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PROSPECTS AND ISSUES OF RAILWAY INFRASTRUCTURE AND DEVELOPMENT IN GHANA

Romanus D. Dinye

Centre for Settlements Studies
College of Architecture and Planning
Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
Email: rdinye2004@yahoo.co.uk

Abstract
Railways combine speed, carriage space and weight at less expense over long distances than any other mode of land transport. In Ghana, however, the railway subsector holds less than two percent of freight movement alongside with a less than one percent of passenger carriage in the transport economy. Provided that, rehabilitation and maintenance of existing stock, construction of new lines, efficiency and reliability services are enhanced, the railway system will play a vital role in the movement of more goods and people, thus spurring trade and increased commodity production. It will open up the investments frontiers for raw material extraction, commercial agriculture, competitive industrialisation and high quality services' delivery for the country's development. The Government of Ghana has plans to upgrade the existing system and construct new lines to expand it and link it with the railway infrastructure in the Economic Community of West African States and eventually the rest of Africa. This paper examines the current state of the railway system in Ghana, highlighting its socio-economic contribution and prospects to national development albeit inherent problems. The prospects and issues associated with its development as a significant and an inevitable infrastructural component in the country's socio-economic development. Data for the paper are drawn through goggle documentary investigation and subjected to contingent content analysis and evaluation. A private-public partnership approach to the development and management of the railway system is proposed within the context of the liberalization policy in Ghana's national development framework.

Key words: Ghana, Railway, Infrastructure, Development

INTRODUCTION

Ghana is a member of the Economic Community of West African States (ECOWAS) and the African Union (AU) the effective integration of which requires transport infrastructure. It lies between longitudes 3º15' W and 1º12'E, and latitudes 4º44' and 11º15'N. The country has a total land area

of 238,533 square kilometresm2 with an exclusive economic zone of 110,000 km2 of the sea. It currently has a population of about 25.0 million people. It shares common borders with the Republic of Togo on the East, La Cote d'Ivoire on the West; Burkina Faso in the North and in the South with the Gulf of Guinea (Map 1). The country also has a coast line of about 550 km2 which is water transport asset. This geographical location of Ghana, among other factors, makes it a potential international trading partner. The country is well endowed with natural resources of gold, bauxite, diamond, manganese timber and cocoa as major generators of foreign trade exchange. The economic sector of Ghana comprises agriculture (40 percent), industry (25 percent) and services (35 percent). The contribution of the transport sector falls under services, which accounts for about 4 percent of the county's GDP.

Currently, Ghana's transport system consists of (i) a total of about 40,000 kilometres road network of all classes (12,383 kilometres trunk roads; 24,000 kilometres of feeder roads; 2,909 kilometres of urban roads and 820 kilometres of town roads. (ii) a railways network of 937 kilometres; (iii) air transport services consisting of one international and four domestic airports; (iv) a maritime service with two major seaports; and (v) a 415 kilometres inland water transport facility. Roads continued to be a predominate mode of transportation currently accounting for about 95 percent of freight and 97 percent of passenger traffic movement (African Development Bank Group, 2005).

A good transportation system is a prerequisite for economic growth and poverty reduction in a nation. At the international front, changes in trading relationships brought about by globalization require changes in a country's transportation system and its performance. According to a World Bank (2006) report on Doing Business, an effective transport system can reduce costs and comparative distances between trading partners, increasing trade effectiveness and maximizing existing industrial investments and production outputs. National growth and poverty reduction target also heavily rely on an effective transportation system. The people rely on transport to get food and fuel into their communities and to get to markets, jobs, schools, and health clinics. Farmers rely on transport to get their products to urban markets. Miners and manufacturers rely on transport to get their inputs and/or products to markets and ports.

The lack of access to transport and/ or at the instance of being too expensive can deny people of jobs and essential services amounting to social exclusion.

Map 1: Location of Ghana; Source**:** CIA Factbook

Railways are the most cost-effective mode of transport for moving bulk cargo for long distances over land. They are suited to container traffic between ports and capitals. Despite the convenience and economic significance of rail transport, the railways in Africa carry only one percent (1.0%) of the global railway passenger traffic and two per cent (2.0%) of the goods traffic (United Nations Economic Commission for Africa, 2009). The network, shaped in the form of a capital "A" is set in the south-central area of the country. It is 1,300 kilometres in length and for the most part, it is a single line track of 1.067 metres gauge. There has been a decline in the performance of the sector over the years due to physical deterioration, decrease in number of wagons, drop in service quality, ineffective management and inadequate investment. Most of the railway networks in were built during the close and beginning of the nineteenth and the twentieth centuries respectively. This was in response to high demand for transport that arose from the need to link the ports to the hinterland producing primary commodities for export.

In Ghana and as much as elsewhere in Africa, investment in the rail sector has since the mid-twentieth century onwards not received significant investment. In 1931, the railways were transporting 760,000 tons of goods and 1,340,000 passengers. By the end of the 1960s, the railways were transporting 3,500,000 tons of goods and 6,000,000 passengers. Yet, massive investments in road infrastructure and under investments and management issues in the railway sector caused a significant decline of the latter. In 1984, the railways were only transporting 374,000 tons of goods, the same amount as in 1921 and 2,180,000 passengers. Although recent investments have permitted the railways to be competitive again, they still transport much less than what they could prior to independence (Jedwab and Moradi, 2011). In the case of Ghana, which is the focus of this paper, a loan of US$6 billion has been contracted to rehabilitate the existing network and build a railroad to the country's northern border (Bloomberg, 2010).

AN OVERVIEW OF LITERATURE

An eminent scholar of early railways Michael J.T. Lewis (1974) defined a railway as ‘a prepared track which so guides the wheels of the vehicles running on it that they cannot leave the track’. The opening in 1830 of the Liverpool and Manchester Railway in north-west of England marked the beginning of the ‘modern railway’. It comprised a combination of specialized track than before, the accommodation of public traffic, the conveyance of passengers and freight, mechanical traction under a measure of public control. By 1907, well about 200,000 miles (320 km) of railways had been built in Europe.

Prior to World War I, railways were parts of a much larger and more complex phenomenon of the spread of European imperialism around the world. Railways went along with other technologies which included the steamship, telegraph, and new medicines such as quinine to further the process of imperialism. The construction of the railways and imperialism were nonetheless much more interdependent. It transformed the manner in which an imperial power exploited the resources of a colony by opening up a hinterland and even explicitly struggle for political control (Davis and Wilburn 1991). The railways were used to annex territories in order to exploit the resources of the region under control.

Colonial railways were thus an essential component of the economic processes, ideas, and institutions spread around the world by European powers. These included the production of raw materials to feed the industries and peoples of the West, new populations drawn on into the production, new patterns of land ownership, and attendant legal codes to make the conquered lands safe for investment and exploitation. Governments and most communities in the European-settled regions of the world showed their desire in railways as the key to prosperity and national development. Railways were and are nevertheless expensive, and the direct financial returns in most parts of the world uncertain, even in the longer term.

The "golden' age" of railways, in the sense of their monopoly in inland transport, was over in most countries by World War I. By the middle of the 20th century most of the world's current railway network was in place. Since then, the experience has been one of decline of the existing routes and limited advancement of new lines built.

RESEARCH METHODOLOGY

In the preparation of a research paper, the information required on the topic can be drawn from primary (field), secondary (interpretative) and tertiary (processed) data sources or some form of a combination of the three. For this paper, the material has mostly been retrieved from the internet using Google (www.google.com) as a search mechanism. In all a total of 28 files pertinent to the objectives of the work, out of the large catalogue of files initially generated by a background search were chosen as the baseline information source and studied.

A cursory examination of the documentary materials so accumulated showed the dearth of information on the railway infrastructure and development in Ghana. What is available exists discretely in small and isolated pockets that, of course at a straight sight, do not adequately give a clear picture of the nature of the railway infrastructure sector in the country. This paper has sought to put together the various pieces of information together to give better level of understanding of the circumstances of the railway infrastructure in the country. This is with regard to its contribution, prospects and challenges in lieu of overall development in Ghana.

One needs to be cautious about the use of such a methodology because the internet provides an opportunity for virtually everybody to post and distribute information. In fact, much of the information is unedited and to avoid misinformation the validity and accuracy was taken into consideration. As can be inferred from the list of reference, an attempt to do due diligence to ensure the authenticity has been made by drawing the information from authors in the academia as well as persons and organization in development practice.

RAILWAYS AND DEVELOPMENT

There is a near consensus that Africa needs trade not aid. Research and documentary evidence abound on the enormous beneficial effects that trade have on poverty reduction and wealth creation through its income generation power (Feyrer, 2009; Donaldson, 2010). Inadequate and poor infrastructure constitutes one of the major obstacles that constrain the conduct and expansion of trade on and with the continent (Buys, Deichmann, and Wheeler, 2010). The limited intercontinental and intra-continental trade integration that result from the transport sector deficiency contributes immensely to Africa's underdevelopment (Johnson, Ostry, and Subramanian, 2007; Buys, Deichmann, and Wheeler, 2010). The United Nations Economic Commission for Africa, the African Development Bank and the African Union are seeking the development road-based trade corridors in Africa (African Development Bank, 2003). The African Union has, as one of its projects, been working out a way to link all railways in Africa (African Union, 2006).

Transportation significantly impacts on the quality of life and opportunity for the citizenry and the businesses they do and can do. It helps form an important part of the social safety net facilitating the distribution of wealth through trade and employment opportunities in the various communities both urban and rural. Inference on the impact of railways on trade and development can be derived from the overall view of material on transport infrastructure generally which have been presented from three standpoints. The first perspective is set on the macroeconomic impact of transport infrastructure on trade and development (Clark, Dollar, and Micco, 2004; Calderon and Serven, 2008). Better infrastructure is known to diminish transport costs especially for landlocked countries and has a positive impact on exports and economic growth.

A second category of literature delves into the impact of transport, especially roads on rural communities (Mu and van de Walle, 2007; Dercon, Gilligan, Hoddinott, and Woldehan, 2008; Jacoby and Minten, 2009). The experience reported is one of poverty reduction in the connected villages. This is through the integration of labour and goods markets providing new economic opportunities to their inhabitants in those localities. Farmers obtain higher incomes arising from cheaper agricultural inputs and higher farm gate prices for their crops.

The third strand of literature is on the study of the impact of large transportation projects, centred on whether highways (Michaels, 2008) and railroads (Atack and Margo 2009; Atack, Bateman, Haines, and Margo, 2010; Donaldson, 2010). They give credence to enormous socio-economic gains from market integration for connected areas. African countries are suffering from the adverse effects of transport infrastructure underdevelopment and in response international development agencies are advocating for massive investments in the sector. In 2005, Sub-Saharan Africa had 0.002 km of railroad track per 1000 sq. km and Ghana had 4.2 km. by way of comparison, China had 6.5 km, India 21.3 km, whilst the United States 24.8 km and Europe 50.5 km per 1000 sq. km (World Bank 2010). Despite contemporary interest in transportation projects, the isolated pockets of available information on railways do not present a clear picture on the real and potential economic of the network. There is therefore a lack of clarity towards the adoption of the appropriate strategic approach for the development of the sector considering its capital intensity. This paper seeks to make a modest contribution in that area.

HISTORICAL BACKGROUND

Rail transport dates back to the colonial era, which is prior to the year 1957 when the then Gold Coast became independent from the British rule and became Ghana. Gold mining, military domination and the export of tropical raw materials for British industries were the underlying reasons for the inevitability of the construction of railways in colonial Ghana. The construction of the first railway line was started in 1898 from Sekondi on the Coast and reached the Gold mines of Tarkwa and Obuasi in 1901 and 1902 respectively. From Obuasi it extended to Kumasi, the Ashanti capital in 1903.

Until the construction of this first railway line, transportation was highly constrained in terms speed as well as costs with which volumes of goods and numbers of persons were moved (Dickson, 1968; Austin, 2007; Chaves, Engerman, and Robinson, 2010). Head portage was the main mechanism of transportation goods. Beasts of burden could not be used due to the tsetse fly infestation. Movement was mainly by foot and British officials were carried in hammocks slung between two bearers (Gould, 1960; Luntinen, 1996). The first lorry imported into colonial Ghana was in 1903 and even after over a decade, only two lorries were in the colony in 1914 (Luntinen, 1996).

There were a few projects proposed but dropped before the first railway line was actually built. With reference to projects mentioned by Gould (1960) and Luntinen (1996), the first proposal to build a railway was made in 1873 to connect Cape Coast to Kumasi via Prasu to facilitate the British military expedition against the Ashanti. Some railway materials were landed at Cape Coast but not in time to build the line for the military operation, so the project was dropped. The next important project was the Saltpond-Oda-Kumasi line which was surveyed in 1893. It was aimed at increasing trade (gold mining, palm oil and kernels, timber), ensuring military domination and bringing civilization to the native people. The project was dropped because it found to be too expensive. The third project considered was one starting from Apam which was designed in 1898. A competing project from Accra emerged in 1899 and of the two projects and Accra was selected since it was the capital of the Colony. The Accra-Oda-Kumasi project was however suspended to carry out the harbour works at Accra.

RAILWAYS AND DEVELOPMENT IN GHANA

The development of the railways in Ghana took place during the colonial period and reflected the priorities of colonial rulers but it nevertheless has been directly beneficial to the post-independence state. The main purpose of establishing rail infrastructure were to aid exploitation of natural resources by moving primary products from their source to ports for export to metropolitan markets in Europe, and by moving labour from the north of the colony to plantations or mines further south.

Manganese, diamond, gold bauxite and timber are major primary export products. In Ghana, the railway remains the sole means by which manganese and bauxite are transported to the port. An Eastern line was then started from Accra in 1908 but only reached Kumasi in 1923, due to wartime shortages. The line was then stopped at Tafo in 1918. As explained above, the original justifications for an Eastern line did not mention at all the cultivation of cocoa, but the opening of new areas to cocoa cultivation became ex-post one objective of railway construction. Another line was then built in 1927 with the aims of connecting the two lines, developing cocoa production and diamond production around Kade. Yet, this line only went from Huni Valley to Kade and did not reach the eastern line before 1956 (Jedwab and Moradi, 2011). As a result of this development, the cost of transportation reduced specifically for cash crops like cocoa and minerals like gold, manganese and diamond.

Cocoa Crop Revolution

Cocoa exportation became especially important with the development of the railways and remains so vital to the Ghanaian economy today. Ghana is the world's second largest cocoa exporter. Cocoa has been the main engine of Ghana's economic development (Teal 2002; Austin 2008) having made it a leader of the African "cash crop revolution" (Tosh 1980). Cocoa was introduced by missionaries in 1859, but it took 30 years before cocoa was widely grown, making Ghana the world's largest exporter as soon as 1911.Cocoa production originally spread out in the Eastern province from Aburi Botanical Gardens, where the British sold cocoa seedlings at a very low price (Hill 1963; Jedwab and Moradi, 2011). As Ghanaian farmers realized how much profit they could make out of cocoa, more and more people specialized in the crop. The Accra-Tafo railway line was instrumental in opening new land to cocoa cultivation. Production boomed around Kumasi when the railway line was opened in 1904. The production boom in Ashanti and not in the South-West, around Sekondi where transportation costs were certainly lower is due to the poor cocoa soils in the latter region. The railway line to Kumasi thus made the Ashanti more competitive than the South-West for the development of cocoa cultivation.

Railways and Urbanization

Ghana has experienced dramatic population growth after 1901, due to rising standard of living, international migrations and large-scale health campaigns organized by the British colonizer. The population increased from 1,948,000 in 1901 to 2,191,000 in 1911, 2,543,000 in 1921 and 3,164,000 in 1931 (Austin 2008). Much (31.9%) of this growth took place in the Gold Coast Colony where the rail network is concentrated. Whilst Ghana was an almost un-urbanised country at the turn of the 20th century, it is now one of the most urbanized countries in Africa. Its urbanization rate is estimated at 51.6% in 2010 as compared to 37.2% for Sub-Saharan Africa (United Nations 2009).

Defining as urban any locality with more than 5,000 inhabitants, Ghana's urbanization rate increased during its railway age from 5.0% in 1901 to 7.7% in 1931.The two largest cities were then Accra, the national capital, and Kumasi, the hinterland capital. Together, they accounted for 9.5% of the total urban growth in 1901-193. Around 66.5% of the then urban growth came from areas suitable to cocoa cultivation. Prior to the beginning of 20th century, towns in Ghana were mostly state capitals and/or trading centres (Dickson 1968). Most of the trading centres were on the coast, where the European traders met their local counterparts from the interior. The trading centres in the North were settlements that had benefitted from their location on the historical trans-saharan trade routes. In the early 20th century, most of urban growth took place in the forest zone with the development of mining, cocoa production to which railways were associated (Dickson, 1968). Austin (2008) asserts an increase in labour-land ratio increased as a result of migration related to cocoa. This confirms the correlation between railway lines, cocoa cultivation and urbanization in Ghana. There had also been corresponding increase in the rural population in around the areas which experienced urban growth, probably due to booming cocoa production and ease of access provided by the rail transport.

Railways and Industrial Growth

For Ghana, the Industrial Review Series of the United Nations Industrial Organization described the period 1962-70 as one of industrial growth in its development (U.N.I.D.O., 1986:p.14). To this industrial growth and development, the railways transport sector did make a significant contribution. This can safely be inferred because most of the manufacturing industries, which import substitution enterprises, were located in and around

the points of Accra-Tema, Kumasi and Sekondi Takoradi which are indeed the vertices of what came to be known as the "Golden Triangle." A number of indicators are necessary to illustrate the growth. Whilst Gross National Product was growing at around 2.5 percent annually, constant price manufacturing value-added did so at 8.8 percent.

This does not adequately reflect the full extent of the industrial capacity installed in the 1960s. It was even higher but then for different reasons, it was not used to its maximum. In Ghana, the Central Bureau of Statistics in 1962 established a new system of industrial statistics covering only enterprises engaging 30 or more persons. Counting on that basis, there were 110 establishments in 1962 employing 30 or more persons (Central Bureau of Statistics, 1969). In 1966, there were 230 manufacturing enterprises representing a gain of more than 100 percent. From another source, the number of the same type of manufacturing enterprises in Ghana was 437 in 1970 (Heramgeber, 1985). Some indirect information about the development of manufacturing enterprises during the period 1962-1970 is given by Tony Killick (1984). He calculated the value of the 43 import items in each case valued at One Million Cedis or more in 1960. He observed that only eleven of them were by then being produced in Ghana. In 1970, he estimated that 33 of the same items were being locally produced.

Employment statistics also provide a clue of the industrial growth during the period under review. Employment in manufacturing rose at about 8.0 percent per year in the 1962-70 periods in comparison with 2.2 percent growth per year of total employment in the country within the same period (Tony Killick, 1984:p.168).

Development crises in Ghana

The development of economic crises in Ghana in the 1980s followed the pattern of many other countries whose governments had borrowed too much in response to policies of international banks to lend too much. A variety of factors contributed to plunge the country into a downward spiral of debt and annual budget deficits. Adverse terms of trade for cocoa and other products, alongside a sharp rise in the price of crude oil the nation's major import were among those factors. Of relevance to the railways, the other factors included the monopoly of the state, policy mismanagement, political appointments and corruption.

There is disagreement as to where blame should lie. One opinion held it onto mismanagement to be primarily responsible for the woes of the railways sector. Another opinion suggested that poor staff performance was a secondary problem. Arguably, whilst it is correct to say that indiscipline of some sort at Ghana Railways Corporation accounted for the stagnation and decline of the sector, it is unlikely, however, to subsume that such indiscipline is intrinsic. The blame is handed down on the nature and attendant effects of deterioration of the Corporation's basic infrastructure. For instance, from 1.6 million tons in 1970, freight traffic of the railways slumped to 350,000 tonnes in 1983. Over the same period, passenger traffic went down from 8.0 million to 3.3 million passengers.

Structural Adjustment Programme (SAPs) was developed by the World Bank to deal with economic malaise faced by developing countries on account of the oil price shocks and international debt crises of the 1970s. The reform programmes initiated by many African countries in the mid-1980s – with the assistance of the International Monetary Fund, the World Bank and other donors – reflected a new paradigm. The approach sought to reduce the role of the state in production and in regulation of private sector economic activity. Much importance was attached to export sector, and emphasis was placed on maintaining macro-economic stability and avoiding exchange rates distortions. As export orientation has been central to the SAPs, the significance of the relationship between rail transport and the export of primary products is even also great today in the context of globalization as it was in the era of colonialisation.

With regard to the transport sector, the problems identified were public ownership and management. These were associated with 'operational inefficiencies, inadequate maintenance and excessive dependence on fiscal resources. The system lacked responsiveness to users' needs, limited benefits to the poor and insufficient environmental responsibility. Three basic actions were proposed to put this right and these comprised the application of commercial principles, the generation of competition from appropriately regulated private sector providers and the promotion of users and other stakeholders participation in planning, providing and monitoring infrastructure services. These effects, as it was asserted, could be achieved through concessions or leases; privatizing both ownership and operation; and community and user provision.

Privatization appeared to be the watch word with difference shades of definition. Private sector ownership in a deregulated competitive environment constituted the best preference with regulated private ownership and provision a second best. Private operation of state-owned infrastructure was the next alternative, followed by private management or commercialization- public management. The applicability of any of these options is dependent on sector and country characteristics. In Ghana, the influence of the options can be clearly seen in recent and current projects towards the privatization plans in Railways transport sector.

Railways and the Restructuring in Ghana

Efforts to rehabilitate Ghana's railways began in 1983, under Transport Recovery Programme (TRP) as subset of Economic Recovery Programme (ERP), which involved three Railway Rehabilitation Projects (RRPs). RRP-1 ran from 1983 to 1988 and involved improvement sections of the Western Line at a cost of US$73.7 million assistance from the World Bank. RPP-II (1988-1995), comprised an investment of US$42.96 on the Eastern and Central Lines again with World Bank support. RRP- III (1995-1998) was intended to tackle the chronic problems of lack of rolling stock that had restrained the full potential of the first two RRPs from being realized.

Only the tracks that were mostly in bad shape were changed under RRP1 and operations continued to be undermined by problems of deficient signalling, rolling stock and workshops. The Eastern or Accra-Kumasi line is punctuated by deficient tracks and bridges. Spare parts for the maintenance of the radio-based signalling system have been very difficult to procure. The parts required are either obsolete or too expensive in terms of foreign exchange.

By 1995, rolling stock was still in very poor condition. Out of the existing 76 locomotives almost half of them were more than 30 years old. Maintenance, undermined by lack of spares and money to buy them, led to low freight and passenger carriage. Although freight traffic increased from 350,000 tons in 1983 to 594,000 tons in 1988, the recovery can only be described as modest compared to the 1,600,000 tons carried annually in the mid-1970s. Passenger traffic increased from 2 to 2.2 million a year over the same five years, having dipped even lower than its 1983 level.

In 1978 the company was employing 11,000 people which were reduced to 4,500 as a result of restructuring in the 1980s, largely by not replacing workers who have retired. The embargo on recruitment has left labour gaps, especially in track maintenance. The Railways Workers' Union as well as the Ghana Trade Union Congress (GTUC) saw the recovery of the railways sector as only modest tantamount to the character of the RRPs and their effectiveness. The World Bank held the view that it had to do with the limits of the restructuring. Nevertheless, what is important is how to make Ghana Railways Corporation financially self-sufficient. Propositions included private sector involvement or privatization as basic necessities; employment reduction from 4500 to about 1600; the sub-division of functions into core and non-core activities; re-organisation of management systems (budgeting, costing and inventory control); commitment of the Government of Ghana to the restructuring process and taking of over the debt and financing the retrenchment of workers.

The managers of the Ghana Railways Corporation reckoned the inevitability of employment reduction on grounds of productivity but were hesitant on consideration that the proposed cut of 2900 jobs is too much. They preferred it to be gradual with much more attention paid than in the past to severance terms. The management and trade unions accepted that the privatisation of the Corporation's non-core activities (cleaning, security) could reduce costs and also enable the company to refocus its resources on rehabilitation and improvement of the core activities. The separation of the core activities into distinct entities was accepted for the reason that their vertical integration was of essence and should remain within one corporate body and management structure.

The government of Ghana decided to give a "management-union approach" a try. However, the World Bank whose financial support will be required has put pressure on the government to adopt a concessionary approach more quickly. The unions are not much at odds with the concessionary idea but then they need consultation to have some issues resolved. These issues have and are especially concerned about severance terms, the future of union representation and the rights and conditions of employment of railway employees. The rail unions have a declared commitment to change, and in working with management to turn the performance of the Corporation around to showcase what can be done with a co-operative partnership approach to modernisation. The reluctance of the World Bank to support the efforts has become very much regrettable.

It is within this context that certain political thought and concerns are raised. Privatisation appears to have re-colonisation as under tone. The railways are, in fact, a legacy of colonialism. They were established for colonial purposes and by way of privatization for the control of business interests to be dominated by companies of western foreign ownership; re-colonisation would be somewhat complete. Standard models imposed on African countries and later found to be a failure are many and waste of resources. The lack of support to enable alternative approaches to be developed within those countries can arguably be conceived as a testimony of the intensions of the developed world to keep Africa the way it is.

The World Bank and others donors are not far from arguing that these public policy concerns can be ironed out within the terms of the concession, so that the benefits of public ownership and democratic accountability can most effectively combine with private management and finance. On the other hand if the ability of Ghana, like other Sub-Saharan African nations, to efficiently operate railways is questionable, it would also be prudent to doubt its capacity to adequately regulate the activities of multinational companies within the context of railways under the concessionary approach. The future of railways in the country therefore also depends on the development of state capacity as a condition of success.

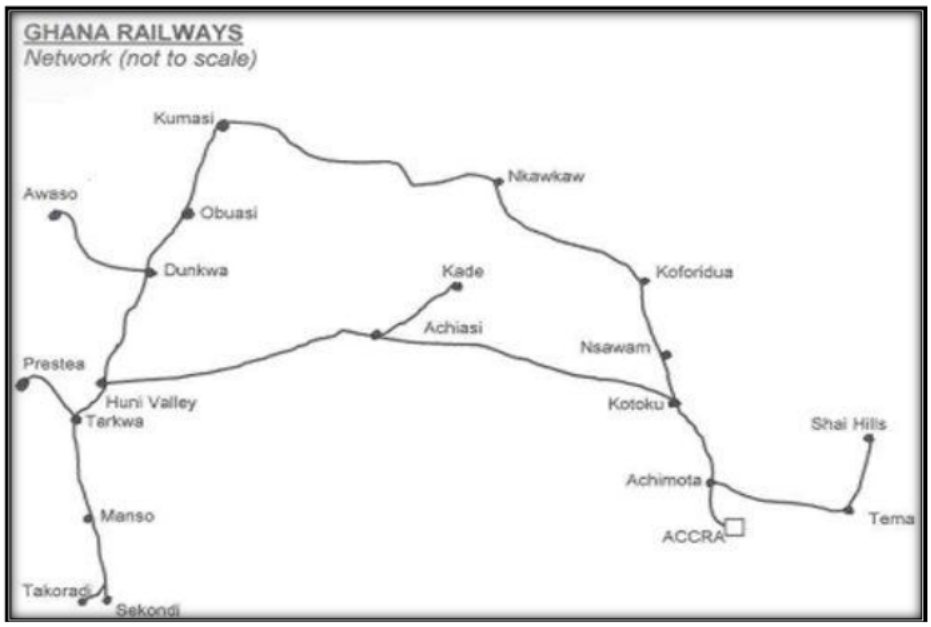
Railways current state and prospects

Rail transport has not received the needed attention in Africa and Ghana in particular. Poor management, old and poorly maintained track, rolling stock and other facilities has left railways in Africa in a poor state. The original railways system in Ghana comprised 947 km of route connecting key centres of Accra, Kumasi and Takoradi with important mining sites in Awaso and Nsuta in the Western region (Map 2 & 3). Unfortunately, due to several decades of neglect and underfunding, the rail network is completely broken down, except for partial freight services on the Western line and some passenger commuter rail services in Accra. Signal and communication equipment are obsolete and inoperable, track infrastructure has deteriorated and, where lines have remained unused for years, encroachment has taken place.

Two-thirds (2/3) of the system has not been operated for more than 12 years and would now require complete re-construction in order to restore services. One third of the operable system provides services on the Western Line (dedicated to the transport of minerals) while the Eastern Line focuses on passenger traffic between Accra and Nsawam. Rolling stock is poorly maintained and much of the stock has remained unused for years.

Freight services on the Western Line are the primary reason for the railway's continued existence, peak operations can see an average of eight loaded trains a day carrying mineral exports to Takoradi Port, including two trains of bauxite from Awaso (236 km) and six trains manganese ore from Nsuta (60 km). Both minerals are top-loaded at the mines and discharged by tippler at the port. Train movements are unpredictable and unlikely to achieve the peak figures quoted above. When trains do run, safety is a major concern because of the lack of secure signalling and the very poor condition of the track. However, both the bauxite and manganese mining companies are reported to be keen to increase their output but are limited by the current restricted capacity. Railway transport is in a bad form. It lacks proper infrastructure and covers only the south central belt of the country linking Tema- Accra, Kumasi and Sekondi Takoradi.

Map 2: Railway Network in Ghana; Source: CIA Factbook



Map 3: Spatial structure of railway network in Ghana; Source: CIA Factbook

There have been some improvements in rail sector performance after support from development Partners' assistance during the era of the Structural Adjustment programmes in the 1980s and 1990s. Some rehabilitation works have been undertaken and new rolling stocks acquired. The Ghana Bauxite Company at Awaso and Ghana Manganese Company at Nsuta, all of whom critically depend on the railway for the export of their products, also advanced some funds for track maintenance. Following these investments, there has been a general increase in demand for rail freight and passengers. Nevertheless, the service performance and financial risk are still far from desirable.

The rail system has the potential to become a vital component of Ghana's transport system, carrying a larger portion of passengers and luggage. As the economy grows, there is an increasing demand on the transport system, and rail can become a viable alternative to road transport which currently dominates. The Government of Ghana is actively advancing towards private sector participation in support of the rail sector development. The Ghana Railways Company concession process actually began in August 2002 but collapsed in August 2005 when arrangements for divestiture could not be successfully completed. Currently, a chance was given to the Ghana Railway Corporation managers and the country's trade unionists to work out and enter into a public private partnership arrangement

with current and potential users as a transition to a more concrete deal by the government following from the experience.

The Government of Ghana has therefore undertaken to restructure the railway industry to eventually provide for increased private sector participation in the delivery of rail transport services. The underlying policy framework entails the ownership of the railway infrastructure by the Government of Ghana through the Ghana Railway Development Authority (GRDA), with the provision of rail services as well as the ownership of rolling stock to be provided by private sector operators. In November 2008, Government enacted the Railway Development Authority Act which provides such separation and transfer infrastructure assets to GRDA and the establishment of GRDA as the landlord/developer for rail infrastructure as well as the industry regulator.

ISSUES AND CHALLENGES

During the mid-1960s, when the Ghana Railway Corporation was financially viable it carried 2.3 million tons of freight and 8 million passengers. By 1985, the position of railway as the prominent transport mode had diminished. The underlying factors for the demise included ineffective management of the rail system, the changing world economy, drops in commodity prices, and the encroaching competition from the road sector. With increasing labour costs alongside lower revenue returns, the railway sector could not support its modernization and sustain its maintenance programmes. The adverse financial situation of Ghana Railway Corporation runs its operations in a vicious cycle comprising default on loan payments resulting in poor maintenance; poor service quality; loss of customers and more drops in revenues with the cycle repeating itself in loan default all the way round again.

In spite of the efforts made by governments and their development partners in formulating and implementing measures, polices, strategies and programmes to develop adequate, safe, secure and affordable transport system that supports efforts to eradicate poverty and bring about sustainable development, a wide gap still exists between planned targets and the level of achievement. This can be attributed to the many challenges and constraints that the region faces in relation to the development of sustainable transport systems. The major challenges and constraints include the following.

Inappropriate Policies

The lack of appropriate policies and strategies creates inertia in the implementation of sub-regional and regional agreements and that remains one of the major obstacles to the development of a sustainable railway transport sector in Ghana. The state monopoly policy of Government of Ghana does not allow private sector participation in transport infrastructure development and operation which could result in the release of resources and usher in their efficient use. Liberalization and privatization in rail, air and maritime transport are still in their infancy. Efforts to harmonize policies and regulations pertaining to cross border movement of goods, services and people have not yet been effective, as many African countries have not fully implemented agreements aimed at facilitating cross border movement of goods and passengers by road and rail from which Ghana could benefit.

Limited Network Connectivity

The current railway network is confined to only the south central area of the country and is acute in terms of covering the national space economy. Much of the country's population living outside this enclave has limited or no access to market and essential economic and social services. The intermodal system is underdeveloped thereby creating problems associated with the missing links in the road, rail, inland waterway and air transport system.

Inadequate Human and Institutional Capacity

Although the number of workers in Ghana Railways Corporation has been found to be relatively high, the availability of skilled personnel is limited in the organization. As it is true for other critical capacities, managerial and technical skills are in short supply. It lacks the appropriate technical capacity to formulate, plan and manage infrastructure development and services let alone those to regulate and enforce policies and regulations.

Until recent efforts aimed at institutional reforms, each transport mode developed and implemented specific policies without considering its impact on the development of other modes. Instead, the Government is now focusing on an integrated approach with all modes with emphasis on efficient and effective operations of each system supporting the others vertically as well as horizontally.

Adverse Effects on the Environment

Despite the critical importance of the rail transport system in the economy, it is associated with significant adverse effects on the environment. The most serious environmental concerns usually associated with the construction of railways, like other forms of transport infrastructure (roads, airports and seaports) are the destruction of forests and other ecosystems including wildlife habitats and land degradation particularly through soil erosion on land adjacent to the infrastructure. Other typical serious environmental problems arising from transport operation include emissions of carbon dioxide and other greenhouse gases from vehicles. The role of the emissions in causing air and noise pollution, ozone layer depletion and climate change, which in turn pose human health hazard.

High Transport Costs

Drawing inference from the general situation in Africa, transport costs in Ghana are among the highest in the world. Transport services are apparently unaffordable to many Ghanaians as transport costs are high compared to the average incomes of the citizens. Travel costs in African cities have a share of 21.7 per cent of GDP, compared to 14.3 per cent in Latin America and even lower in other parts of the world. Similarly, freight costs in Africa are significantly higher than the average cost in Asia. The high transport cost in Ghana is mainly attributable to poor infrastructure, high fuel prices, aging and inefficient fleet, as well as limited completion and low level of trade volumes on some routes. The already high transport costs have been exacerbated in the past few years by the energy crisis associated with the high and volatile oil prices. Factors, including limited skills of managerial and operational staff as well as poor transport facilitation play significant roles in the high transport costs in Ghana.

Safety and Security

The prevailing state of safety remains a serious challenge in Ghana. Inadequate rolling stock and high incidence of derailment have impacted negatively on the capacity of Ghana Railway Company Limited to haul large goods for profit. In 2005, the total freight of cargo hauled was 1,827,000 tonnes and this consistently reduced to 154,720 tonnes in 2009. In 2009 only 50.5% of what was hauled in 2008 was achieved. Between 2005 and 2009, the average annual rate of decline of freight traffic was 39.0% (Adede, 2011).

The equipment for the signalling department of the Ghana Railway Corporation are obsolete and require a considerable amount of foreign exchange for replacement and modernisation.

Poor Information Systems

Statistical information is a key input at every stage of the development process, including in the planning and implementation of programs and projects. Adequate and well organized data collection and management system, statistical information constitute the basic input material for making informed decisions in identifying gaps, formulating policies and strategies, developing effective investment programs as well as the monitoring and evaluation of performance. However, in Ghana such data, relevant to rail transport, is at best limited and poorly organized. Likewise, despite the importance of ICT in facilitating decision making through rapid data processing, storing, retrieving, transferring over long distances, the rail transport sector has not taken full advantage of the technology due to, mainly, lack of proper policy for the development of the ICT as well as limited financial and human capacity.

Limited Financial Resource

Despite efforts by the Government of Ghana as well as its international and domestic development partners to mobilize financial resources for financing investment in transport infrastructure and maintenance of existing facilities, huge gaps remain between the demand and available resources. Sustainable rail transport development requires huge financial outlays to build infrastructure, provide energy-efficient and environmentally-friendly transport equipment amongst others.

CONCLUSIONS AND RECOMMENDATIONS

It is noteworthy that the economically advanced with railways are not cutting back but rather modernizing and expanding the networks (Adede, 2011). This underscores the significance of railways in the development and progress of nations. Ghana therefore needs to invest in its railway infrastructure and services to catalyse its business operations, wealth creation and poverty reduction. It will be incorrect to suggest isolated measures to deal with the problems facing the railways sector in the country and it is not possible to discretely exploit and utilize the opportunities it offers. At the same time, it is not possible to detail out an elaborate strategic framework for the development of the

railway sector pertinent to current exigencies in Ghana. It is, therefore, deemed sufficient to within the context give a programme of direction towards the development of the fortunes of the railway infrastructure sector in the country's economy.

Ghana envisions the development of an integrated, efficient, cost-effective and sustainable transportation system responsive to the needs of society, supporting growth and poverty reduction and capable of establishing and maintaining Ghana as a transportation hub of West Africa. The task of the transport sector as a whole is to provide the necessary leadership for the development and maintenance of such a transportation system through effective policy formulation, market regulation, asset management and service provision. Ghana has, therefore, developed a National Transport Policy to reflect these expectations declared by the Government. It takes into account the need for transport infrastructure and services within its sub-regional, national and local growth objectives. The document presents Government's priorities and strategic objectives for transport to key stakeholders and institutions involved in planning, financing, developing, providing, maintaining and regulating transport infrastructure and services.

Considering the importance of trade to Ghana's growth, the railway transport sector must abide by the long-standing policy objective of the transport policy in Ghana, which, is: "to establish an efficient, modally complementary and integrated transportation network for the movement of people and goods at the least possible cost within the country, as well as to and from the country, both regionally and internationally" (Republic of Ghana, 2006).

For the development of an efficient, effective and productive railway sector support of Ghana's anticipation as being a transportation hub in the West Africa, the country needs to position itself to develop a robust manufacturing industry that turns out the components for the construction and maintenance of an extensive rail infrastructure network. It should seek and develop criteria for modally and geographically equitable development of infrastructure in the country. It also needs to commission a technical feasibility study on the rehabilitation of the existing system. Such an investigation should also map the spatial aspects of the realisation of the expansionary system across the country and the provision of the appropriate links to the neighbouring countries in the sub-region.

The programme implementation will comprise two basic components: structural and non-structural.

Structural Component: With the support of the African Union, the Economic Community of West African States, the African Development Bank which are advocating for the development of intercontinental transport infrastructure, Ghana can exploit the opportunity and establish an industrial plant to turn out the components for the construction of railways in the Ghana and elsewhere in Africa. This will involve the design and assembly of freight wagons, passenger coaches, electronic remote area signalling and control systems and the assembly rail engines. The proposition will likely receive affirmation from development partner since the industry will invariably be one of import substitution. Some donors will actively participate since it will increase trade relations.

Non-structural Component: The non-structural component comprises the mobilization of finance for investment by the government of Ghana, arranging for the training of railway engineers and technicians as other categories of skilled personnel for the industry and railway operations. The Government of Ghana should move away from the monopoly of providing transport infrastructure allowing for private participation to enhance efficiency.

- Implementation Approach: Market liberalization adopted in Ghana since the 1980s requires that the role of the Government changed from one of being a sole provider of the railways transport infrastructure and services, to one of creating a vibrant and effective market in which needs of users are met. Nevertheless, an element of regulation is indispensable to reconcile the sometimes contradictory forces created by the dynamics of the market. Regulation becomes desirable to i) ensure fairness, efficiency, orderliness; ii) ensure that the needs of producers as well as customers are met; iii) prevent discrimination against vulnerable groups in the society and iv) create a 'level playing field' on which service providers compete to satisfy user needs. The market regulatory role of the government will comprise enforcing levels of service which including social, health, safety, security and environmental safeguards against public hazard required for railway transport infrastructure and services.

- Public Sector Obligations: In tandem, the Government of Ghana is required to create an integrated policy, governance and institutional frameworks for railway development within the overall transport sector. As such it should take the lead to: i) realise the conduct of integrated transport planning to enhance inter-modal solutions to which railway infrastructure and services are a component part; ii) promote research, data collection and information management; iii) facilitate sector-wide human resource development strategies to produce the various categories required in the railway industry; iv) mobilize and secure adequate investments which are available for the development and maintenance of the railway transport infrastructure assets; and v) ensure that transport infrastructure and services meet user needs and maximise benefits derived from investments by Government and the private sector. The 'user pays' principle shall be applied to raise adequate revenue to cover the costs of the railway infrastructure as well as its maintenance and administration.

- Private Sector Participation: To ensure that the needs of private investors, providers and service consumers are reflected in the railways transport policy, strategies and programmes, private sector stakeholders will actively participate in the policy formulation and overall plan preparation. Although the operational orientation is centred on commercialism, the level should be one that attains a balance with social conditions. The private sector will be required to train their personnel to ensure continuous improvement in the standards of management and technical competence and service delivery. The sector's positive participation will also be sought in the area of research and utilization of the results. Compliance of private sector actors with railway transport laws and regulations and adoption of modern corporate governance standards will enhance the efficiency of operations and the desired benefits. The private sector will be encouraged to invest in the railway transport infrastructure and services by exploring Public-Private Partnership (PPP) and Concession options. Alternative financing mechanisms including bonds and tax incentives for investors in the railway transport infrastructure and services will be sought.

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