

AFRICAN RAILWAYS – AWAITING RESURGENCE

Vivek Sahai

The onset of the 21st century has catapulted some new countries upon the stage of world's economic theatre, euphemistically termed as the 'emerging economies'. With an average annual growth rate of more than 5% over the past decade, the continent of Africa was among the world's fastest growing continents – a rightful candidate for the title of an 'emerging continent'. Adequate infrastructure is a sine qua non for a robust economic performance of a nation. The African continent is beset by crippling shortages of both power and a functionally inadequate transportation network. However, this should cause no panic or despondency. On the contrary this should be taken as an opportunity to embark on a climate-resilient with a low-carbon footprint, which will equip the African continent to leapfrog into an era of transport adequacy.

Africa's Railways – A Disjointed and Disconnected Lot

According to the United Nations, in 2005, Africa had a total railway network of 90,320 kilometers. 22% belonged to North Africa, while Central, Eastern and Western Africa together had a share of 35%, the rest of 43% belonged to the Southern Africa. Excluding the island nations, eleven countries in Sub-Saharan Africa (mostly land locked in Central Africa), had no railway service in 2010. Burundi, Central African Republic, Chad, Equatorial Guinea, the Gambia, Guinea-Bissau, Rwanda, Sierra Leone, Somalia, Niger and Libya (in North Africa) have either no railway systems or have abandoned rail service in the country.

According to the African Union's New Part-

nerships for Africa's Development (NEPAD) Infrastructure Development study of 2006, 25% of Sub Saharan Africa railway network was either lying abandoned or has been rendered unusable due to civil war, poor maintenance, etc., as can be seen by the table below: Even the Southern African Region that is touted as the most complete (or better developed) railway network was still beset by 4000 kilometers of missing links. Most of these missing links developed due to war damage, natural disasters or general neglect and lack of funds.

Another important factor that imparts the African rail network a disjointed look is the existence of multiple gauges operating in various countries. Most of the 51 railways operating in 36 countries of Africa use either the 'Cape Gauge' (1.067 meters) or the meter gauge (1.000 meter). The main network in Southern and Central Africa uses the Cape Gauge, which is also used in some Anglophone countries farther north. The meter gauge is used in most of Francophone Africa and much of East Africa. The North African network, on the other hand, is mostly standard gauge (1.435 meters) as are a number of isolated mineral lines (in Gabon). There are also a few, mostly weathered, narrow gauge lines (0.75 & 0.6 meters).

A Lot of Commonality With The Indian Railways

Both the Indian Railways and the African Railways grew out of similar kind of pressures exerted by the commercial and political interests of their imperial masters. The initial railway lines in both regions were isolated alignments



Existing African Rail Network

reaching inland from ports to link with trading centres, mines or sources of raw material (like cotton, etc.). Branch lines were then built around them over time.

In 1947, when India gained independence, its disjointed railway network had more of meter gauge (1.000 meters) than the renowned Indian gauge known as broad gauge (1.676 meters). It was only a bold decision of adopting UNIGAUGE in 1993 that has given the present unified seamless look to the Indian Railways.

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Sector	Existing Links (km)	Missing Links (km)	Percentage of Railway Link Missing
Eastern Africa	9,341	2,299	20%
Southern Africa	33,291	4,034	11%
Central Africa	6,414	4,574	42%
Western Africa	9,715	8,971	48%
TOTAL	58,761	19,878	25%

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African Rail Network – Lightly Used and In Dilapidated Condition

Traffic densities in Sub Saharan railways are generally low with the exception of Spoornet (South Africa). While the traffic density of the Maghreb systems (Morocco, Algeria and Tunisia) in Northern Africa ranges between 2 million to 4 million units – almost comparable with many European systems, most of the rail operation in SSA, carry traffic less than 500,000 units! Only a handful of SSA operators exceed 1 million traffic units annually. Consequently, most networks struggle to generate enough funds to maintain and renew their infrastructure as required. Not surprisingly, most of them find themselves trapped in a vicious cycle of decrepit assets like rolling stock and track, leading to abysmally poor service which in turn causes loss of share in traffic to other competing modes of transport and consequent reduction in revenue, making a turn round impossible.

The cost of rehabilitating the networks is large compared with the existing traffic volumes and revenues. The means by which rehabilitation can be done on a sustainable basis is the central question faced by most African railways. In January 2013, Standard Bank estimated that at least \$50 billion must be spent on rail infrastructure across Africa, if the continent's rich mineral resources are to be exploited for economic benefit.

Rehabilitation Of Rail Network Is Imperative, But How?

The urgent need for improving and rehabilitating the rail network in the SSA region (other than South Africa) was felt around 1990s.

The route for raising the required investment as adopted by many countries was through granting concessions via global bidding system. The first rail concession in SSA dates back to 1995 – SITA RAIL, which linked Abidjan (Ivory Coast) to Ouagadougou (Burkina Faso). Following diagram depicts the universality of concession all over Africa. Currently, 70% of the rail transport activities in the region are managed by private operators.

With the experience of around a decade, a large body of evidence regarding the performances, or lack thereof, of rail concessions in SSA has already emerged. Some of the glaring lessons gleaned therefrom and listed below are worth a consideration.

• **An Adequate Regulatory Framework is an Essential Ingredient**

A sound independent and accountable regulatory structure is vital for a concessionaire to work fearlessly and confidently. An independent regulatory structure creates a good environment for solving the unforeseen problems that pop up during operation of a concession. Institutional arrangements are necessary for the accomplishment for the major policy and

regulatory functions.

• **Monitoring of Concessions in an Unbiased Manner**

Transparent calculation of the public contribution for the financing of railway infrastructure and consensual updation of the concession fee can be ensured by a well-defined rule for monitoring of concessions.

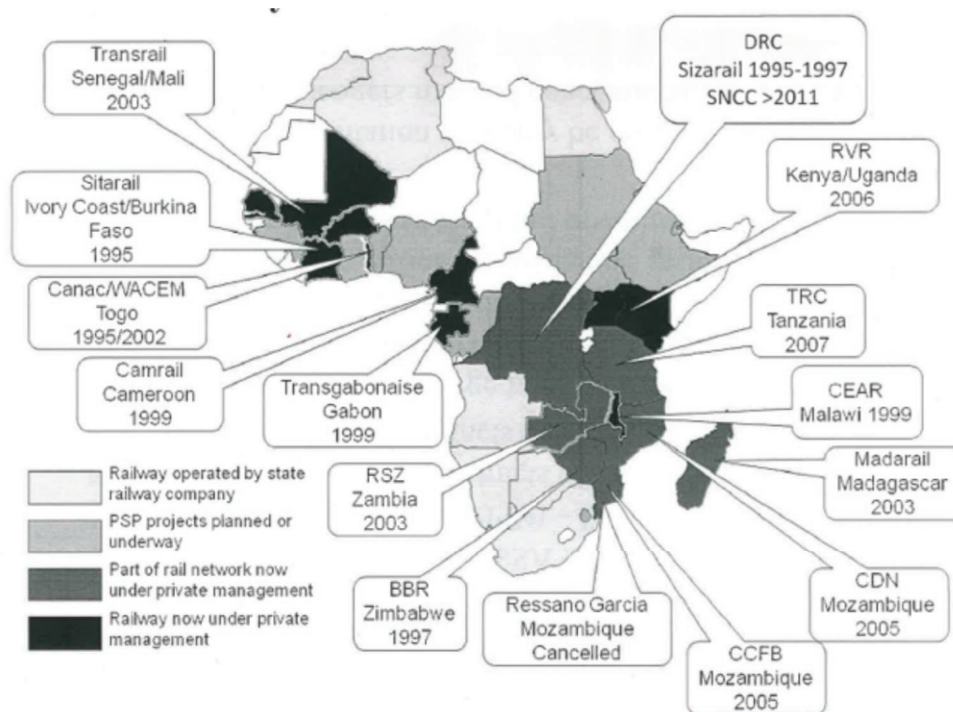
• **Fair Compensation is Mandatory**

It is a well-known fact that most of the passenger transport services are not commercially viable all over the world. Private sector can't be expected to bear the cost of operating such loss-generating services. The concessionaire is hence entitled to receive compensation for providing these services. A robust mechanism to ensure this will incentivize the private sector to operate passenger services fulfilling a social need with the lowest public contribution, while rail transport remains commercially driven.

Need for a long-term vision

While granting concessions may solve the problem on hand – that of rehabilitating a poorly maintained system, the time is now ripe

Railway concessions in SSA: when and where



Concessions account for more than 45% of the total rail freight volume in SSA (excl. RSA)

for taking a long term view of African aspirations. African Union of Railways can spearhead a project to unify the entire continent seamlessly by rail. However, before any such project is envisaged, it would be germane to address the issue of multiplicity of gauges. Ideally, it would be better to adopt a single gauge as a uniform standard all over the African continent. But, given the legacy, possibly having only two gauges in the entire continent may be a convenient compromise.

African Union of Railways may then undertake a policy of 'UNIGAUGE' or 'BI-GAUGE' on similar lines as that of the 'UNIGAUGE' project of the Indian Railways to provide seamless connectivity across international borders unifying the African market as one whole.

The African Necklace

Once a decision for rationalizing the gauges is taken, it will be possible to connect the entire continent by rail (albeit with two break of gauges) as shown in the diagram. Only four Saharan countries may remain untouched by the railways then).



The African necklace

Both these spectacular projects of **UNIGAUGE/BI-GAUGE** and the **African Necklace** will metamorphose the African the-

atre, spurring unprecedented growth and prosperity, if handled adroitly.

The Indian Connection

Association of Indian Railways with various African Railways has been nearly four decades old. RAIL INDIA TECHNICAL & ECONOMIC SERVICES (RITES) and IRCON, two Public Sector Undertakings of the Ministry of Railways have made their presence felt in every corner of the continent. RITES began its association in 1979 when it undertook the operational management of the Nigerian Railways with sterling results. Similar projects were undertaken by RITES in Mozambique, Tanzania, Botswana, Angola and Swaziland earning plaudits from all concerned National Governments. RITES is most suited to undertake surveys and for modernization of African Railroads. IRCON has been associated with construction projects in Algeria, Tanzania, Mozambique, Zambia, Nigeria, etc.

Training of Railway Officials too is a very essential part of Human Resource Development. National Academy of Indian Railways at Vadodara has the distinction of training officers of Technical and Non-Technical streams of many African railways. As African Railways embarks on an ambitious plan for expansion, Man-Power Training and Skill Development will acquire great relevance. Indian Railways can provide cost effective training for officers and staff to equip them to handle modern machines and equipment as well as develop higher skills in marketing, operation, etc.

A Rosy Future Beckons

The African Railways are currently on the cusp of a new era of growth and consolidation. The need is of only taking bold decisions synergizing the entire continent to reap the benefits of enhanced volumes, seamless connectivity, enlarged markets and strategic alliances. Indian Railways can be a very dependable, confident and resolute partner in this sojourn, making the entire journey pleasant as well as exciting.