Transport, sought funds from internationally recognized financial institutions to finance the construction of the 273 Km Standard Gauge Railway "the Malaba-Kampala (Eastern) Route Project" (SGR, 2016b). This SGR route starts at Malaba on the border with Kenya and traverses through 12 districts of Tororo, Butaleja, Namutumba, Bugweri, Iganga, Luuka, Mayuge, Jinja, Buikwe, Mukono, Wakiso, and Kampala affecting economic, social, cultural and environmental livelihood and echo systems that calls for lean construction implementation. Currently, the selected SGR route traverses several human settlements and sensitive ecosystems, including forest reserves, major rivers, major economic crop plantations, major agricultural potential areas, and vast wetland systems (SGR, 2016b). This project has been delayed for close to seven years, and yet Government treats it as the flagship project that should propel the country to a middle-income country (Budget speech Government of Uganda 2015/2016).

Many factors contribute to delays in construction projects of infrastructure, and analysis of the case for the delays is a big task that increases the chances of potential conflicts or claims as many researchers continue to attribute all these to the high costs of the projects and risks associated with claims arising from implementation delays. Few researchers have looked at the responsibility for infrastructural project delays. The construction sector in Uganda has continued to grow for the past five years, although there is more sophistication across the supply chain in the construction industry (Muhwezi et al., 2014).

It is more than seven (7) years now since the four (4) partner states (Kenya, Uganda, Rwanda, and South Sudan) signed the regional SGR protocol in (2014) which provides ways for cooperation and critical timelines for the completion of the SGR project. In March 2015, without exhausting numerous available procurement processes, the Government of Uganda and China Harbor engineering company limited (CHEC) signed an MoU which later culminated in an Engineering, Procurement, and Construction (EPC/ Turnkey) contract agreement by use of single sourcing to develop the routes of Eastern and Northern SGR lines (SGR, 2016a). The intention was that the Chinese company should help the GOU fast-track the acquisition of the concessional loan from the China Exim Bank, and this was invaded as the express condition in the contract for the issuance of the commencement of the project; it was also to design the SGR route to the little unknown Chinese standard which was not yet adopted at international level.

In addition, a Memorandum of Understanding (MOU) was also signed with the Chinese civil engineering construction company (CCECC) Ltd to establish the Kampala-Kasese line inclusive of the Kampala metro Area railway system (SGR, 2016a). However, since then (2015), the project still needs to start its construction, with most of the activities of pre-construction implementation like land acquisition, sourcing for financing, and environmental studies progressing in a slow phase.

This project was meant to increase Uganda's competitiveness, reduce business costs, create socio-economic transformations, and integrate Uganda with the international and regional economies, more specifically EAC, by having easy and faster access to the seaport of Mombasa. This was also meant to reduce the stress of cargo trucks which are on the roads in Uganda, which have a negative impact on the roads and other road users, like rampant accidents, the risk associated with the theft of goods in transit, and low volume of cargo transportation in addition to the high cost of transportation.

The continued delay of the project is likely to lead to increased stress on the roads, increased costs of transportation of goods and services as a result of high transport costs from border points, and also worry about the achievement of the Sustainable Development Goal 9 "Industry, Innovation, and Infrastructure" by 2030 and Uganda's vision 2040, of "development of a modern, efficient, reliable, safe and affordable rail transport system for both freight and passengers. Therefore, there was a need to investigate the causes of delays to find ways of speeding up the construction of the SGR and other future infrastructure projects.

Specific Objectives

1. To determine the internal factors delaying the construction of the Standard Gauge Railway and propose the method of avoiding the delays.
2. To identify the external factors delaying the construction of the Standard Gauge Railway and suggest ways of minimizing the delays.

3. To dig out and propose for mitigation the gap which is causing the major delay in the start of the construction of the Uganda Standard Gauge Railway Project

METHODOLOGY

Study Design

This study used the qualitative method of data collection since some scholar punch holes in the mixed methodology, reasoning that the philosophies are likely to be a recipe for confusion (MacIntosh and O'Gorman, 2015).

The qualitative method was adopted after comparing and analysing the relevance between quantitative and qualitative to this study. The reality of the gap and problem the research intends to resolve has to be articulated using a proper methodology (MacIntosh and O'Gorman, 2015). Data was got from published articles, and reports available at SGR offices.

Study Area

The study was conducted in Uganda, which is located in East Africa. The study used the SGR as the case study to identify the causes of the delay in its construction. The Uganda Standard Gauge Railway is a planned railway system linking the country to the neighbouring countries of Kenya, Rwanda, the Democratic Republic of the Congo, and South Sudan as part of the East African Railway Master Plan. The new Standard Gauge Railway (SGR) will replace the old, inefficient meter-gauge railway system.

This SGR railway line was intended to ease the transfer of goods between the port of Mombasa and the city of Kampala, and subsequently to Kigali in Rwanda and Beni in the Democratic Republic of the Congo and to Nimule and Juba in South Sudan. Goods would travel from Mombasa along the Kenya Standard Gauge Railway to Malaba, at the border with Uganda, and transfer onto this railway system.

Data Collection and Analysis

Data was collected from secondary sources and existing online material regarding the construction projects in Uganda and published reports and articles on the construction of the SGR. Policy frameworks, budgets, contracts, and other official documents were utilized online. The causes of the delays in the project were documented in the contracts and reports of these companies; some causes of these delays were obtained from available online videos regarding the railway from recorded videos on television which are available online. These videos were recorded by media houses in Uganda and published on YouTube and other sites. It was interesting to find such evidence; their references have been included in the bibliography.

ethical considerations

The Ethics and Research Committee of the University of East London ethical standard for research procedures adopted. The study observed confidentiality aspects and anonymity of research writings. The source where the data for the study was obtained was referenced. Permission to access the records and reports available at Uganda SGR was obtained from SGR Uganda's management.

This study remained for academic purposes only, and no biased information was spread to the public to avoid physical and emotional harm to the organization and its staff.

Research Findings

Internal Factors Delaying the Construction of the Standard Gauge Railway.

Utilization of traditional methods

The Uganda construction industry uses traditional methods of procurement. Clients usually employ consultants to design and supervise construction projects (Abbas, 2006). Public procurement laws and guidelines govern the

procurement of construction projects, but even these can be a source of contention. The traditional systems in Uganda include manually managing the function, which is heavy dependence on paperwork, and handling this voluminous paperwork leads to delays. Therefore, the use of modern methods of electronic procurement is wanted in the country. However, e-procurement requires competent human resources and equipment, which must be improved. Therefore, the use of traditional procurement method in Uganda, which are manual, contribute immensely to delays in construction.

Public procurement in Uganda is regulated by the Public Procurement and Disposal of Assets Act (2003), which requires all procurements to be taken openly and transparently to ensure competition, fairness, and value for money, and of which the SGR falls short. The process requires preparing specifications, advertising and calls for bids, registering all bids received, and publicly opening the bids witnessed by the bidders, and this constitutes an evaluation committee, the objective is to reduce or avoid administrative reviews arising from complain from public of non-transparency. The responsibility agency to implement the SGR is mandated to URC, However, Cabinet created a special PMU to implement SGR.

Feasibility studies and their issues

Before any project is implemented, feasibility studies are a requirement to gauge the viability of the project. In SGR Malaba-Kampala, the first prospectus company CCECC undertook feasibility studies under the MoU and submitted it to the Ministry of Works and Transport, this was after the Preliminary Engineering Design has been done in 2014 by German firm named HBG Gauff. However, the MoWT reported that the feasibility study was inadequate and CCECC was incompetent to do the work, causing delays in the implementation plan. Another Chinese company CHEC was introduced and single sourced under the directives with the recommendation that they could undertake the SGR construction timely since they could also help secure for the financing from China EXIM Bank and other export credit agencies (ECA).

Work scope and project design uncertainties

Project work scope changes that arise from lack of client awareness, delayed financing, poor planning phase, and lack of geotechnical expertise, among others. Most construction projects have suffered from unforeseen ground conditions forcing engineers to redesign or adjust during implementation. The redesign to cope with the ground condition results in the issuance of contract price variations, and often an award extension becomes inevitable. The factor leads to delays and cost overruns in a project. The consequences of inadequate designs have proven severe for a project's engineering and construction phases. They are probably even more serious when continued into full-life costing. The lack of the required unified design standard, and changes in design from Chinese standard to EU standard, coupling with AREMA standard has resulted to the changes in the scope of works, alignment design changes and speed restriction, meaning the that the contractor had difficulty executing the works (Budget Monitoring and Accountability Unit, 2013), leaving the employer who lacks knowledge on implementation and skills in these standards and which are difficult to acquire.

Poor monitoring and control

The need for more monitoring of the project's success in Uganda is still a major issue. Projects are laid down, planned, and stopped on paperwork, leading to delays in the project implementation phase. Most of the resources given at the start of the projects are very small and in many occasions misused or diverted, this was evident when the SGR was Planned to get USD 300 Million in three financial years (Keith Makenzi Permanent Secretary/ secretary to Treasure Ministry of Finance letter 2014), however the SGR project received less than 100 million (SGR PMU report to parliament). There has yet to be a committee set in Uganda to foresee the progress of the Uganda SGR. The Parliamentary Committee constituted in November 2014, was temporary and would take 60 days to provide the report (Parliament of Uganda, 2015).

Deficiencies in the contract documents or contract uncertainties

Some of the projects of the SGR have been delayed due to the uncertainties of the contracts and termination of the contracts, leading to delays in the construction. A study case is when the Government of Uganda terminated the Memorandum of Understanding (MoU) with China Civil Engineering Construction Corporation (CCECC)

for the eastern and northern Routes in 2014 in favour of another MOU with CHEC, which was again terminated for failure to attract financing from EXIM Bank of China. Another Turkeish firm Yapi Makernzi is now undertaking another study as a new contractor. Although the Government of Uganda reasoned that this termination was necessary to cut on the expensive cost fronted by the firms, it resulted in delays in not only procurement but also the start of construction (Parliament of Uganda, 2015).

External Factors Delaying the Construction of the Standard Gauge Railway.

Political uncertainty

The processes followed in procuring the SGR in Uganda have faced political interferences. The SGR procurement in Uganda did not follow the PPDA Act and regulations (2003). the process lacks transparency and no competition (Parliament of Uganda, 2015). As a result, the procurement process principles of transparency, accountability, fairness, non-discrimination, competition, ethics, and value for money were compromised. Furthermore, political interference in the SGR led to its delayed construction as all the companies that had to bid could implement the project, but due to some political reasons the project continue to delay.

Economic Inadequate funding, inefficient equipment, and compensation of PAPs

The Ministry of Works and Transport attributed in February 2023 the slow progress in implementing the standard gauge railway project to inadequate funds. According to the Ministry, it has affected pre-construction activities such as land acquisition and compensation of Project-Affected-Persons (PAPs) on the first phase of the Malaba-Kampala SGR project. 9 January 2023) (Parliament of Uganda, 2023).

Whereas acquiring the right of way for the SGR project is ongoing, the process could not be faster due to small budgets.

The right of way from Tororo-Kampala was demarcated and gazetted in 2015 at a total land compensation cost estimate of Uganda Shs 584.90 billion to be paid to 10,676 PAPs has taken close to eight years, and only 50% of the land is paid and expropriated amounting to UGX 102 billion only in eight years.

Delays in compensation of the PAPs

PAPs have continued to write to the project expressing concern about delayed compensation and its effect on their financial, social, and economic livelihood. PAPs issues raised and which were genuine includes.

Loss of business: Pap's businesses have been constrained by delayed compensation due to guzette of their affected land and properties by the Government for the construction of SGR. These include schools that have lost half their student population, clinics that are failing to attract clients, landlords who cannot rent their properties and, fish ponds that cannot be restocked, factories that cannot produce at total capacity have stalled.

Bank Foreclosures: some PAPs have taken bank loans and mortgages and have failed to pay.

Social Impact: PAPs claim they have no alternative land to bury their dead.

Stalled constructions: PAPs cannot continue constructing and renovating their properties, and these premises are getting dilapidated and harbouring criminals.

Re-assessment of properties and land. Some land and properties were assessed three years ago, and the market rates have changed. Consequences of delayed Compensation included; Litigation against the Government, Political tensions and upheaval, Increased compensation costs to the Government as a result of revaluation, acting contrary to the Constitution article 26, which requires timely compensation, Encroachment and Land grabbing, the rise of speculators, delay in implementation of the SGR project and Hostility from PAP communities (SGR, 2023), all amounting to delays in construction start.

Delay in payments to contractors: delays by the contractor in paying staff/ service providers and suppliers is an issue that cuts across several projects. In addition, delayed payments by the development partners and GoU

has had a knock-on effect on the activities of the contractors, subcontractors, and suppliers. Contractors tend to transfer the burden of accumulated interest to the client, causing delays and cost overruns.

Delay of payment to contractors is usually caused by bureaucracy in the public sector, lack of proper documentation, and deficiency in transparency. For example, in the fort portal construction project, the contractor threatened to slow progress by citing financial constraints and claiming interest on unpaid sums, escalating the project costs. Another knock on effect would be the additional time needed to complete the work. Payments came in late on the Mbarara-Kikaga–Murongo bridge project and the contractor threatened to suspend work. All these issues lead to project delays (Parliament of Uganda, 2015).

High inflation and interest rates: high inflation leads to the escalation of prices of materials such as fuel, equipment costs, and other inputs to the projects. The development partners and GoU are also affected, as price adjustment is allowed in most contracts. Cost overruns due to inflation which amounts to price adjustment (Budget Monitoring and Accountability Unit, 2013).

Socio-cultural: bureaucracy and high level of corruption in the country

Uganda is also faced with high rates of corruption. The country is also characterized by a grand-scale theft of public funds and petty corruption involving government officials and politicians at all levels of society. All these have been the causes of the delay.

The poor and corrupt procurement processes in Uganda related to the SGR have led to the delay of its implementation. In addition, many cases of collusion between companies; rivalry between CCECC and CHEC have delayed in courts of law, leading to the delay in construction of the SGR in Uganda.

Technological: The various technological advancements needed in the construction of the Uganda SGR and experience have also led to the delay in its construction. The SGR needs a lot of expertise and technology, which was to be imported from Western countries with several railways and other big infrastructural projects (Parliament of Uganda, 2015). The Government of Uganda also caused delays in its implementation while looking for potential contractors to handle the job.

Environmental: The issue of prolonged heavy rains has manifested as a challenge on almost all projects. Heavy rains have continued to slow down the construction works. However, earthworks like excavations and filling have continued with difficulties due to wet weather on all the projects monitored, with some roads becoming impassable to traffic.

The provisions of the National Environment Management Act 2019 and the National Environment (Wetlands; Riverbanks and Lakeshores Management) Regulations, 2000 are very eminent in land acquisition, primarily for constructing Roads sections and Bridges that fall within the reserve banks. The Act provides for procedures that must be followed to obtain land and environmental clearance prior to construction works. These procedures are time-consuming and thus negatively impact the project timeline and cost (The Environmental Act, 2019)—the implication of the management of wetlands empowers the Government to hold wetlands in trust for the people, and Government must protect the environment.

COVID-19 pandemic; Delays on construction projects are expected, given the variables involved. However, a new wave of delay claims looms as the fallout from the COVID-19 pandemic unfolds. Site closures, supply chain disruption, and workforce unavailability are only a few examples of how the pandemic affected the construction industry. Owners, general contractors, and subcontractors were all left asking who would bear the financial brunt of these delays (Alenezi, 2020). In addition, the COVID-19 pandemic limited all the processes for the two years. These were compensation for PAPs, limited movement, and the effect of lockdown, which reduced movement to homesteads to avoid spreading the virus. The COVID-19 pandemic left the construction industry devastated as restrictions were put. Most country borders were closed (Lakuma et al., 2020), putting all the SGR construction processes to a standstill. COVID-19 also forced some financial institutions to change minds in investment directive, a case in point is when China EXIM Bank changes focus from investing in infrastructure to financing of life saving projects like drugs for COVID-19

Legal factors

The litigation on Land compensation caused by delays in negotiation and compensation to landowners results in delays. Contractors can only take possession of sites after compensation issues are resolved. The situation is worsened by some owners claiming exorbitant sums of money for their property, and these owners deny contractors access to the site section.

CONCLUSION

In conclusion, this study was carried out to find out both the internal and external factors leading to the delayed construction of the SGR in Uganda. This study identified a number of various factors which are; utilization of traditional methods in procurement, length of feasibility studies and there consequences, work scope and project design uncertainties, Deficiencies in the contract documents or contract uncertainties, political interference, inadequate funding/resources, delay in compensation of PAPs, Delay in payments to contractors, High inflation and interest rates, Bureaucracy and high level of corruption in the country, limited Technology, environmental factors such as regulations from NEMA, COVID 19 pandemic and legal factors concerned with land acquisition, compensation and work permits.

RECOMMENDATIONS

From the above study findings, the following recommendations are made.

The procurement of the SGR should be expedited and the necessary preparations should not be delayed any further as the SGR is of benefit to the people of Uganda and will lead to more infrastructural developments in Uganda and East African Region as a whole.

There is need to find potential funders for the project if the Chinese are still hesistant in financing the SGR. The government of Uganda needs to lobby for more resources or else make budget cuts on some sectors of the economy such as security so as to cater for the infrastructure development such as the construction of the SGR. Negotiations can also be reached with contractors.

There is also need for the government of Uganda to strongly recommend a competent consultant to supervise the project works and ensure that the desired quality of the SGR project is achieved. The ministry of works and transport should identify a competent consultant to spear head the process. This would help the project to run as per the schedule.

Conflict of Interest: This study did not have any conflict of interest.

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