RAIL OPTIMIZATION COMMITTEE REPORT

ON

Rail Services From A Customer & Railway Operator’s Perspective
In May 2013 the SARA Board formed a Rail Optimization Committee following concerns by some members that the distribution/share of transit rail traffic to/from the SADC hinterland through the ports, to/from overseas markets, is not being equitably shared between the different rail corridors in the region.
Affected members feel that the above is a direct result of the issue of shortest route principle which requires to be resolved at SARA level.

Fundamentally SARA is concerned at the continued loss of traffic to road competition. It notes that since the mid 1980’s rail market share has declined from a high of in excess of +/-70% to current levels of between 4 to 13%.
1.1 Background

- Historically rail had comparative advantages in moving heavy bulk cargo over long distances.
- Mining and agriculture products have been considered rail friendly and economies of the region depended on these two sectors.
- With the improvement in regional road network, road transport have progressively impacted on the competitiveness of rail services.
- In 1999 SARA ratified the SARA Marketing Policy that gives direction on how SARA members should move transit traffic equitably along corridors.
- The implementation of the SARA Marketing Policy has brought discontentment between two SARA members.
1.2 Purpose

1. Rail Optimization Committee was setup to investigate and make recommendations on two areas of concern viz:
   - concern by some members that the implementation of the shortest route principle was disadvantaging them and the loss of rail market share.
   - The continued decline in overall rail market share to road over the years from a high of +/-80% in the mid 1980’s to current levels of 13% or less
   - The Committee was also to identify and characterise existing market needs, decision drivers in corridor and modal selection as well as the key challenges experienced by customers seeking to move goods for export or import out of and into the region

2. The report is expected to provide a reference point in framing strategies geared towards aligning railway industry players with the SADC’s freight and logistics market.
INTRODUCTION

1.3 Problem Statement

1. Railways believe that they can offer convenient and relatively cheaper transportation services if they align themselves with the market.

2. The committee is required to advise on:
   i. Strategies to be adopted by the railways in order to improve rail competitiveness and increase market share in chosen markets, and
   ii. Equitable share of traffic between corridors, based on the assumption that some corridors remain underutilized i.e. there is excess rail capacity on all or some of the corridors.
INTRODUCTION

1.4 Champion

1. Steering Committee chaired by Manica comprised of SR, SMEC, CFM & KZN

2. The Committee was assisted by a Consultant who carried out field study in the North South corridor (Zambia, Zimbabwe, Botswana, South Africa and Mozambique) in response to growing concern among SARA members regarding the competitiveness of rail services to address transit and international traffic demand within the SADC region
1. The primary objective of this study was to establish the main drivers of customer decisions in the choice of transport between road and rail that has resulted in the current situation where rail is now a marginal player on the market.

2. The secondary objective is to investigate the concerns raised by some members of SARA regarding lack of equity in the share of traffic between corridors which appeared to be undermining the economic viability and conditions of the affected routes.

3. To identify and recommend robust and responsive strategies that will enhance the competitive position of the rail transport sector based on-the-ground customer and operator perspectives.
1. The rail transport system is currently operating well below the design capacity

2. The assumption the research seeks to establish is that the customers in certain traffic categories have resorted to using road purely due to poor service offering by the railways. The research therefore seeks to establish the following:
   
   i. The real reasons for loss of traffic by rail to road
   
   ii. Whether customers will indeed revert to rail once those problems are fixed, and consider railways as the mode of choice
   
   iii. To identify to what extent type of cargo and port of exit play a role in the route choice
3. What would be the ideal role of the two modes of transport on the market

4. What do the railways believe are the real reasons for loss of market share

5. Are railways willing and able to address the core problems as seen by customers

6. If indeed the long-term challenge faced by SARA railways is capacity, is there a case for targeting specific types of international traffic in preference to others; if so to what benefit

7. What other strategies do railways need to consider in order to cope with the projected growth in volumes over the next four years.
1. The research method was determined by the Terms of Reference.

2. The sample size was based on the north-south corridor covering DRC, Zambia, Zimbabwe, Botswana, Mozambique and South Africa (Beitbridge, Beira, Limpopo, Ressano Garcia and Plumtree).

3. The stratification was based on key rail friendly commodities looking at their historical, planned and speculative performance in relation to route/corridor choice.

4. The research methodology used in gathering this data was a mixed method (qualitative and quantitative).

5. The approach used to gather the data initially was questionnaires and was followed by face-to-face interviews with identified key customers within the sample size.

6. The field research results were complemented by perusal of pertinent historical literature from internal and external sources.
1. The customers considered the consultant as neutral; one to whom they could open up on their experiences with the railways.

2. Distribution of responses from customers were as follows:
   - 6 from Zambia
   - 1 from DRC
   - 19 from Zimbabwe
   - 13 from Mozambique
   - 7 from South Africa
   - 1 from Botswana
   - 2 from Swaziland

3. Responses were received from nine of the ten RAs, namely BBR, BR, CFM, NRZ, SNCC, SR, TFR, TNHL and ZRL.
5.1 Infrastructure Assessment

Road network

Rail network
1. Three new projects to augment the regional economic and international trade by giving shorter hinterland distances from key production and urban nodes
   i. The Trans-Kalahari corridor is 1,900km anchored at the port of Walvis Bay and links Namibia with Botswana and South Africa
   ii. The Lobito corridor is 2,149km in length and it includes the Banguela Railway anchored at the port of Lobito and will provide shorter hinterland distances from the Copperbelt and facilitate access to western market
   iii. The Nacala corridor is expected to serve the coal mines in Moatize, Mozambique and the copperbelt
   iv. Regional freight transport sector is characterised by long distances, relatively low volumes and therefore relatively high railway tariffs
5.1 Infrastructure Assessment cont’d

Key ports serving the region

- Lobito
- Ndola
- Walvis Bay
- Beira
- Maputo
- Dar es Salaam
- Nacala
- Richards Bay
- Durban
- Port Elizabeth
- Maputo
- Lobito
- South Africa
- Namibia
- Angola
- Democratic Republic of Congo
5.1 Infrastructure Assessment cont’d

Southern Africa Transport Corridors (Road and Rail)
5.2. Market Demand Assessment

A. Zambia key commodities assessment

i. Copper

- Copper is a high-value, low-volume commodity
- The primary mode for exporting both concentrate and cathodic copper is road through Durban
- The road rate is US$95 per tonne
- Export through Beira has the benefit of higher value back-haul cargo, which includes fertilizer, sulphur, re-agents and container cargo.
- The road rate of the aforesaid commodities of US$130/150 per tonne is acceptable to the customers.
- Export through the port of Dar es Salaam is hindered by poor service on the TAZARA railway line and significant port congestion.
5.2. Market Demand Assessment cont’d

A. Zambia key commodities assessment cont’d

ii. Sulphur

• Annual import of sulphur for DRC & Zambia can exceed 500Kt (Zambian +240Kt & DRC +260Kt). Demand may decline after the commissioning of First Quantum Mines that would be producing sulphuric acid.

• Sulphur is considered a rail friendly commodity however it is transported as bulk by both road and rail. Customers could not disclose the road rates.

iii. Fertilizer

• Current fertilizer demand in Zambia amounts to 400Kt per annum and this is expected to rise to 500Kt in 2015.

• The primary mode of transportation is road and rates are considered high at US$78/t (backhaul to Beira).
iv. Sugar

- Annual production is 420Kt and only 150Kt is exported to EU markets. Production is expected to increase to 500Kt and can also affect export volumes.
- The primary mode of transportation to Beira is road as it is backhauled by trucks used for fertilizer. 50Kt is split between road and rail (80/20) to Durban.
5.2. Market Demand Assessment cont’d

B. Zimbabwe key commodities assessment

i. Ferrochrome
   • Ferrochrome export target for 2014 was 90Kt and forecasted to increase to 120Kt over the next three years
   • Ferrochrome exports are transported by rail the port of Maputo.
   • The rate of ferrochrome is on rail is USD28.05t

ii. Coal
   • Coal is a high value, low volume commodity. Coking coal is exported to regional markets (Zambia, DRC and South Africa)
   • Export coking coal is expected to increase to 2Mtpa
5.2. Market Demand Assessment cont’d

B. Zimbabwe key commodities assessment cont’d

iii. Sugar

- Production expected to increase to 300Kt from
- Sugar is export by rail via the Maputo port.
- The rate of transporting sugar on rail is USD22.09t

iv. Tobacco

- Tobacco is considered a high-value
- Current production level is estimated at 175Kt
- The rate of tobacco on rail to Maputo is USD104.18t
- Key export markets include Belgium, China and South Africa
- Both rail and road transport is used on the Durban route and to Beira it is by road
5.2. Market Demand Assessment cont’d

B. Zimbabwe key commodities assessment cont’d

i. It was established that the selection of route by customers to a port is influenced by rail freight prices and the sea freight charges.

ii. Of the three ports Maputo Durban and Beira, Beira sea freight charges is expensive but on the overall it is the cheapest route.
C. Botswana key commodities assessment

i. Coal

- No quantitative data was collected
- Export of Grade A coal is to regional markets, Zimbabwe, South Africa and Namibia
- Route options have been proposed for export of Botswana coal from expansion projects using existing infrastructure to new infrastructure projects that include the Trans-Kalahari rail line to Walvis Bay and a new railway line to deep-sea port of Techobanine, and the new port of Chongoene in Mozambique
- Proposed upgrade of the Limpopo corridor add to options available for exporting Botswana coal
5.2. Market Demand Assessment

D. Mozambique key commodities assessment

- No quantitative data was collected as all the customers interviewed indicated that it was confidential.
- Customers interviewed were for a particular corridor
  
  i. Limpopo corridor

  - Primary commodities characterising regional transit trade along the Limpopo Corridor:
  - Export: Ferrochrome, sugar and general cargo (containers) from Zimbabwe.
  - Import: Fertilizer, wheat and general cargo (containers)
5.2. Market Demand Assessment cont’d

D. Mozambique key commodities assessment cont’d

ii. Ressano Garcia corridor

• Primary commodities are from regional transit trade along the corridor:
  • Export: containers (copper, tobacco etc.), Granite, ferrochrome, chrome ore, sugar, timber primarily from Zimbabwe and Zambia, coal and magnetite from South Africa
  • Import: fertilizer wheat and general cargo, fuel and vehicles
  • Bulk movement is by rail except for fuel and vehicles
5.2. Market Demand Assessment  

D. Mozambique key commodities assessment  

iii. Beira corridor  

- The primary commodities along the Beira corridor are regional exports and imports  
  - Export: containers (copper, tobacco etc.), Granite, ferrochrome, timber primarily from Zimbabwe and Zambia.  
  - Import: sugar, fertilizer wheat and general cargo  
- Key findings show disparity in modal split for outbound (export) and inbound (import) traffic. The swing is significant with export dominated by road in some instances (90%:10%) and imports dominated by rail (85%:15%). This was not uniform across all customers interviewed.
5.2. Market Demand Assessment cont’d

D. South Africa key commodities assessment

i. Although all research methods were applied in other countries in South Africa only qualitative research was done as customers could not give any statistical data.

ii. The customers targeted were those dealing with cross border traffic

iii. Primary commodities were mostly regional transit trade in the form of containers, fuel, sulphur, fertilizer and general cargo.
5.3. **Summary of the findings**

1. Co-opetition (collaboration and competition) between road and rail because they all serve the same purpose to facilitate inter-regional and international trade.

2. Most customers are using road more than rail out of necessity because of poor service provision and operation performance.

3. Poor performance by the railways is the root cause for the loss of market share, rather than the lack of cargo to move on rail.

4. Railway operations and services are inconsistent.

5. A lack of “one stop shop” and seamless service, and customer are forced to deal with different and non-collaborating entities.
5.3 Summary of the findings cont’d

8. Railway services are characterised by high rates and demurrage charges, both of which have the negative impact of “pushing” clients and their cargo to road

9. Failure by the railways to set own minimum service standards which they can adhere to

10. Lack of collaboration with customers who have rail infrastructure sites or depots and rail friendly cargo to consolidate consignments into block trains

11. Lack of cargo real-time tracking systems to ensure customers are continuously and consistently informed of the whereabouts of their cargo
5.4. Infrastructure Analysis

1. Current routes not meeting the market demands
   i. Congestion at some ports e.g. Dar es Salaam
   ii. Some ports not suitable for specific cargo

2. Inefficiencies on some networks
   i. Poorly maintained track leading to long transit times

3. Lack of investment by Governments in rail infrastructure

4. Pressure on governments to invest in new routes
   i. Leading to new routes, Lobito, Nacala Trans-Kalahari corridor
5. All regional Governments facing the demand to maintain road infrastructure
6. New road networks for alternative routes in support of current demands
5.5. Market Analysis

1. Pricing – Traditionally railways were enjoying the economies of scale
   i. Due to inefficiencies the rail services now expensive than road
   ii. High tariffs that are not commensurate with the services provided
   iii. Rail costing does not include road services at terminal

2. Quality of services
   i. Customers not receiving the resources they request in terms of suitability and timely
   ii. Long transit times
   iii. Unpredictable
   iv. train schedules in terms of exports are most of the time not synchronized with shipping times
   v. Railways are not flexible
   vi. Inconsistence
   vii. Adequate loading and off loading infrastructure
5.5. Market Analysis

3. Rail Capacity
   i. Inadequate rolling stock, under utilisation, long wagon turn around, no capacity in certain routes
   ii. Low investments in railways to improve on line capacity and rolling stock
   iii. No capacity in certain routes

4. Customers perception
   i. Customers are concerned of regional competitiveness where exporters are price takers interested in making money
   ii. Most customers perceived railway service providers as dismissive and inadequately engaged with the market at both strategic and operational levels.
   iii. Railways are viewed as wanting to make money through efficiencies
   iv. Road is flexible and one stop shop for quotations, payment and inquiries
   v. Customers are mostly concerned of sea cost to final destination of their cargo and the efficiency of the route
5.5. Market Analysis cont’d

i. Customers need to choose the routine option

ii. Railway logistics is theoretically the mode of choice but reality on the ground is different.

5. Current routes not meeting the market demands

6. Business volumes

i. Cargo is available for both imports and exports

ii. There is demand for high capacity transport systems

iii. Very little value addition on exports hence the demand for bulk transportation

iv. The is high demand of minerals into Asia market – increase transport demand to east-costal ports

7. ICT in Railways

i. Customers require railways to be able to give information on the position of their cargo along a route
5.6. Findings from Rail Operators

1. The railways acknowledged that some of the following; aging rolling stock, bad track condition, poor signalling and telecommunication, security and vandalism of railway equipment affect their service delivery.

2. Most RAs do not have service level agreements with their customers.

3. Most railways in the region are operating <= 25% of their line capacity.

4. Collaboration with road is at minimal level except where there is consolidation of traffic especially in Zambia for DRC traffic.

5. Very few CMGs are functional thereby affecting the seamless service to be offered along corridors.
6. The railways hardly use the backhaul strategy that road utilises to get more business at very low rates.

7. The railways incur more cost of hauling empty wagons hence the passing own of this cost to customers resulting in uncompetitive rates on the loaded direction.

8. With current capacity and resources the railways are failing to efficiently move the traffic offered to them.
5.7. Outcome of the findings on the shortest route principle

1. The findings of this research clearly confirm the observation that traffic is available and customers are willing to move their cargo predominantly by rail provided service standards and landed cost to market are competitive.

2. Not only is this supported by the verbatim evidence of large volume exporters but it is clearly an imperative given that Regional exports still consist of semi-processed mining and agricultural products.

3. Volume growth in bulk commodities such as coal, copper, Ferro chrome, sugar and tobacco, to name a few, and their increasing demand on the international market point to the inevitability of pressure on rail to put its act together and reform.
4. This is underscored by the heavy rail-based investments in new corridors, supported by international finance, witnessed in recent years.

5. Against this background is widespread acknowledgement of the high cost to the community of road transport resulting in direct fiscal pressures for road repairs and maintenance, and the indirect cost due to road carnages and environmental damage.

6. The outcome from the findings is that SARA members will be under increasing pressure from their government and industry to become relevant and play their central role in serving the region at the right cost and at competitive service levels.
1. What is SARA’s role in assisting RAs to maintain or improve their market share

2. What has the railways to offer to show to customers why they should shift from road to rail

3. Therefore answering of the abovementioned questions would assist RAs in identifying their shortcomings in providing railway services to their customers.

4. The concerted view of customers is that efficient planning would dramatically improve regional rail services that considers market demand, client production cycles, and seasonality.

5. Customer needs are poorly understood and consequently services provided do not competitively respond to the logistics challenges. Customers consider railways as focusing only on transportation instead of providing total logistics solution.
6. are ready and willing to switch to rail in a big way if there are no guarantees to a swift change in the way railways do business and customers will continue to prefer services provided by road hauliers.

7. Customers however do recognise the need for robust alternative surface transport to road dominance and this presents unanticipated avenue for the rail sector to strategically re-invent itself and align with regional logistics supply chain needs.

8. Greater competition from rail would also stimulate multi-modal transport integration and service innovation, enabling regional products and services to competitively reach global markets.

9. A cargo real-time tracking system to ensure customers are continuously and consistently informed of the whereabouts of their cargo is required.

10. Customers are ready and willing to switch to rail in a big way.
The recommendations below are based on organizational strategy, for competitive advantage and defined organizational strategy as the processes by which organization leverage its valuable resources towards the right activities to achieve competitive advantage, improve performance and create value within a competitive environment.

Based on the views and opinions gleaned from most customers on the ground and 6 critical recommendations are proposed as below:
1. Value Addition

   i. In order to attract and retain reasonable market share of rail friendly cargo, there is need for a change of mind set and/or paradigm shift, in Rail authorities’ approach to doing business, by avoiding being an extension of the government, and start running their business on the basis of the value preposition where performance is measured in terms of unique service offering, cost effectiveness, efficiency, customer satisfaction etc which will impact on overall business improvement and the bottom line.
RECOMMENDATIONS cont’d

2. Improving rail competitiveness

i. With the resources currently available, and in order to provide meaningful service to customers, and improve competitiveness in order to attract back to rail some lost clients, railways should set minimum service standards which they must adhere to, such as:
   • Resource allocation, transit time, and other services that guarantee the quality of the output
   • Each customer’s consignment should be treated as a project and must be implemented according to:
     • Agreed scope
     • Schedule and deliverables with gate reviews
     • Budget (within cost)
     • Quality of delivery within constrains

ii. It should be remembered that, if the minimum service standard is not met then market confidence is lost
3. Culture of Service Excellence

i. Take ownership – avoid excuses and culture of blame.

ii. Ratify all initiatives and policies and procedures agreed upon

iii. Joint market of services in a corridor by targeting major customers with rail friendly in a corridor to build and instil customer confidence

iv. Adopt and implement the commercial information management system developed by SARA

v. Consider customer consultative forums at organisational and/or corridor level
4. Establishment of an Inter Railway Business Unit under SARA Board or Secretariat

- International traffic must be handled under one Unit, there must be one central coordinating center for this traffic stream. This will be a one stop shop/service. This Unit will engage each railway along the corridors and put together one commercial/transport agreement to the customer.
- This concept relates to other ideas about forming a company owned by all the railways and mandated to handle international traffic.
- The non-functional of CMGs would be addressed
- This will foster an integrated planning approach
- Resource sharing along corridors for targeted traffic would be strengthened
5. Route Choice

i. It should be noted that customers’ corridor route choice is determined by the provision of a total logistics solution, based on through-corridor efficiency, and among other things i.e. resource availability, storage and handling facilities, operations capability, communication, safety and landed cost of goods (in short a seamless, efficient and cost effective service provision);

ii. Clearly the real issue that will preoccupy SARA in the medium to long term has to be one of inadequate capacity hence the need to ensure that ALL corridors are capacitated to play their meaningful role.

iii. What this means in the short term is that the organisation can ill afford to precipitate any shrinkage in capacity on some corridors through artificial conditions not based of competitive cost and quality service; all that it does is to force customers to abandon rail altogether to the detriment of exporters and, ultimately, the economies they seek to benefit.
5. Route Choice

iv. The issue of the shortest route will be affected once the new routes, (Lobito, Nacala and TransKalahari) become operational.

v. The SARA Marketing Policy needs to be reviewed in line with the TOR of the Business Unit.
6. Capacity building

i. Consider offering continuous professional development programmes in marketing, customers services, communication skills, etc to key staff.

ii. Identify skills shortage and offer training at Regional level.

iii. SARA should seek to improve dialogue with customers on international traffic by encouraging rail authorities to engage key stakeholders/customers at their regional policy forum to hear from their clients, so as to understand their needs in advance of any strategic plans and service offering.

iv. In order for the railways to attract and recapture some lost market share, they must be prepared to enter into strategic partnerships with other stakeholders like clearing agents, freight forwarders, container terminal depot operators (for consolidation of cargo), willing investors, revenue authorities; and be willing to enter into Service Level Agreements with major customers.

v. SARA and RAs to jointly lobby Governments to implement the Pemba resolution and the Brazzaville Declaration.
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v. SARA and RAs to jointly lobby Governments to implement the Pemba resolution and the Brazzaville Declaration.
FOR MORE DETAILS PLEASE REFER TO THE REPORT

END OF PRESENTATION & THANK YOU