

The Dilemma of Capital Investment in a Bi-national Organisation: A Case Study of Tanzania-Zambia Railway Authority (TAZARA)

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Tanzania-Zambia Railway is jointly owned and managed by the governments of Tanzania and Zambia thus qualifies to be categories as a bi-national organisation. It was built by Chinese under an interest-free loan to the two contracting states. The railway now faces the dilemma of who is responsible for its capital investment. This article examines how the railway has managed to survive and who is ultimately responsible for its capital investment.

Keywords: bi-national organisation, interest-free loan, British imperial expansion, unilateral declaration of independence, commercialization

Background of the Study

Zambia is a landlocked country whose economy has been overwhelmingly dependent on the mining industry. The mining industry is highly mechanized and uses heavy equipment brought in by sea, railway, road, or a combination of these transport systems. Metals are exported using the same transport systems. For a landlocked country, a reliable route or routes to the sea is/are essential.

During colonial period, being landlocked was not a problem because Northern Rhodesia (now Zambia) was colonized from the south (Bailey, 1976) and the multinational corporations which controlled the mines had access to the sea through South Africa. The Anglo-American Corporation, despite its name, was a South African company, and the Roan Antelope Consolidated Copper Mines were controlled by American shareholders. The other routes to the sea passed through two Portuguese colonies: Mozambique to the port of Beira and Angola to the port of Lobito.

At independence in 1964, Zambia found herself neighbour to white minority regimes. Relationships with these neighbouring countries became hostile as Zambia was suspected of being a springboard for freedom fighters. The hostility deepened when Southern Rhodesia (now Zimbabwe) was unilaterally declared independent by Ian Smith in November 1965, and the British Government and international community opted for sanctions to bring down the rebellion instead of using military force (Bailey, 1976; Hall & Peyman, 1976).

Not only was Zambia threatened by the hostility of neighbours, but the economy was also threatened since all the routes to the sea passed through their territories. It was inevitable that Zambia would look for an alternative route to the sea through an independent African state. She has to find a partner with whom to form a

joint venture, and that partner was found in the newly independent East African country of Tanzania, to the mutual benefit of Tanzania and Zambia.

Colonial Legacy of Tanzania-Zambia Railway Project

The idea of building a railway through Northern Rhodesia was not new; it was part of the imperial plan of the diamond mining magnate, John Cecil Rhodes, of building a railway from the Cape Colony to Cairo (Bailey, 1976; Hall & Peyman, 1976). According to Rhodes, the railway would serve two purposes: first, to open and bring civilization (Christianity) to Africa (British imperial expansion); second, and more important, to gain a string of colonies to provide valuable raw materials and an expanding market for manufactured goods (economic exploitation).

The Cape to Cairo Railway colonial plan of which the Tanzania-Zambia Railway would have been part, did not materialize. However, the Tanzania-Zambia Railway was realized by Tanzanian and Zambian nationalists.

The Nationalist Revive the Tanzania-Zambia Railway Project

The project received new impetus in the 1960s, when both Tanzania and Zambia became independent. The railway's main objectives were to provide employment for the citizens of the two contracting states, to develop areas neglected by colonial powers, and to serve as Zambia's alternative outlet to the sea. The nationalists saw the railway as a symbol of independence rather than occupation, a tool for national development rather than a capitalist economic tool.

In December, 1963, on the eve of independence, the government to Tanganyika requested the East African Railway to update the 1953 Gibb Report on the (Tan-Zam) project. The total cost of the line including the rolling stock had risen to £51 million. The report claims that by 1975, the proposed railway link would be earning a yearly surplus of £500,000. Despite the favourable report, the East African Railway showed little interest (Bailey, 1976). It could be argued that the East African Railway's lack of interest in the link might have been prompted by the assumption that the new railway would carry only the expected increase in copper production; a capitalist investor would not risk investing capital in such a business.

However, the new Tanzanian government was determined to proceed with the Tanzania-Zambia Project, although Kenya and Uganda, other members of the East African Railway network, were reluctant to become involved in the line to Zambia for two main reasons. Firstly, the investment required was too big, bigger than the total investment in their line since 1945. Secondly, neither of these two states stood to gain economically from the proposed railway (The second reason has been proved wrong, as Uganda and Kenya have benefited and continue to benefit economically from the link; the railway has become part of the railway network linking East, Central, and Southern Africa). However, despite the two states, lack of enthusiasm, they did not want to stand in the way of Tanzania's wish to build the link to Zambia. At the beginning of October 1964, just three weeks before Zambia's independence, President Kaunda of Zambia and three East African leaders met in Dar-es-Salaam and took the historic decision to proceed with the railway. Further talks in March 1965 led to the establishment of the Zambia-East Africa Inter-governmental Ministerial Committee to seek assistance to build the line. Tanzania and Zambia were empowered to begin initial sidings to potential donors for their own sections of the route (Bailey, 1976).

The Search for Financial Assistance

As former European colonies, Tanzania and Zambia were encouraged to approach Western countries,

including Britain, Canada, Germany, and America and their financial institutions, the International Monetary Fund (IMF) and the World Bank, for financial assistance for the Tanzania-Zambia Railway Project. However, these countries were reluctant to finance the railway, claiming that it was not economically viable; however, it would be argued that the main reason for the reluctance of the Western countries was that the railway would interfere with their economic interests in South Africa. By far, the most important users of Zambia's transport routes to the sea were the two giant copper mining companies, Anglo-American and Roan Consolidated Mines, which not only provided almost all of Zambia's exports, but also imported large quantities of fuel, machinery, and other goods to operate the mines. The interests of these companies were aligned to the concerns of the South African and Portuguese governments which controlled the sea ports through which their goods were transported (Hall & Peyman, 1976).

Generally, the West displayed relatively little concern with the liberation struggle and saw little need to finance a railway line whose primary purpose was to reduce dependence on the white south. For the West, the Tanzania-Zambia Railway was a "political" project. Yet they were concerned about the possibility of communism in that part of the region, as reflected in *The Northern News*, the mouthpiece of white interests in Zambia, which called for the West "to support the Tanzania-Zambia Railway project so that the 'threat of communism' might be countered" (quoted by Hall & Peyman, 1976, p. 71). The West ignored this plea and by so doing, turned the Tanzania-Zambia Railway project into an "ideological battlefield" between capitalism, communism, and nationalism. Capitalism wanted to maintain its dominance over the region despite the fact that the countries involved were no longer colonies but independent sovereign states; as President Nyerere of Tanzania states:

Tanzania is a very poor country but it is very independent—if people want to help us let them say so. I don't care whether I get Communist or Western money. I want this railway built and I am not going to be stopped. ... (Hall & Peyman, 1976, p. 81)

Zambia was still hopeful that the project would be financed by Western countries, but became disillusioned with the West when Harold Wilson, the British Prime Minister, refused to use force to put down Ian Smith's Unilateral Declaration of Independence (UDI) in Southern Rhodesia in 1965, barely one year after Zambia's independence. This left Zambia with no alternative but to accept China's offer, and to find a route that did not pass through Southern Rhodesia. As Kaunda retorted: "I will rather have the train carrying Chinese rather than no train at all". Kaunda's sentiments were also expressed by *The Times* which, sympathizing with Zambia, observed: "It is understandable that Dr. Kaunda should want a new railway link, less vulnerable politically, through Tanganyika" (quoted by Hall & Peyman, 1976, p. 80).

Chinese Communism was looking for an opportunity to enter a new territory; and financial assistance for the construction of the Tanzania-Zambia Railway provided such an opportunity.

Tanzania and Zambia Accept China's Offer to Build the Railway

The relationship between Tanzania and China was distant, mainly because Nyerere was Western-educated and more inclined to capitalist than communist ideals. However, at independence, Tanganyika recognized Beijing and within a few weeks China had opened an embassy in Dar-es-Salaam. There were initially few contacts with China, but the turning point occurred in 1964 when the Chinese Premier, Chou En Lai, on his 10-nation visit to Africa, stopped in Dar-es-Salaam and Nyerere reciprocated with a visit the following month. Contacts rapidly developed and Tanzania became China's closest friend in Africa.

Nyerere was particularly impressed with the Chinese development model, which he thought was similar to his African Socialism model, remarking: "If you take me to see General Motors, I will marvel...but it is irrelevant to what we do in Tanzania.... China is different...the stage of their development is closer to us" (Hall & Peyman, 1976, p. 71).

In 1965, just before Nyerere left for his visit to China, a report appeared in *Zambian Northern News* that the Chinese had made an offer to build the line. Nyerere defended his decision to accept an offer from any country by stating that Tanzania was a non-aligned country and therefore free to seek financial assistance from whoever she chose.

China's relationship with Zambia was also distant, basically for the same reason as in Tanzania, that of Western colonial influence. In 1964, the Chinese representatives had raised the question of building the Tanzania-Zambia Railway with Kaunda; however, Zambia showed little interest in the prospect of receiving assistance from China. This was attributed to two main factors. First, Kaunda thought that the Chinese would not go back home after building the railway, citing the example of the Indians brought to build the East African Railway, who stayed in East Africa after completion of the railway construction work. The second reason is that Kaunda thought that China was incapable both financially and technically of undertaking such a project.

Kaunda was proved wrong on both accounts, because all the Chinese personnel left for China after completing the railway, except for a few technical staff assigned to assist in the management of the organisation (11 in May 2005). Although the second reason might have been the result of the Western ideological propaganda against Communism, Kaunda's misgivings were partly justified in that it turned out that the lifespan of Chinese locomotives of the time was only 10 years.

The turning point in Sino-Zambian relations occurred in June 1967, when Kaunda visited Beijing. A £6 million agreement was signed, leading to a Chinese commitment to build the 238 mile Lusaka-Kaoma road as well as a radio transmitter for broadcasting to Southern Africa. However, the most important result of Kaunda's trip was the decision to accept Chou En Lai's proposal for assistance with the Tanzania-Zambia Railway. On 6th September, 1967, representatives of China, Tanzania, and Zambia gathered in Beijing's Great Hall of the People to sign an agreement which committed China to building the Tanzania-Zambia Railway (Bailey, 1976; Hall & Peyman, 1976).

The terms of the loan were guided by the Eight Principles of Chinese Aid (Bailey, 1976) designed to sell Chinese Communism; they were both ideologically persuasive and remarkably generous, including a fixed contract of a £167 million interest-free loan and with eight-year grace period and 22 years repayment period. The loan was denominated in Chinese currency, the Yuan, to the advantage of the borrowing countries. The agreement also provided for a review of the railway's performance through protocol agreements scheduled for every two years. Through these meetings, China continues to provide financial and material assistance in the form of loans.

As at 31st December, 2002, China had provided financial assistance to the Tanzania-Zambia Railway Authority (TAZARA) totaling RMB 1,905,254 million Yuan, of which 65,920 million Yuan had been paid off, leaving an outstanding balance of RMB 1,839,333 million Yuan (Records from TAZARA Directorate of Finance, 2005). This makes China the main source of finance of TAZARA. This financial position strongly influenced not only the future direction of the railway's development, but also the future relationship between Tanzania and Zambia

Tanzania-Zambia Railway Performance Review

The railway industry is peculiar in that it requires several types of equipment with different technology which must work in perfect harmony in order to yield effective and efficient performance. There are three engineering fields involved: mechanical, civil, and signaling and telecommunication. The three departments form the Directory of Technical Services.

The Service

TAZARA's main product is transportation service between the East African port of Dar-es-Salaam in Tanzania and New Kapiri-Mposhi in Zambia, as well as stations between these two towns. There were originally 93 stations but 15 have since been closed, nine in Zambia, and six in Tanzania, bringing the current number to 78. The closed stations were found unprofitable in terms of passenger services.

TAZARA offers two main transport services to its customers:

(a) Freight services in standardized wagon loads, containers and refrigerated wagons.

(b) Passenger services: passenger services offered to the general public in both Tanzania and Zambia are categorized as Express or Ordinary trains. The Express train runs from Dar-es-Salaam to New Kapiri-Mposhi and only stops at major stations, while the Ordinary train runs within the region and stops at every station.

Both Express and Ordinary trains offer three classes: First, Second and Third, to cater for different customer needs.

The Market

TAZARA largest market is in the heavy haulage, for which it provides standardized rolling stock. The major customers of TAZARA have been the copper mines who have been exporting copper to Far Eastern countries including Japan, Malaysia, and China, which have become the major copper consumers. TAZARA's market is enormous as it is part of the Southern and Central African railway network, because it uses the standard gauge of 1.067 m (42 inches) of the countries in this region.

TAZARA has practically operated as a monopoly over railway freight to and from Zambia since it became operational in 1976. This was encouraged by the poor quality of the road network, an insufficient infrastructure of road haulers, and the prevailing hostile political environment in Southern African ports which were then ruled by minority white regimes. However, this lion's share of the long-haul bulk transport market has shrunk, largely due to the shifts in economic and political ideologies following independence of countries in Southern Africa, and the establishment of economic groupings, such as the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC). These developments have increased competition in the long-distance bulk traffic market as Zambia, Malawi, and Democratic Republic of Congo have alternative routes through which to import and export their products.

Competitive Advantage

TAZARA had lost considerable market share by 1993/1994, when total traffic fell from 1,097,000 metric tonnes in 1992/1993 metric tonnes, representing 41% of the market share; since then, this market share has not been recaptured and the average traffic has fallen to 600,000 metric tonnes. However, the Authority has an opportunity to recapture some of the lost market share because of the following major competitive advantages:

(a) It is the shortest route to the coast from Zambia.

(b) Mining companies in Zambia prefer Dar-es-Salaam, because it is less congested than the port of Durban in South Africa.

- (c) The transit time on TAZARA is shorter than that to the Southern African ports.
- (d) It is also shorter for the goods from the Democratic Republic of Congo.

However, in order to fully exploit these competitive advantages and successfully recapture the market, TAZARA has to make some operational improvements which should include the following:

- (a) Reduce the transit time (in 2005, it was 4.3 days for metals and 5.4 for general cargo).
- (b) Reduce the turn-round time for wagons (25 days in 2005).
- (c) Improve the availability of locomotives and wagons.
- (d) Improve the signaling and telecommunication systems.

Services and market share can only be sustained if the railway has the equipment and this requires enormous investment. As stated above, three engineering fields interact in the railway industry: civil, mechanical, and telecommunication.

Civil Engineering Department. The Civil Engineering Department is responsible for the provision of and availability of the permanent way, the track on which the train moves. TAZARA's permanent way has been described as one of the best engineering works of all time (Hall & Peyman, 1976; Bailey, 1976) and is one of, if not the youngest permanent ways in Southern Africa. Zambian railways reached Kabwe in what was known as Northern Rhodesia from South Africa in 1906, and the first railway in Tanganyika was begun by the Germans in 1891.

The TAZARA track is 1860 km long and runs from Dar-es-Salaam in Tanzania to New Kapiri-Mposhi in Zambia. The construction was based on labour-intensive methods with an estimated number of 25,000 Chinese workers and 150,000 local workers. There are 76 maintenance gangs along the line, each gang being responsible for maintaining at least 20-25 km of the line. Materials used for maintenance include: wooden sleepers, reinforced concrete sleepers, rail tamping tools, and heavy and light motor trolleys for transporting workers. At the moment, TAZARA has the following maintenance machines: one tamping machine, one ballast cleaner, and two sleeper changers, all acquired through donor funding or the Chinese Government, who have continued investing in the organisation through protocol agreements with the two governments.

The main constraints for maintaining way include lack of maintenance equipment and inadequate budget provision for purchasing materials such as wooden and concrete sleepers, although this problem will soon come to an end when a newly built Chinese Kongoro Quarry concrete sleeper factory comes into full production. Lack of proper track maintenance leads to traffic accidents, which in turn lead to imposing speed restrictions and long transit times which affect the market, as clients who cannot get their goods in time are likely to look for other transporters.

Mechanical Engineering Department. The Mechanical Engineering Department is responsible for ensuring the availability and reliability of both motive power and rolling stock that is the locomotives, and the wagons and passenger coaches.

The Authority has three Workshops, located in Dar-es-Salaam and Mbeya in Tanzania, and Mpika in Zambia. Dar-es-Salaam and Mpika Workshops were constructed by the Chinese and have the same equipment. The Mbeya Workshops were built later to repair and maintain General Electric locomotives.

The original Chinese locomotives were main-line locomotives DFH and Shunting locomotives DFH2, which had an estimated life-span of 10 years. Consequently, by 1986, these locomotives started experiencing mechanical problems and could not cope with increasingly heavy traffic. China allowed the Authority to start buying diesel electric locomotives which are more efficient. In 2005, 19 locomotives were in operation: 16

diesels electric and re-powered. However, the availability at any one time was about 14, while the requirement for the traffic was 18. The main problem with the maintenance and availability of locomotives is lack of funds for buying material and investment in new locomotives.

TAZARA has 12 different types of wagons, but railway engineers maintain that this is not a large number compared to other railways; the larger the number of types, the more investment is required in re-training workers. These wagons include tankers, high-sided wagons, flat wagons and refrigerated wagons. Most of the original Chinese wagons are obsolete. However, the Chinese Government has continued to provide new wagons, while 50 covered wagons have been funded by the Swedish International Development Agency (SIDA).

In 2005, a total of 2,019 wagons were in operation: 1,400 for through traffic and 690 on side lines. The constraint on wagon maintenance is lack of investment.

The total fleet of coaches is currently 120, with an average availability of 80 coaches at any given time although the traffic requirement is 95.

All these workshops have identified the following as being the main constraints on the availability and reliability of the motive power and rolling stock: the state of disrepair of workshops equipment; lack of finance for overhauling out-of-service equipment; lack of materials for routine maintenance and repair programmes for serviceable fleets; and ageing personnel, as most of the workers are about to retire since they have been with the organisation since construction began. Investment in equipment and training is therefore essential.

Telecommunication and Signaling Department. The golden rule in railway operations is “no communication no movement”. The Telecommunications and Signaling Department is responsible for ensuring that there is communication throughout the network for the safe movement of trains. Originally, TAZARA’s communication network was run solely on overhead open wires alongside the track with carrier equipment on the entire system. The repeater stations along the line were named by seven people. The old, out-of-date equipment needs to be replaced. A backup high frequency radio system was installed at 11 stations during the 10-year development plan, but the system has collapsed for lack of spare parts and maintenance.

Currently, of the 2,400 km open wire bases carrier communication, 800 km has been vandalized or stolen and the rest of the system is also prone to disruption caused by thefts. To alleviate this vandalism problem, TAZARA has installed Chinese microwave communications equipment in two sections, Dar-es-Salaam to Kitunda in Tanzania, and Serenje to New Kapiri-Mposhi in Zambia, reducing the number of personnel required at repeater stations in those areas from seven to three.

TAZARA is also working on a digital microwave radio communications system linked by optic fiber between Majula and Mlimba, a distance of 200 km. However, vandalism has also affected microwave links and stretches of optic fiber cable, so communication along the line still remains a significant problem. There are plans for underground optic fiber cabling along the railway line, to be funded by the Partnership in African Development (NEPAD) and the Com 7 Project to be funded by the World Bank.

The main problems in Communications include: lack of funding, vandalism, an ageing labour force, and the need for training courses to cope with the rapid developments in communication technologies.

Business Performance

The trend of TAZARA’s operations during the 29 years to July 2005 was characterized by fluctuating business activity and turnover. TAZARA had been operating profitably until 1994/1995 when it recorded its

first loss, and has continued to make losses due to operational and management problems. These problems have been attributed to lack of capital investment in equipment. The first 10 years were profitable as the railway equipment was new and the costs were mostly operational. The rest of the period has seen management struggling to meet both operational and capital investment costs, marking the beginning of the railway's loss-making era.

In 1995, TAZARA launched the "TAZARA Commercialization Project" which aimed at transforming the railway into a commercially viable and market-driven organisation after a review of operational and functional areas of the organisation. It was hoped that the project would be funded by donors who would also be given the opportunity to appoint expatriate Project Managers to implement it. However, the project collapsed because no donors could be secured.

Since the commercialization project was originally donor-centered, neither the two governments nor the TAZARA management were prepared to undertake it; consequently, when management was mandated to implement the project themselves, it again collapsed due to lack of funding and an inappropriate implementation strategy. Consequently, TAZARA's performance has been declining for over 10 years. Nevertheless, the Governments of Tanzania and Zambia, the management and the workers remain optimistic that TAZARA will overcome all these problems. "The future of TAZARA is very bright, while anything can happen; one thing is for sure that TAZARA will not be uprooted as the railway between Nakingwenya and Mtawara was uprooted after the Second World War" (Mr. Shayo, the first TAZARA Chief Civil Engineer who also became the first TAZARA Deputy General Manager).

He was referring to the 150-mile railway constructed by Britain after the Second World War as part of the Groundnuts Scheme for the production of edible oils. The scheme was abandoned and the railway dug up.

This raised the question as to who is responsible for the provision of capital investment in a bi-national origination.

The Dilemma of Capital Investment in a Bi-national Organisation

Respondents attributed TAZARA's poor performance to the governments' lack of investment in the infrastructure, and identified the need for capital as the most serious problem facing the organisation. There has been no investment in the infrastructure (except that provided by China through protocols and some donor agencies) because the two governments expect the TAZARA Management to do this, while the management expects the governments to provide for investment in their national budgets. In the debate as to who is supposed to provide for infrastructure investment, respondents were divided into two groups, which could be referred to as "Workers" and "Government".

The Workers group believes that the owners, meaning the two Governments, are responsible for recapitalizing the organisation through their national budgets, arguing that a railway is a capital-intensive organisation which cannot be sustained by the organisation alone without involvement of the government. This group points out that the bureaucratic procedures where the Managing Director has to seek both the Board's and Council's approval to source funds makes it even more difficult for the management.

The Government group argues that management should provide for investment in their budgets, so that they are able to re-invest in the organisation. This is the position adopted by both the Board and Council members. The group argues that management knows what and when equipment needs to be replaced. As one respondent put it:

If your father buys you a truck for business are you going to ask him to buy you tyres when they are worn out? You as a person using the truck should see that tyres need replacement; you don't have to wait for your father to tell you that tyres are worn out.

The Government group nevertheless appreciated the importance of reinvestment and admitted the need for working on plans to ensure its provision. However, it was found on investigation that TAZARA did not appear on the national companies' lists in either Tanzania or Zambia; this would have made it difficult for the two contracting states to make budget provision for a company which did not exist. This omission has since been rectified through the Council of Ministers.

The Management and the Governments have two options if they wish to reverse the business performance situation: Either they make provision for capital investment or make provision for the railway's privatization; the latter is the more likely option (Prince Waterhouse Coopers, 2004). The management, through the Board, recommended the privatization of TAZARA to the Council of Ministers. This is a viable option since both the Tanzanian and Zambian Governments have embraced a macro-economic liberalization policy. Since 1992, they have been implementing systematic reform programmes aimed at improving the operational efficiency of state-owned enterprises, reducing the role of government involvement in these enterprises, reversing the expansion of the public sector in their economies and encouraging people in the ownership and management of business by eliminating state monopolies and promoting competition. The governments have extended these reforms to other parts of their economies, such as the transport sector by concession of the railways. In Zambia, Railway Systems of Zambia was awarded the concession, while in Tanzania, the Tanzania Railway Corporation was undergoing the same process, which was expected to be completed by June 2005 (TAZARA, 2005).

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