



**ECONOMIC RESEARCH PAPERS**

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**Linking Africa Through Regional  
Infrastructure**

by

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Gaborone, Botswana

The views and interpretations in this paper are those of the author  
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## **Abstract**

This paper makes a case for linking Africa through regional infrastructure by showing that sound infrastructure is critical to any development process and thus impacts on the quality of development of any country or region and consequently on the quality of life of its people. The critical role of infrastructure in the global economy is well articulated pointing out that as globalization and liberalization take root, it will be increasingly difficult for Africa to remain competitive if its infrastructure systems continue to be sub-standard. This paper is intended to provide policy options and practical proposals on measures to improve the performance of Africa's infrastructure. In discussing trade and investment the paper points to Africa's historical trade patterns as a limiting factor to its infrastructure development. For the most part these have been outward looking, rather than inward looking rooted in the pattern of colonial exploitation, homogeneity of production and trading of primary commodities as well as high export concentration on one or a few products for the bulk of their export earnings. There is therefore, an urgent need to put Africa's infrastructure in shape as well as the need for value added to stimulate infrastructure development given the increased phenomenon of intra-industry trade which is viewed as enhancing regional integration and that of individual countries into the global economy. The paper proposes strategies and policies for linking Africa through infrastructure and promoting private sector participation key among which are a single integrated African market and the steps toward infrastructure integration. The conclusion of the paper is that, Africa needs a deliberate, systematic and concerted effort at the practical level to integrate, upgrade and modernize regional infrastructure so that it becomes the catalyst for Africa's growth. The regionally integrated corridor approach offers prospects for speedier integration of infrastructure systems in Africa. The vision and ultimate objective for Africa should be to create a single market of 750 million people that is competitive within itself and within the global economy. A critical pre-requisite to this is regional infrastructure integration across Africa. The private sector alone cannot address all the requirements of Africa's regional infrastructure needs even if all the conditions were in place. The way forward is to put in place a goal oriented, results driven, continent-wide framework for addressing Africa's regional infrastructure needs on an integrated basis. This should have a practical approach to evolving an integrated, coordinated and efficient African regional infrastructure system that is supportive and facilitative of the ultimate goal of creating a vibrant single African market. The single major proposal and recommendation of this report is the creation of a Framework for African Regional Infrastructure Cooperation (FARIC). FARIC would not be an institution or a body but a coordinated consultative mechanism to drive the process of linking and improving the efficiency of Africa's infrastructure systems across Africa's major regions. The aim should be as far as possible, to harmonize policies and legal frameworks supporting regional infrastructure development, integration and operation across Africa as well as to ensure that regions learn from each other and share best practices.

## Résumé

Ce document établit le bien-fondé de la création de liaisons interafricaines au moyen d'une infrastructure régionale, en montrant qu'une infrastructure solide est un facteur vital de tout processus de développement ; elle a donc une incidence sur la qualité du développement de tout pays ou région et, par conséquent, sur la qualité de vie des populations. Le rôle déterminant de l'infrastructure dans l'économie mondiale est bien démontré et fait ressortir qu'avec l'expansion de la mondialisation et de la libéralisation, l'Afrique aura de plus en plus de mal à rester compétitive si ses réseaux d'infrastructure ne répondent pas aux normes. Ce document vise à présenter des options stratégiques et des propositions pratiques relatives aux mesures destinées à améliorer la performance de l'infrastructure de l'Afrique. L'analyse du commerce et de l'investissement présentée dans le présent document met en relief la structure historique des échanges, qui constitue un frein au développement de l'infrastructure du continent. La plupart de ces structures sont axées vers l'extérieur au lieu de l'intérieur, enracinées qu'elles sont dans les circuits d'exploitation coloniale, l'homogénéité de la production et le commerce des produits de base ainsi que la forte concentration des exportations sur un ou quelques produits qui génèrent la majeure partie de leurs recettes d'exportation. Il y a donc un besoin pressant de mettre en place une infrastructure africaine et de créer de la valeur ajoutée afin de stimuler le développement de l'infrastructure, compte tenu du phénomène croissant du commerce intra-industriel, qui est perçu comme un catalyseur de l'intégration régionale et de l'intégration des différents pays dans l'économie mondiale. Ce document propose des stratégies et des politiques pour créer des liaisons interafricaines grâce à l'infrastructure et à la promotion de la participation du secteur privé : les éléments les plus importants étant un marché africain unique et intégré, ainsi que les mesures à prendre pour parvenir à l'intégration de l'infrastructure. En conclusion, ce document affirme que l'Afrique a besoin d'efforts résolus, systématiques et concertés au niveau pratique, pour intégrer, actualiser et moderniser l'infrastructure régionale, afin qu'elle devienne le catalyseur de la croissance du continent africain. La stratégie du corridor régional intégré offre des perspectives d'intégration plus rapide aux réseaux d'infrastructure africains. À terme, la vision et l'objectif pour l'Afrique devraient être la création d'un marché unique de 750 millions de personnes, compétitif sur le continent, et au sein de l'économie mondiale. La condition préalable décisive est l'intégration de l'infrastructure régionale dans toute l'Afrique. À lui seul, le secteur privé ne peut répondre à tous les besoins de l'Afrique en matière d'infrastructure régionale, quand bien même toutes les conditions seraient réunies. À l'avenir, il faudrait mettre en place un cadre transcontinental, axé sur des objectifs et des résultats, pour répondre de manière intégrée aux besoins d'infrastructure régionale de l'Afrique. Pour cela, il faudrait adopter une approche pratique en vue d'élaborer un système d'infrastructure régionale africaine intégrée, coordonné et efficace, qui soutient et facilite la réalisation de l'objectif final, à savoir, créer un marché unique africain dynamique. Ce rapport fait une seule proposition et recommandation majeure, c'est la création d'un Cadre pour la coopération en faveur de l'infrastructure régionale africaine (*African Regional Infrastructure Cooperation*, FARIC). Le FARIC ne serait ni une institution ni un organe, mais plutôt un dispositif consultatif coordonné, chargé de lancer le processus de liaison et d'amélioration de l'efficacité des réseaux d'infrastructure à travers l'ensemble des principales régions d'Afrique. L'objectif devrait être de permettre, autant que possible, d'une part, l'harmonisation des politiques et des cadres législatifs qui sous-tendent le développement, l'intégration et le fonctionnement de l'infrastructure régionale dans toute l'Afrique et, d'autre part, de veiller à ce que les régions tirent profit de leurs expériences mutuelles et échangent les meilleures pratiques.

# Linking Africa Through Regional Infrastructure

by

Shemmy Simuyemba

## Context

It is a universal fact that infrastructure impacts on the quality of development of any country or region and consequently on the quality of life of its people. Sound infrastructure is critical to any development process. Investment, production and trade cannot occur without adequate water and power sources as well as functional roads, transportation and telecommunications systems.

### *The Critical role of Infrastructure in the Global Economy*

Economic and social services such as banking, retail, health, education cannot function effectively without a modern and efficient infrastructure system. Critical requirements such as defense and security must be supported by a sound and robust infrastructure. Information sharing, social mobility, individual choice and consequently, the quality of life of individuals depends on a responsive and efficient infrastructure system.

Thus, Africa cannot hope to develop and take its rightful place in the global economy without a sound, modern and efficient infrastructure system. Further, as globalization and liberalization take root, it will be increasingly difficult for Africa to remain competitive if its infrastructure systems continue to be sub-standard and to under perform. Africa's competitiveness in a global economy requires that Africa's infrastructure is overhauled and that African countries take concerted measures, both individually and collectively, to modernize and transform the Continent's infrastructure systems. It is important to recognize that transportation systems and related infrastructure in Africa were conceived and constructed to meet the economic needs of the colonial powers and were not intended to support balanced economic development to meet the needs and aspirations of African countries. This has given rise to what has often been termed, "Line of rail" economies. That is, concentrated development of infrastructure along major arteries normally dissecting the countries without linkages with the rest of the country.

### *Rationale for this Paper*

This paper is intended to provide policy options and practical proposals on measures to improve the performance of Africa's infrastructure. It does not intend to duplicate well documented issues and literature related to the state of infrastructure development in Africa, condition of existing

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\*Background paper prepared for the *African Development Report 2000* (African Development Bank). Shemmy Simuyemba is with the USAID Regional Center for Southern Africa, Gaborone, Botswana.

links, missing links and performance of individual infrastructure systems. These are well documented by relevant regional organizations in various parts of Africa<sup>1</sup>, international multilateral agencies as well as recent reports such the African Development Report 1999.

## **Infrastructure for Trade and Investment**

Africa's role as a global player in trade and investment is marginal. The 48 countries in sub-Saharan Africa maintain a little more than 1 percent global trade and less than 2 percent of world investment.<sup>2</sup> Trade among African countries is very limited even within regional groupings. At best this trade is less than 10 percent of Africa's total trade.

### ***Trade Patterns as a Limiting Factor to Africa's Infrastructure Development***

Historically, Africa's trade patterns have been outward looking – with the rest of the world, rather than inward looking – into the rest of Africa. There are several reasons for this, among them, the pattern of colonial exploitation, homogeneity of production with most African countries producing and trading in primary commodities such as minerals, agricultural products and even crude oil, as well as high export concentration with countries depending on one or a few products for the bulk of their export earnings. It is ironic that while these products can be further processed into final form for consumption in Africa, they have to go to the outside world for processing and be brought back to Africa for consumption.

Logically, investment tends to concentrate on these basic or primary sectors. This has had and will continue to have implications on the pattern of infrastructure development in Africa. Africa's road, rail and transport networks generally have, therefore, tended to develop from centers of production to sea-ports with little inward expansion. This is because the systems are geared to bulk outward transportation of primary commodities and importation of raw materials and finished products with the outside world as opposed to inward distribution of finished products traded among African countries. As long as Africa's trade does not change in form, content and direction, there will be little impetus to dramatically alter Africa's infrastructure systems. This is not to suggest that Africa should be inward looking to the exclusion of the rest of the world, but that Africa needs to balance its trade patterns and promote a deliberate bias towards intra-African trade.

### ***Urgent Need to put Africa's Infrastructure in Shape***

The basic policy question here is, does infrastructure stimulate investment and trade or does investment and trade give rise to appropriate infrastructure? Should there be potential for trade and investment before infrastructure is put in place or should infrastructure be put in place first to stimulate trade and investment? The answer is both, although history has shown that infrastructure tends to stimulate growth and development. In the United States, the development of the interstate highway system was spurred not primarily by economic considerations, but military and strategic considerations. Ultimately, the benefits turned out to be economic rather than military. The interstate highway ensures that the United States functions as a single integrated market and not 50 or so fragmented markets. After World War Two, the Marshal Plan revitalized Europe's infrastructure. Looking further ahead, the massive expenditures in space exploration which is

primarily a form of transportation, is in a sense, putting infrastructure first, to exploit perceived future opportunities.

By extension, to develop and promote trade and investment, Africa needs to put its infrastructure in place first. Of Africa's 53 countries, seven are island and 46 mainland. Instead of functioning as a single integrated market of 750 or so million people linked by modern transportation and telecommunications systems, Africa continues to function as small fragmented and uncoordinated markets with inadequate and inefficient infrastructure links. Traversing mainland Africa is literally dealing with 48 different countries with variations in the condition and efficiency of infrastructure systems, infrastructure policies, legal frameworks, rules and regulations, standards, documentation requirements, procedures and processes not to mention differences in skills and administrative capacities. With this state of affairs, how can it be surprising that trade and investment has not grown in Africa.

Contrast this with the United States, an equally large "country" with as many States. Would America have flourished if trade and movement of people, goods and services were subjected to different rules, regulations, standards, border inspections, customs procedures, transit charges, different road conditions and the many and myriad problems facing Africa's infrastructure systems all interpreted and administered differently from State to State, across the 50 States. America would come to a standstill. Is it little wonder therefore, that Africa is lagging behind the rest of the world in development.

#### ***Need Value Added to Stimulate Infrastructure Development***

According to the World Bank, "Global Production Sharing", a process consisting largely of what has been termed "Intra-industry Trade" is becoming an increasingly important component of World Trade. Production Sharing involves the initiation of part of a manufacturing process in one country and the transfer of the activity to another country for further processing.<sup>3</sup>

Higher Intra-industry trade indicates that there is scope to realize gains from specialization in differentiated products. Increased Intra-industry trade is viewed as enhancing regional integration and the integration of individual countries into the global economy. According to the World Bank, Intra-industry trade is very small or non-existent among many African countries. The World Bank attributes this to the fact that exports among Africa countries are highly concentrated in very similar primary products thus limiting gains from exchange. More importantly from the perspective of infrastructure, "Geography and logistical problems may also play a role. The few African countries that appear to have established a fledgling industrial base such as Kenya and Zimbabwe are relatively distant from each other and may face important transport, communications, financial and other constraints which, work against this trade. In short, Production sharing and Intra-industry trade can be an important factor promoting integration, but there is no evidence that this is occurring in Africa."<sup>4</sup>

What is needed is a deliberate, systematic and concerted effort at the practical level to integrate, upgrade and modernize Africa's infrastructure so that it becomes the catalyst for Africa's growth. This requires a fundamental shift in approach, policies and strategies for Africa not just in infrastructure but also in production, trade and investment patterns and practices.

## **Impact of Infrastructure on Economic Competitiveness**

The efficiency of infrastructure has a direct bearing on the competitiveness of any economy whether this is in international trade, regional trade, expansion of markets, realization of economies of scale or expanding regional investment. Infrastructure efficiency should and cannot be viewed or measured in terms of financial cost of usage or passage alone, but should be based on the total cost to the consumer of using the service whether this consumer be an individual, firm, country, region or continent.

### ***The Economic Value of Infrastructure***

A consumer using an infrastructure service looks at not just the monetary but economic cost of using the service. In surface transportation (road and rail) the consumer may be less concerned about the monetary cost of the service than they may be of the potential economic cost of the service in terms lack of reliability, predictability and lack of certainty on the security and condition of cargo on arrival. Thus, consumers are willing to pay a higher infrastructure price if this mitigates against the risk of potential economic loss. This is not to say the monetary cost is not important, but often times in the African context, it becomes a secondary consideration. This is the case across all infrastructure sectors.

A farmer exporting fresh flowers to Europe would be more concerned about the quality and reliability of the service and be willing to pay more to secure this so as to safeguard their market share and therefore business, than they would be about the actual financial cost of the service. Equally, a poultry farmer will be concerned about reliability of electricity supply and be willing to safeguard against a power outage because this has the potential of wiping out the business. Consumers often achieve this at high extra cost through ensuring availability of contingency power sources such as generators. An emerging entrepreneur, who is in small-scale manufacturing producing a product that requires lots of water such as casting, is likely to invest in extra water storage. A micro-lender requires reliable telecommunications because communication is an important component of their business. They are likely to invest in a mobile hand-set or have multiple lines at a higher cost, as an alternative to an unreliable fixed telecommunications system. A worker taking time off from work to visit relations in another part of the country would be willing to pay more for a transport service that ensures not only their timely passage, but also safe return.

Thus, because infrastructure systems in Africa are generally inefficient and unreliable, consumers are prepared to pay a higher premium to secure a better quality service because of the economic savings and the lower total cost that this entails. For this reason alone, infrastructure investments in Africa are likely to have higher returns at least in the short to medium term, than perhaps elsewhere in the world.

### ***The Economic and Social Cost of Poor Infrastructure***

In making an investment location decision, a potential investor will look at the availability, cost and reliability of infrastructure – power, water, transport and telecommunications. If these are not favorable, the investor is unlikely to locate. This translates not just in loss of investment for a location or country, but is a high opportunity cost in terms of lost employment, incomes and potential economies of scale arising from linkages in the supply - distribution - consumption chain.

This is a vicious cycle of potential gains and losses. Increased investment, jobs and incomes lead to an improved standard of living, and this translates into higher literacy rates (because parents can now afford to pay for their children's education) and better health uplifting the population from a dependent to an independent and productive one. This also means that the population may be able to afford and be willing to pay for infrastructure services such as water, electricity, telephones and public transport.

In contrast, if investment is not attracted because of poor infrastructure, all the adverse effects caused by unemployment and lack of income follow and neither can infrastructure itself be expanded because there will be no incomes and, therefore, no impetus to spur the further development and expansion of infrastructure. Inefficient infrastructure systems therefore pose a high economic and opportunity cost to Africa. This is not just to the producer or consumer in terms of a higher economic price and additional investment required to mitigate against inefficient infrastructure. More importantly and critically, to the entire economy in terms higher resource costs, lost opportunities to expand investment and therefore markets, jobs, incomes and consequently, upliftment of the standards of living of the vast majority of Africans.

### ***High Transport Costs Impact on Africa's Competitiveness***

A World Bank study<sup>5</sup> offers revealing perspectives to Africa's competitiveness. The study sought to determine whether relative differences in freight costs between African and other countries contributed to Africa's poor export performance and what effect, this had on location of industrial activity in Africa. The study also looks at whether the structure of freight costs on African exports influenced the composition of goods shipped, that is, primary rather than processed goods.

The study concluded that, "Freight costs are therefore a far more restrictive barrier to African exports than tariffs". In specific terms, "...net (freight) payments averaged 42 percent for the landlocked countries (the study mentions 10 but there are actually 16 landlocked African countries – (Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, Sudan, Uganda, Swaziland, Zambia and Zimbabwe) whose trade must transit neighboring territories and, therefore, incur additional foreign exchange costs. For all developing countries as a group, these payments average 5.8 percent, a figure that corresponds to about one third of the corresponding African ratio".<sup>6</sup> The average figure for Africa as a whole is 25 percent.

A recent UNCTAD (United Nations Conference on Trade and Development) report strongly supports this conclusion. It concludes that freight costs averaged 14.7 percent of c.i.f. import values for landlocked countries. However, the figures are much higher for the various African regions with 27.5 percent for West Africa and 23.6 percent for East Africa. For developing countries as a whole, the average is 7.2 percent compared to about 4 percent for developed countries.<sup>7</sup>

The foregoing is a clear indication that for Africa to be competitive, concerted efforts are required to improve the performance of the Continent's transport systems. Reducing transport costs would not only lead to improved competitiveness in the international market place, but would also result in lower input, production and consumer costs and ultimately to better economic performance.

### ***Investment Returns in Africa High***

Global flows of foreign direct investment (FDI) increased by 39 percent in 1998 to reach a record level of \$644 billion. However, despite this increase, FDI flows to developing countries fell by 4 percent to \$165 billion in 1998.<sup>8</sup> For Africa, FDI flows have been declining rather than increasing. This is largely due to negative perceptions about Africa based on the ill-founded premise that Africa is one homogenous grouping of countries characterized by wars, coups and famine.

Evidence shows that investments in Africa are more profitable than in most parts of the world. According to UNCTAD, the profitability of FDI in Africa has been consistently higher than in most other regions of the world. For example, the rate of return on African operations of US transnational corporations in 1997 was 25 percent compared to the average US affiliate of 12 percent. Yet, despite this fact, Africa's share of global investment fell from 9 percent in the early 80's to 4 percent in 1996/7.

### **Record of Africa's Infrastructure**

Africa's infrastructure record has been both impressive and dismal. From virtually no infrastructure in the 60s at the time of political independence, infrastructure flourished in the 70s and 80s. This was spurred by the desire by most African governments, to demonstrate to their people, the "fruits of independence" but also by the ready availability of financing from both bilateral and multilateral sources.

#### ***From Promise to Pessimism***

Thus, there were massive strides in the construction of roads, pipelines, railways, power plants, telephone exchanges and both rural and urban infrastructure systems. However, by the late 80s, positive growth had given rise to disillusionment, and the promise of a better life for the majority through improved access to infrastructure had turned to pessimism. The combination of state monopolies, poor policies, poor management, lack of re-investment and absence of effective maintenance had led to deterioration of infrastructure, decline in service levels and massive losses. In the process, everyone was a loser, the State, operators, and consumers as well as other sectors of the economy. Within just over two decades, infrastructure became a hindrance rather than a facilitator to development.

At the time most infrastructure in Africa was built, there was little regard for standardization, harmonization, coordination or integration. Infrastructure was built to satisfy country needs with little or no consideration to cross-border linkages in the technical or economic sense. This explains the large differences in the condition, quality and operation of infrastructure systems in Africa.

Southern Africa, which is considered better developed and linked than other regions of Africa demonstrates the poor condition and performance of Africa's infrastructure. The backlog of road maintenance is estimated at over \$1 billion dollars for roads and \$320 million for railways. Inefficient cross-border facilitation at the region's major transport corridors are estimated to cost the region about \$60 million annually. This is despite the fact that through the regional program of the Southern African Development Community (SADC) coordinated by the Southern Africa Transport and Communications Commission (SATCC), the Southern African region has mobilized

about \$3 billion of the estimated \$6.5 billion (excluding power and water) required to upgrade and modernize the region’s major regional infrastructure systems.<sup>9</sup>

### *An Overview of Infrastructure*

The definition of what constitutes infrastructure can be as varied as the purpose intended. Below is a categorization that is increasingly being used to define infrastructure. This is merely intended to provide an overview and not primarily for discussion in this paper.

#### **Box 1: The Infrastructure Spectrum**

COMMUNICATIONS	SURFACE TRANSPORT	MARITIME TRANSPORT	AIR TRANSPORT
<ul style="list-style-type: none"> <li>▪ Telecom</li> <li>▪ Information Technology (IT)</li> <li>▪ Postal Services</li> <li>▪ Courier Services</li> </ul>	<ul style="list-style-type: none"> <li>▪ Road Infrastructure</li> <li>▪ Road Freight</li> <li>▪ Road Passenger</li> <li>▪ Rail Freight</li> <li>▪ Rail Passenger</li> </ul>	<ul style="list-style-type: none"> <li>▪ Ports</li> <li>▪ Shipping</li> <li>▪ Inland Waterways</li> <li>▪ Specialized Facilities and Services</li> </ul>	<ul style="list-style-type: none"> <li>▪ Airports</li> <li>▪ Air Freight</li> <li>▪ Airlines</li> <li>▪ Specialized Facilities and Services</li> </ul>
WATER AND SANITATION	INTEGRATED TRANSPORT	ENERGY	VARIATIONS
<ul style="list-style-type: none"> <li>▪ Water</li> <li>▪ Wastewater</li> <li>▪ Dams and Canals</li> </ul>	<ul style="list-style-type: none"> <li>▪ Development Corridors</li> <li>▪ Spatial Development Initiatives (SDIs)</li> <li>▪ Inland Container Depots</li> <li>▪ Multimodal Transport</li> <li>▪ Cross-border Facilitation</li> <li>▪ Storage and Warehousing</li> <li>▪ Distribution</li> </ul>	<ul style="list-style-type: none"> <li>▪ Power</li> <li>▪ Petroleum</li> <li>▪ Pipeline</li> <li>▪ NRSE –New and Renewable Sources of Energy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Urban</li> <li>▪ Rural</li> <li>▪ Municipality</li> <li>▪ National Regional</li> <li>▪ Intercontinental</li> <li>▪ International</li> <li>▪ Public</li> <li>▪ Dedicated</li> <li>▪ Private</li> <li>▪ Monopoly</li> <li>▪ Competitive</li> </ul>

Source: Shemmy Simuyemba (Africa Infrastructure '99 – Johannesburg, South Africa).

### *Viability and Sustainability of Infrastructure*

The pace of infrastructure development in Africa in the decades following political independence was spurred by both internal and external factors. Governments had to fulfil political expectations and demonstrate that independence meant prosperity for all. International financing institutions and donors agencies had resources to “spare”. Thus, neither the financiers nor recipients paid much attention to long-term sustainability and viability of the investments made.

Fundamental considerations like the need to have adequate institutional capacity to manage the systems being put in place, the need for skilled manpower, the importance of cost recovery, the necessity of economic pricing and therefore, profitability and the critical importance of preventive maintenance were not factored into the sprawling infrastructure developments that took place all over Africa in the early decades.

The result of this oversight has been a lesson at massive cost to African economies and consumers. Unfortunately, Africa must pay for mistakes, some of which were not entirely of its own making. Generally in Africa, across the board, infrastructure is inefficient and expensive, conditions and standards have deteriorated and service quality is poor.

### ***Road Infrastructure***

Road transport is the primary mode of transport in Africa. The state, management and functioning of road infrastructure is therefore critical to the success of Africa's regional integration efforts.

#### **Poor Condition of Roads**

Overall, the condition of roads in Africa ranges from poor to very poor. There are very few roads in fair or good condition. Taking southern Africa, which has relatively better roads than other parts of Africa as a proxy, the condition of paved roads in good condition is only 56% with 24% classified as being in fair condition and 20% in poor condition.<sup>10</sup>

Most reforms taking place in Africa in the road infrastructure sector are therefore aimed at cost recovery based on economic criteria so as to mobilize sufficient resources to maintain the roads. The other is the need to improve the quality and cost effectiveness of road maintenance. It is estimated that savings of up to 25% can be realized from out-sourcing instead of the roads departments carrying out their own in-house maintenance (force account).

#### **Institutional Reforms**

Most road reforms in Africa have been pushed by declining government budgets, deteriorating road conditions and in some cases such as in parts of East and West Africa, roads are becoming so bad as to become a real hindrance to trade. The reforms have largely been spurred by the World Bank's Road Maintenance Initiative (RMI) whose major thrust is to create autonomous road agencies and dedicated road funds as a means of improving overall road management.<sup>11</sup> Some progress has been made in this respect as well as in involving the private sector in the management of the road sector. At the institutional level, Roads Boards have been established in a number of African countries with visible private sector participation. A number of countries are in the process of replacing their national roads authorities with fully autonomous "Road Agencies".

#### **Regional Structures and National Sovereignty**

A contentious policy issue with respect to regional road links is the desirability and practicality of establishing dedicated road funds and/or road agencies as regional rather than national structures. There are differing schools of thought on the merits and de-merits of establishing such supra-national bodies or funds. The overriding concern seems to be the reluctance by governments to

relinquish their control of roads to “supra national” regional bodies which is perceived as surrendering their sovereignty.

A number of African countries are increasingly using the local private sector for maintenance work through out-sourcing instead of relying on force account. This approach is not only cost effective, but has in most instances, improved the quality of road maintenance. The challenge facing most governments is how best to assist the local private sector construction industry, which has a high employment generation potential, to grow and to become sustainable.

### Overload Control

A major factor and problem for the road network in Africa is gross overloading. In east and southern Africa, poor performance by railways has resulted in a shift of traffic from road to rail. Thus, bulk cargoes such as steel, copper, coal, timber and grains are increasingly being transported by road over long distances. In addition, the payload on trucks is increasing. The end result is severe overloading leading to considerable damage to the major road network. Most regions of Africa are yet to agree on harmonized road design standards and therefore axle load limits and cost recovery mechanisms. Weak legislation, enforcement and poorly paid public workers have exacerbated the situation. In southern Africa, there have been proposals for the private sector to be involved in weigh-bridge management and overload control. In practice, apart from experiments in countries like Zambia, this is yet to happen on a large-scale sustainable basis. Comparison of payloads between Africa and the rest of the world shows that despite poor road conditions, legislated payload limits are surprisingly high in Africa.

#### Box 2: Comparative Gross Combination Mass and Payload Limits for Selected Countries

COUNTRY	GCM (Tones)	PAYLOAD (Tones)
AFRICA		
▪ South Africa	56.0	36.0
▪ Zambia	55.0	35.0
▪ Zimbabwe	55.0	35.0
▪ Botswana	50.2	30.2
▪ Angola	38.0	18.0
CANADA	53.5-63.5	33.5-43.4
USA	36.4-48.0	16.4-28.0
UK	38.0	18.0
AUSTRALIA	50.4	30.4

Source: Southern African Railways Association) Strategy for Promoting Fair Competition and the Viability of Railways in the SADC Region – Eng. Remmy Makumbe – General Secretary

### Innovative Approaches

Linking Africa requires that an “African Trunk Road Network” (ATRN) is designated. The first step is for each region in Africa to define this basic network. The southern African region for

example, through SATCC has designated, a Regional Trunk Road Network (RTRN), totaling 17,912 kilometers. There are four major strategies and principles being pursued: major rehabilitation and reconstruction; legislative reform; institutional development; and strengthening of local contracting capacity.

Other regions equally need to define their RTRNs. Once this has been done, a logical step would be to set up a goal oriented cross-regional “African Road Management Task Force”. Its role would be among others, to designate the basic ATRN, work towards harmonizing standards and specifications, promote and coordinate institutional and policy reform, harmonize legal frameworks, promote effective overload control, agree on cost recovery principles and methodologies, promote technology and skills transfer and promote overall, improved road management practices.

A current weakness at regional level and even in relatively more successful regions like southern Africa, is the fact that, although regional projects may be designated and agreed upon, the responsibility for mobilizing resources to complete a critical section of a missing link, is often left to the country where the link is situated to do so. The problem is that the missing link may not be viable or attractive or even affordable if looked at from the perspective of the one country. If the same link is viewed in a broader regional context and countries particularly landlocked who may be likely to benefit are able to come in with guarantees in a “collective resource mobilization” approach, it is likely that the link may have a different economic dimension and therefore attractiveness to potential financiers. However, this requires a fundamental change by both countries and funding agencies and introduction of more innovative funding practices.

## ***Transport***

This section examines road transport both passenger and freight, rail transport and ports.

### **Road Transport**

#### *Africa's Private Sector Domain*

The most vibrant, visible and competitive example of private sector participation in infrastructure in Africa is the road transport industry. There are two major factors for this. One is the relatively low investment costs of going into road transport. The majority of road transport operators in Africa are owner operators with small fleets. The other is that road transport is a rapidly growing industry in Africa. This has been a result of a number of factors, among them, increase in urban populations, increased mobility of populations in the various regions as a result of general relaxation of travel and foreign currency restrictions in most countries and liberalization of trade. These factors and economic disparities among countries have led not only to increased travel and labor migration but also to a significant increase in informal trade.

Road freight is the dominant mode of transport for the movement of intra-African trade. This is made up of some large companies with subsidiaries or operations in one or more regions of Africa but the majority, are often small “owner/operator” fleets. As in passenger transport, this is an area almost exclusive to the private sector. Only a few countries have publicly owned freight companies such as Autonet in South Africa.

The problems with road transport relate largely to, difficulties in obtaining cross-border permits, poor condition of vehicles, poor driver training and poor working conditions, high accident

rates due to poor road safety training and awareness and weak enforcement due to inadequate laws and corruption.

For road transport to function effectively and be the catalyst that it has been in Africa's trade and development, it needs to be streamlined so it can operate effectively and efficiently. Among the measures required are, liberalization of the market so as to promote cross border operations; simplification of systems for permits; harmonization of legislation related to road safety, driver training and testing and licensing; harmonization of transit charges; improved overload control; and generally improved enforcement. There is in addition the difficult issue of cost recovery and user charges – their levels, application, collection and utilization.

#### *Importance of Cross-Border Facilitation*

The efficient functioning of road transport is linked to the efficiency of cross-border facilitation. COMESA has for example introduced a number of measures intended to improve road transport operations. These include, Harmonized Road Transit Charges, COMESA Carriers License and the COMESA Yellow Card.<sup>12</sup>

The Harmonized Road Transit Charges introduced in 1991 are currently operational in Burundi, Ethiopia, Kenya, Malawi, Rwanda, Sudan, Uganda, Tanzania, Zambia and Zimbabwe. They are a standardized transit charging system. One of the weaknesses currently is that there is no system of pre-payment and each country administers its own methodology. The COMESA Carriers License which was also introduced in 1991, allows a common license issued by one country to be recognized by other participating countries without the need to apply for a license or permit in another country. This saves time and costs, but more importantly, enables transporters to have back-loads which facilitates optimum utilization of haulage capacity. The license is being used in Burundi, Kenya, Malawi, Rwanda, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

The COMESA Yellow Card or the Third Party Regional Motor Vehicle Insurance Scheme allows pre-purchase of insurance in local currency at origin and the insurance is honored by all participating countries. This means for example, that a motorist or trucker travelling from Zimbabwe to Uganda who has to traverse, Zambia, Tanzania and Kenya need not stop at each border post to purchase insurance, but uses the Yellow Card to gain access and cover. In the event of an accident in a third country, the motorist is covered for third party liability, property damage and basic medical cover. The convenience and facilitative role of such a system are evident. According to COMESA, the Yellow Card has since its inception, generated revenue worth \$2 million with only \$200,000 worth of claims processed. Plans are underway to extend the scheme to countries in Southern Africa currently not using the scheme such as Mozambique and the SACU countries (Botswana, Lesotho, Namibia, Swaziland and South Africa). In West Africa a similar scheme, the "Brown Card" is in use.

Poor customs facilitation has been cited as one of the biggest constraints to trade in Africa. The issues are many and varied but include, systems that are not streamlined and harmonized across countries, multiplicity of documentation and procedures that are not standardized, different nomenclatures that are not standardized or harmonized, poor customs practices, corruption and inadequate physical facilities and basic services at border posts.

Most countries in Africa have or are adopting the UNCTAD internationally harmonized system, ASYCUDA (Automated System of Customs Data Management). Because ASYCUDA is computerized, it entails harmonization, reduction of documents and harmonization of nomenclature. It is therefore seen as the solution to the many problems affecting customs in Africa. However, it

must be recognized that ASYCUDA is a technological solution and cannot address all the institutional, administrative and human factors that inhibit the efficient operations of customs in Africa.

With new technology advancements such as e-commerce becoming increasingly important in international trade, Africa is faced with another major problem while still grappling with the existing paper based customs systems. The last round of World Trade Organization (WTO) negotiations held in Seattle was on trade facilitation and therefore, addressed issues related to general global facilitation of trade. Whether and to what extent Africa can benefit from these new arrangements will depend on how well prepared Africa is.

### **Railway Transport**

#### *Rail Loss is Road Gain*

Most railways in Africa have been progressively losing traffic to roads over the past two decades. From a dominant mode of transport in the seventies, railway transport performance started to decline in the eighties and this trend has continued into the nineties. As in roads, most investments in rail consisted of building new regional railway links such as the “Great Uhuru Railway” or Tanzania-Zambia Railway Authority (TAZARA) jointly owned by the governments of Tanzania and Zambia. It is also an example of one of the few cross-border railway investments in Africa. Investment in African railways also concentrated on purchase of equipment, locomotives and wagons. However, neither the donors nor funding agencies providing the financing nor the railways themselves took any measures to institute sustainable systems for preventive maintenance, efficient asset utilization and efficient operations.

The result is that by the late eighties and nineties, railway efficiency had dropped, profitability deteriorated, service standards declined and customers shifted from rail to road. Today, most railways through a combination of restructuring, commercialization and concessioning are seeking to bring back efficient service and profitability. However, because the condition and performance of most rail systems had deteriorated so much, it will take a while before the results of these reforms begin to come to fruition.

#### *Potential for African Rail Connectivity*

The potential for rail connectivity in Africa is great. All regions of Africa have one thing in common. They all have at least a 1.067mm gauge rail network. However, except for southern Africa which has the standard 1.067mm “Cape gauge”, all other regions have a dual gauge of both the 1.00mm and 1.067mm standards.

The SADC Interconnected Regional Rail Network (IRRN) has a total length of 33, 593 kilometers about 62% of which is in South Africa. Only parts of the network are not serviceable, Benguela line in Angola and Sena line in Mozambique which links the Malawi network to the rest of the region. Thus, only Angola and Malawi are not currently on the active IRRN.

**Box 3: Railway Connectivity in Africa**

REGION	NUMBER OF COUNTRIES	RAILWAY GAUGE (Meters)
UMA – North	5	1.00m, 1.067m
ECOWAS – West	16	1.00m, 1.067m
COMESA – East and South	21	1.00m, 1.067
SADC – South	14	1.067m
ECCAS – Central	10	1.00m, 1.067m, 1.435m

Adapted from – Railway Transport in Africa: Status and Prospects – David Kajange, Chief of Transport, Organization of African Unity (OAU).

*Innovative Private Sector led Solutions Bringing Back Rail Competitiveness*

While the whole of the southern region is interconnected and has one gauge, all the way from Cape Town in South Africa to Dar-es-Salaam in Tanzania, the east African region has the 1.00mm “German gauge” except for the TAZARA rail linking east and southern Africa, which contrary to popular belief, has the same gauge as the rest of southern Africa. However, differences in gauge need not deter rail connectivity in Africa. Innovative private sector led solutions can change this. A case in point is the connectivity that has been achieved between the southern and east African rail systems.

At Kidatu in southern Tanzania, the east and southern African railway systems come within meters of each other. A private company, the Trans Africa Railway Corporation (TARC) has exploited this to create a link between east and southern Africa. A transshipment facility has been built at a cost of about \$9 million. The system works as follows: the east and southern African trains pull into the facility in parallel within meters of each other. A crane is then used to move containers from one train to the other. The whole operation takes just a few hours. The goods are then moved by train to lake Victoria where they are loaded on to a container vessel for onward transportation to Uganda. The trains take only seven days from Johannesburg to Kidatu and another three days from Kidatu to Kampala. This also ensures quicker delivery of goods destined for Rwanda and Burundi. There are plans to extend this service to Kenya.

Previously, the bulk of this \$600 million a year trade between southern and east Africa moved largely by coastal shipping through a much longer route from Johannesburg to the port of Durban in South Africa. It was then moved by coastal vessel from Durban to the port of Mombasa in Kenya from where the goods were then moved by road or rail to Uganda. The whole movement from origin to destination took at least one month. The problems of transit from the east African coast to the hinterland are well documented.

Thus, an innovative private sector led initiative, has provided a solution to a major constraint and not only eased trade but also created the potential for increased trade between two regions in Africa. Express container trains are also operating between Johannesburg and Dar-es Salaam through what is known as the “East African Container Service”. Although this service involves cooperation among five rail systems, in practice, the consumer need only deal with one, thanks to the cooperation that has been fostered amongst the railways of southern Africa.

*An Integrated Regional Approach Key to Rail Success*

Despite this operation involving seven railway systems – Spoornet (the South African railway system), Botswana Railways, National Railways of Zimbabwe, Zambia Railways, TAZARA and Uganda Railways, for the shipper, this operates as a single through service thanks to the cooperation among the railways of southern Africa. From a cooperation arrangement facilitated by the Southern Africa Transport and Communications Commission (SATCC), the southern African railways have moved to closer integration through the Southern African Railways Association (SARA).

SARA is a regional association which, brings together the southern African railways. SARA's aim is to promote rail revitalization and the viability of railways. To achieve this, a comprehensive framework for cooperation has been put in place over the last few years and is now yielding results. For the major rail corridors in the region, Corridor Planning Groups (CPGs) have been established. Their mandate is to formulate strategies for long-term sustainability of the railways as well to concentrate on customer centered service delivery. Below the CPGs are the Corridor Management Groups (CMGs). These deal with the more operational issues on the ground intended to foster technical, operational and commercial coordination. From time to time, Specialist Committees are set up to deal with specific tasks or special projects.

Among the successes of the railways of the southern African region are:

- international train timetables
- through train movements
- harmonization of key performance indicators and agreement on basic performance standards
- cross-border working of trains and in some cases crew
- single interchange and single inspections at borders
- backloading of wagons
- integrated customer focussed service

A permanent SARA Secretariat has been set up in Harare, Zimbabwe with a Chief Executive appointed. All participating railways make annual contributions to support the operation of SARA. This is a model that can be replicated in other regions of Africa.

*Private Sector Participation*

Southern Africa also offers a good model on the participation of the private sector in rail operations. The first cross-border rail concession is likely to be concluded soon with the award of a concession to a group of regional and international investors for the entire Malawi Railways network. The same group won the bid for the operation of the adjacent Mozambique northern rail system, Nacala. Nacala is the natural port for Malawi and this cross-border concession, which was made possible by political goodwill between the two countries and close cooperation between two rail systems in Malawi and Mozambique, will enable the provision of a through cross-border regional rail service. It should lead to a more efficient service for Malawi's international trade.

Another major development is the construction of the privately owned Beitbridge-Bulawayo Railway Line. This line wholly owned and financed by a consortium of private investors from the region cuts the distance between South Africa and the southern part of Zimbabwe and consequently to countries to the north like Zambia, DRC and Tanzania by about 200 kilometers. Such private sector involvement is not only changing the conduct of railway business in the southern African

region, but offers prospects for improved rail efficiency in Africa which should lead to a more customer focussed service.

### ***Regional Initiatives***

Apart from private sector participation in individual sectors, there are a number of regional initiatives and approaches that hold great potential for private sector participation in a broader integrated economic context with infrastructure being at the center of these developments. These initiatives also offer prospects for speedier integration of infrastructure systems in Africa. There are two basic albeit related approaches, Development Corridors (DevCors) and Spatial Development Initiatives (SDIs). These initiatives are by design, partnerships between the public and private sector.

The corridor concept is particularly important to landlocked countries as it leads to improved transport networks as well as more efficient border post operations and, therefore, more efficient movement of the trade of these countries. This not only reduces costs and leads to economic competitiveness, but also has a broader economic development impact. Professor Jeffrey Sachs of Harvard states that by being landlocked, economic growth rates of these countries are reduced on an annual basis by between 0.7% and 1%.<sup>13</sup> This is by virtual of being landlocked before transport efficiency considerations are taken into account.

#### **Development Corridors**

The concept of Development Corridors has taken root in the southern African region and offers a model for other African regions to emulate. The “Development Triangles” in Asia are a similar concept. The general principle is to view the major transport routes from the maritime ports to the hinterlands that they serve, not merely as transport, but economic corridors with activities related to agriculture, industry, commerce, communications tourism and other industries. Thus, the corridors would serve as growth points, not just for large industries, but also for emerging small-scale industries.

#### *The Southern African Corridors*

A number of such corridors have been formally designated in the southern Africa. These include:

- Maputo - linking South Africa to Mozambique
- Beira – serving primarily Zimbabwe and Zambia
- Nacala – catering for Malawi
- Rovuma – a new corridor proposed between Mozambique and Tanzania
- Dar-es-Salaam – between Zambia and Tanzania
- Walvis Bay – linking the Namibian port of Walvis Bay to Botswana and Zambia through the Trans-Kalahari and Trans-Caprivi Highways respectively
- Namibie – linking the Angolan port of Namibie to Namibia
- Lobito– through the Benguela railway line which links Angola to the rest of the SADC countries through the Democratic Republic of Congo (DRC) and giving Zambia access to the port of Lobito in Angola
- South Africa ports of Durban, Cape Town, Port Elizabeth and Richards Bay to virtually

all the land-locked SADC countries.

An example of the impact of such corridors is the Maputo Development Corridor which links South Africa's industrial heartland of Gauteng with the Mozambican port of Maputo. This corridor is being developed with the private sector in the forefront.

#### *Corridor Approach Demonstrating Results*

The Maputo Development Corridor is an example of what can be achieved with partnership between the public and private sector, political will, and commercial demand for services to be provided. Started in August 1995, the corridor involves upgrading road and rail links between South Africa and Mozambique and dredging of the port of Maputo.

The corridor has spurred other developments such as the Mepanda-Unca hydro-electric project on the Zambezi river to be developed at a cost of \$200 million to supply electricity to Mozambique. Another is the joint venture effort involving the electricity utilities of Mozambique, Swaziland and South Africa to supply power to the new Mozal aluminium plant in Mozambique through the construction of two 440 Kv lines at an estimated cost of \$105 million. The Mozal Aluminium Smelter plant is a huge investment valued at \$1.3 billion.

In total, the Maputo Corridor has 180 projects at an estimated cost of \$7 billion. Already, \$2 billion has been committed with 8,000 new jobs. There are numerous spin-offs to both the formal and informal sector resulting in increased incomes. The corridor is considered a model for other development corridors in the region. The fact that the project has been able to move so quickly from conceptualization to actualization is testimony of the momentum of private sector driven projects and political commitment at the highest level.

#### **Spatial Development Initiatives**

A related concept is that of Spatial Development Initiatives. An example is the Lubombo SDI which adjoins the Maputo Corridor. This initiative involves Swaziland, Mozambique and South Africa. The aim is to develop an economic zone linking the province of Maputo in Mozambique to the north-eastern parts of KwaZulu Natal in South Africa and eastern Swaziland. The corridor involves agriculture, industry tourism and transport and communications links. The private sector is expected to take the lead in the development of SDIs.

#### *Public/Private Sector Partnership and Political Commitment*

A quote from South Africa's Financial Mail gives an insight into the scope and diversity of SDIs. It states, "Early next year, local and international investors will be invited to submit proposals for 16 projects in the Lubombo region of northern KwaZulu-Natal, ranging from small bush camps to boutique hotels, golf estates and beach resorts." "The programme is being driven by the Lubombo Spatial Development Initiative (LSDI), a trilateral agreement seeking to stimulate economic growth in the Lubombo region (northeastern Kwa-Zulu-Natal, southern Mozambique and eastern Swaziland) by creating private-public partnerships and removing impediments to investment."<sup>14</sup>

One of the first projects is the construction of a \$35 million north-south road from South Africa to the Mozambique border, is intended to open up the area and thus facilitate the development of other projects.

### Cross-Border Facilitation

Regional agreements intended to promote trade in Africa such as the proposed COMESA Free Trade Area scheduled to come into force in October 2000 and the SADC Free Trade Area planned for the year 2008 will have very limited impact if cross-border trade facilitation is not improved. As long as Africa continues to operate as small discrete markets each with its own systems, rules and regulations, regional integration will not achieve the desired results and benefits for Africa.

#### *The High Cost of Passage in Africa*

As an example, a trucker from South Africa to Kenya has to transit three countries and undergo eight border checks and must be clear on at least twelve requirements. Any of these requirements not being in place at any one of the border posts means that the trucker cannot continue the journey. For the return journey, the same process has to be followed. The cost, waste and sheer frustration of such systems need no emphasis. Africa will not grow and prosper as long as there is no political will and courage to harmonize and implement such basic and relatively simple administrative systems to facilitate cross-border movement of goods, services and people.

#### **Box 4: Typical Cross-Border Trip in Africa – South Africa to Kenya**

EXIT	ENTER	REQUIREMENTS/CHECKS
South Africa (1)	Zimbabwe (2)	<ul style="list-style-type: none"> <li>▪ Customs (1)</li> <li>▪ Insurance (2)</li> </ul>
Zimbabwe (3)	Zambia (4)	<ul style="list-style-type: none"> <li>▪ Transit bond (3)</li> <li>▪ Transit charges/tolls (4)</li> </ul>
Zambia (5)	Tanzania (6)	<ul style="list-style-type: none"> <li>▪ Vehicle Permits (5)</li> <li>▪ Driver license (6)</li> </ul>
Tanzania (7)	Kenya (8)	<ul style="list-style-type: none"> <li>▪ Passport control (7)</li> <li>▪ Visa (8)</li> <li>▪ Health (9)</li> <li>▪ Phytosanitary (10)</li> <li>▪ Overload controls (11)</li> <li>▪ Security checks (12)</li> </ul>

Source: Shemmy Simuyemba.

The time, resources, productivity lost and wasted from this impractical approach to conducting trade in a modern era where Africa seeks to compete in the global economy and the economic cost to the African continent are staggering. Most African economies are too small to be viable investment markets on their own. Attraction of credible, particularly large-scale investment, can only be achieved by access to larger markets. How can investment and trade in Africa occur when such basic issues as cross-border facilitation are not addressed. Clearly, an urgent and concerted approach is required.

### *Need for High Level Political Commitment*

As a first step, political commitment at the highest level is required. African Heads of State in the various regions need to conclude some agreement or Memorandum of Understanding (MOU), pledging themselves to introducing harmonized and simplified cross-border facilitation measures within a defined time frame. The second step should be to put in place some form of high level cross-sectoral and multilateral steering mechanism. This should be followed by the designation of specialized technical committees to address the various cross-border issues. The approach and aim should be to have integrated, harmonized and simplified cross-border facilitation along all of Africa's major transport corridors. There is little doubt that improving border post efficiency would go a long way, not only in facilitating trade, but also in improving the competitiveness of the regional economy.

Most border post facilities in Africa are totally inadequate in terms of physical layout, facilities, systems and facilitation. For example, studies have shown that delays at major border posts cost the southern African region about \$60 million annually. Despite demand, facilities are not available. Requirements include, parking space, office space, rest and sanitation facilities, communication, restaurants, banking facilities and related services. The private sector could invest in these facilities provided the framework was in place to enable them to do so. There is no reason why border posts could not be managed by the private sector on an agency basis on behalf of governments.

### *One Stop Border Posts and Customs Harmonization*

Apart from physical constraints, delays at border posts are a result of poor facilitation. This is linked to lack of harmonization of customs documents and procedures and limited co-ordination between adjacent customs administrations. A solution lies in the possible introduction of a computerized customs system that is regionally linked. Such a system would, provided there was concurrence by governments, result in quicker transit through pre-clearance of goods. Most countries in Africa are using or introducing ASYCUDA. The viability of introducing an Africa wide linked computerized customs system needs to be explored.

A concept that is being tried in southern Africa is that of "One Stop Border Posts". This requires agreement between adjoining countries whereby inspection of goods is only done once in one direction. This requires not only harmonization of systems and procedures, but confidence and trust between the two administering authorities. A One Stop Border Post has been put in place on the Maputo Corridor at Ressano-Garcia, the border between South Africa and Mozambique.

### *Telecommunications*

Governments in Africa still view this as a strategic sector where government participation is necessary in the national interest. However, they also recognize that this is the one sector whose development requires introduction of new technologies and where private sector capital is available for investment. The challenge has been how to attract private sector participation and still maintain government control or interest.

### **Factors that have Spurred Private Sector Participation**

The overriding considerations for private sector participation in the telecommunications and IT areas are a result of a number of factors. Among them are, the need for new investment to expand services, modernization (largely replacement of analog based telephone exchanges with digital technology), and pressure from the private sector who have recognized the opportunities to exploit the market made possible by new technology such as cellular telephony and the Internet.

To facilitate private sector participation, most countries in Africa have repealed hitherto monopoly legislation and replaced it with legal frameworks that facilitate the participation of the private sector. A number of countries have set up independent regulators. The capacity and strength of the regulators varies from country to country. There is on-going debate on how to make the regulators more independent, transparent and accountable. The question is to what extent a regulator who is funded largely from government can be independent.

### **Regional Networking Important**

In the regional context, there is merit in the regulators coming together in a regional forum to share experiences and best practices. For example, in southern Africa national telecommunications regulators have created a regional forum called the Telecommunications Regulators Association of Southern Africa (TRASA). The aim of TRASA is to adopt common principles and approaches as well as learn from each other. TRASA, although still in its formative stages, having been established only in 1997, has already proved its relevance to the region.

### **Extent of Private Sector Participation**

While most countries in Africa have cellular telephone providers, the pace of private sector participation in fixed telecommunications service has been slow despite great interest by the private sector and the potential viability of this industry given the large unmet demand. For example of the Commonwealth African countries, only four, Ghana (30 percent private participation), Seychelles (100 percent), South Africa (30 percent) and Uganda (51 percent) have strategic partners for their fixed networks.

According to the London based Commonwealth Telecommunications Organization (CTO), Africa at 70 percent, is only second to the Arab countries in terms of government ownership of fixed telecommunications services. The rate for Arab countries is 80 percent, while comparative figures for other regions of the world are, Americas 68 percent, Asia-Pacific 55 percent and Europe 50 percent. This also shows that outside the US, private sector participation in fixed telecommunications services is a relatively new phenomenon world- wide, but one that is certainly growing.<sup>15</sup> There is thus, great potential for private sector participation in the telecommunications industry in Africa.

### ***Water***

Water is already a scarce resource in most parts of Africa. The Congo Democratic Republic has the Continent's largest water basins. As population grows, there will be increased pressure on water resources. By nature most large water and river basins are transboundary in nature. Regional cooperation is therefore vital to the exploitation and conservation of these resources.

For example, in the southern African region, 70 percent of the region's surface water is shared between two or more States. Every major river is transboundary and every country depends on transboundary waters. It is estimated that with current trends, within 30 years, at least four of the States will face serious water shortages.<sup>16</sup>

### **Regional Cooperation and Management Systems Critical**

Successful integration of Africa requires close cooperation in the use of water resources. Again, southern Africa offers a model for other regions of Africa. The Protocol on Shared Water Sources is closely aligned to international conventions and has three basic principles, "Equitable and reasonable utilization", "no harm principle" and "balance between development and environmental conservation."

In the long-term, effective Water Demand Management Systems need to be put in place. The focus of such systems should be economic efficiency, ecological sustainability, financial sustainability and social equity. The challenge facing any water management system is that a number of factors make water management complex among them, social, cultural and political dimensions of water use. Other considerations are that in most parts of Africa, demand is reaching sustainable supply levels, there is growing competition among users and there are high costs involved with developing new water sources.

### **The Case of Private Sector Participation in Water**

The largest example of private sector participation in the water sector is the Lesotho Highlands Water Project (LHWP) in Lesotho, southern Africa. This massive undertaking which was conceived in the fifties is now a reality. The project seeks to transfer water from the Maluti mountains in Lesotho to the South Africa's industrial heartland, Gauteng, to meet growing industrial and domestic demand. The client is a private company, Rand Water of South Africa.

The project has been a source of international fascination both because of its sheer size and engineering complexity. The project seeks to reverse the flow of the Sengo (Orange) river in Lesotho to feed into the Vaal river in South Africa. It involves construction on 5 dams, 4 transfer tunnels, 2 delivery tunnels and 2 pumping stations. The tunnels will traverse a distance of 200 kilometers through the Maluti mountains. The total cost of the project is \$8 billion with the first phase expected to cost \$2.5 billion. The size and impact of the project has necessitated the involvement of both governments and has resulted in a partnership between the public and private sector. The tiny Kingdom of Lesotho is expected to earn \$50 million a year from royalties which will account for about 50% of Lesotho's foreign exchange earnings. The country's other major foreign currency source is remittances from migrant labor in South Africa's mines.

This complex project has been made possible through an interplay of institutional arrangements, cooperation agreements, financing arrangements involving local and multilateral funding agencies, public/private sector partnership and political goodwill between South Africa and Lesotho.

The Joint Permanent Technical Commission (JPTC) consists of representatives from South Africa and Lesotho and oversees the whole project. The Lesotho Highlands Development Authority (LHDA) is responsible for capital mobilization. South Africa's interests are maintained through the Trans-Caledonian Tunnel Authority (TCTA). The project is financed by a consortium of international and local financing institutions which include, the World Bank, African Development Bank (ADB), European Development Fund, European Investment Bank, the Development Bank of Southern Africa (DBSA) and European commercial banks.

Rand Water, the final client of the project is now seeing the results of this massive investment with the Katse dam now complete and the start of water flow to South Africa. The project has had a major impact on Lesotho and will substantially alter the structure of the Lesotho economy which has hitherto depended on remittances from migrant workers to the South African mines as its major source of government revenue.

### **Power**

There has to date been very little private sector participation in the energy sector particularly in electricity. This is despite the fact that private electricity is making an increasingly significant contribution to the power needs of developing countries. According to Dr. Samuel Schweitzer, there has been an increase in the number of companies involved in private power projects in the developing world. In 1991, there were about 13 Independent Power Producers (IPPs) with equity in private power projects. By 1996, this had risen to 200. During the period 1994 to 1996, over 50 private power projects were built as BOO, 15 as BOT and one as BLT. In Africa, private investment has increased more than ten times since the early nineties reaching \$11.7 billion in 1996. Rates of return in Africa are high at 24-30 percent compared to 16-18 percent in other developing parts of the world.<sup>17</sup>

### **Need for a Regional Cooperation Framework**

Southern Africa is the most highly interconnected region in Africa. This interconnection and differences in capacities and demand as well as in electricity prices has given rise to the Southern African Power Pool (SAPP). Created in 1995, the SAPP is made up of 12 countries and their national utilities. SAPP is the first formal international power pool and the only functional pool in the developing world.<sup>18</sup>

Reform in the electricity sector has been driven by the need to meet growing demand and to improve service quality. Although reform and in particular privatization has been slow in the power sector, indications are that this situation will not last for long.

### **The Potential for Regional Electricity Trade**

Africa has huge hydro – electricity potential. The Inga Dam in the DRC alone is capable of generating 140,000MW of electricity. This is nearly three times the current and projected power demand for southern Africa at about 40,000MW. However, there are a number of constraints to exploiting this potential. The first is to have an interconnected power grid. In most regions of Africa, the inter-connection among countries is incomplete. For example, in southern Africa, three countries, Angola, Malawi and Tanzania are not on the main electricity grid. The other is to have an institutional framework for cooperation. The third is to establish independent regulators supported by the necessary legal framework. These developments would promote optimal exploitation and utilization of power sources at a regional level including electricity trade. With an effective regional market for electricity trade, countries need not duplicate investment in capacity and facilities. However, effective electricity trade requires that systems are interconnected, agreements are put in place for wheeling of power, setting market based tariffs and contingency power sharing arrangements are devised.

## **Private Sector Participation in Infrastructure in Africa**

Service provision depends on demand and the market profile (or market structure) determines what type of service or product to offer for the particular market. In examining the degree of private sector participation in infrastructure, it is important to look at the profile of Africa as this has an impact on the type and nature of infrastructure services on the Continent.

### ***Africa's Profile***

Africa is a vast continent of nearly 30 million square kilometers or about 22 percent of the world's total land area. It is also a continent of numerous countries. Africa has 53 countries of which 7 are island (Cape Verde, Comoros, Madagascar, Mauritius, Re-Union, Sao Tome & Principe and Seychelles) and 16 (Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, Sudan, Swaziland, Uganda, Zambia and Zimbabwe) are landlocked.

Africa's population is predominantly rural. Of Africa's 750 million people, 63 percent are in the rural areas and only 37 percent in the urban areas. Even for Africa's largest countries with populations of over 40 million people each – Democratic Republic of Congo, Egypt, Ethiopia, Nigeria and South Africa accounting for 324 million or about 43 percent of Africa's total population, 70 percent of the population in these countries is in rural areas and only 30 percent in urban areas. Only 11 countries have urban populations of 50 percent or more.<sup>19</sup>

Another characteristic is that African countries are small both in terms of population and economic size and income levels. Of Africa's 55 countries, 23 have populations of below 5 million while 35 or 64 percent have populations of under 10 million people. GDP per capita varies from over \$3000 for countries like Botswana and Mauritius to below \$200 for countries like Mozambique, Burkina Faso, Guinea and Malawi.

### ***The Financing Gap for Infrastructure***

There are three fundamental principles that determine private sector participation in any economy. The first is the political will and ideology to embrace private participation. The second is putting in place the macro-economic environment and policy framework to support private sector participation. The third is market demand to support investment and yield returns on investment and profit.

The ideological shift that has occurred in Africa and the factors that have caused it are well known and documented. From centrally planned, monopoly command economies, Africa has moved to market driven liberalized economic policies and systems. This has also translated into governments who in most African economies owned and operated everything, to be willing to shed their ownership and "control" to the private sector. There are of course vast differences across African countries and regions.

The biggest spur to private sector participation in infrastructure in Africa is the vast unmet demand. The Overseas Private Investment Corporation (OPIC)<sup>20</sup> estimates the following investment needs for Africa:

SECTOR	US\$ (bill)
▪ Telecommunications	20
▪ Power	15
▪ Water	11
▪ Transportation	40
▪ Sanitation	35
TOTAL	121

Apart from the large unmet demand, there is the need for rehabilitation, upgrading and modernization of existing infrastructure systems in Africa. Financing is critical to this process. Unfortunately, funds from multilateral funding institutions such as the World Bank, African Development Bank and others as well as bilateral and local sources, are not sufficient to meet this huge financial requirement.

Below are some funds specific to Africa, which are solely or largely infrastructure:

FUND	AMOUNT (US\$ mill)
Africa Growth Fund	25
Modern Africa Growth and Investment Fund	105
New Africa Opportunities Fund (NAOF)	120
New Africa Infrastructure Fund	400
South Africa Infrastructure Fund	135

Clearly, although these funds are a start, they are far too little given the large unmet demand for infrastructure in Africa. Clearly, private sector resources must be marshaled to fill this huge gap.

There are some basic pre-conditions necessary to facilitate the involvement of the private sector in infrastructure. These relate to the macro-economic environment, regulation and the market.

The need for a stable macro-environment and market are evident. However, a positive regulatory framework is critical. Effective regulation encourages private investment, innovation and infrastructure buildout. It also promotes fair competition and provides a framework for managing scarce resources efficiently. Lastly, it promotes the public interest where the market may not.<sup>21</sup>

### ***Role of Private Sector in Financing Regional Infrastructure Projects***

There is a definite change in the role of the private sector in the provision, management and operation of infrastructure in Africa. The change is in both perception and in practice. A decade ago, infrastructure services were viewed as a monopoly to be provided by governments rather than a competitive service subject to market forces where a partnership between the government and private sector was possible. The situation has changed. A multitude of factors have led to this change.

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**Box 5: Pre-Conditions for Private Sector Participation in Infrastructure**


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MACRO-ENVIRONMENT	REGULATION	MARKET
<ul style="list-style-type: none"> <li>▪ Macro-economic stability and predictability</li> <li>▪ Currency convertibility</li> <li>▪ Liberalization and break up of monopolies</li> <li>▪ Availability of domestic finance</li> <li>▪ Availability of local partners</li> <li>▪ Political Stability</li> <li>▪ Availability of technology</li> <li>▪ Availability of local skills</li> </ul>	<ul style="list-style-type: none"> <li>▪ Independent regulation</li> <li>▪ Transparency and accountability</li> <li>▪ Fair and informed practices</li> <li>▪ Recourse</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demand</li> <li>▪ Viability</li> <li>▪ Return on investment</li> <li>▪ Guaranteed off-take (Purchase agreements)</li> <li>▪ “Culture” of payment for services</li> </ul>

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Source: Shemmy Simuyemba.

### The Global Ideological Shift

At the global level, the end of the cold war and with it, the ideological divide with the resultant demise of central planning as the favored tool for economic management by most developing countries particularly in Africa, brought a re-think of the role governments should play in the economy. Beginning in the late eighties, debate emerged as to the possible role of the private sector in the whole process of economic development.

### From Monopolies to Competition

From the mid-sixties, when most African countries attained political independence, emphasis was on investment in infrastructure. Apart from the economic justification for such investment, infrastructure had a political edge in that, it was a visible demonstration of the “fruits of independence”. Thus, with the assistance of donors and multilateral financing agencies, massive amounts of funds were spent on roads, railways, ports, telecommunications, power stations, water and in providing the requisite equipment and facilities.

According to the World Bank, developing countries invest \$200 billion annually in new infrastructure. This is 4 percent of their national output and a fifth of their total investment.<sup>22</sup> During the period 1981 to 1990, the transport sector in Africa, received a cumulative amount of \$2.58 billion representing 26.7 percent of total loans granted by the African Development Bank Group to all operational sectors.<sup>23</sup>

Infrastructure was financed, owned and operated by governments. All infrastructure services were viewed as natural monopolies to be managed by governments. Infrastructure systems were also considered strategic and “commanding heights” of the emerging economies. That the provision and management of infrastructure could be shared with the private sector was inconceivable until recently. Thus, for most African countries, the transition from monopoly service provision to competition has been a difficult one.

### **Economic Realism and Declining Resources**

Unfortunately, the massive investments in infrastructure were not matched by similar commitments to creating the necessary structures to manage the infrastructure systems efficiently. Thus, there were inadequate resources for maintenance, rehabilitation and upgrading of infrastructure. The result is that most infrastructure, plant and equipment having been built or been in operation for nearly three decades, required massive capital injections for expansion, improvement, rehabilitation or modernization.

Declining export earnings and therefore incomes, unfavorable exchange rates, declining government revenues and unprofitable infrastructure enterprises, meant that there were no longer funds to channel into new infrastructure investments. In the face of growing populations, particularly urban and therefore increasing demand and pressure on infrastructure services and facilities, the capacity of governments to respond effectively to these challenges became increasingly limited.

In addition, most State Owned Enterprises (SOEs) or parastatals were debt ridden, with debts underwritten by governments. Multilateral or donor funds for new investment in infrastructure as well as to support SOEs were becoming increasingly scarce. This, coupled with more stringent economic management regimes necessitated by “new economic realities” and the demands of multilateral and donor agencies, meant that most governments had to take stock and assess what was within their means to accomplish.

Given the magnitude of capital outlays required for new infrastructure investments as well as technological changes particularly in such sectors as telecommunications, it dawned on most governments that on their own, they could not possibly respond to all these demands. Governments were therefore compelled to look at other sources of funds for financing infrastructure and the private sector emerged as a possible partner in this process. The challenge is how to create the right conditions to get the private sector both interested and involved.

### **Market Demand and Consumer Advocacy**

The African population has been growing rapidly over the past decades. According to the World Bank, one billion people in the developing world lack access to clean water, two billion lack adequate sanitation, electric power has yet to reach two billion people and urban populations are growing.<sup>24</sup> This growing demand means that there is growing pressure on infrastructure facilities and services.

In recent years, the advent of democratic and more transparent governance and the resultant strengthening of civil society has meant that consumers are no longer willing to remain silent in the face of poor and declining services. With declining real incomes and therefore purchasing power, consumers are increasingly demanding value for their money.

Governments have been compelled to seek more innovative ways of meeting this demand. At the same time, this has also provided the opportunity that the private sector has been waiting for, that of involvement in the provision, management, operation and even ownership of infrastructure services and systems. A new partnership is thus emerging between the government and the private sector in infrastructure in Africa. This has been made possible by the break up of state monopolies, liberalization, institution of the relevant legal frameworks and private sector interest.

### ***Degree of and Necessity of Private Sector Involvement***

There have been various phases and approaches to private sector participation in infrastructure in Southern Africa over the years. Reforms in the infrastructure sector paving the way for private sector involvement are on-going. The spectrum ranges from internal restructuring, commercialization and corporatization to concessioning and new investments by the private sector. The interesting factor is that a multiplicity of these reforms can be seen by country, sector and even within an organization sometimes all going on at the same time.

From the late eighties to mid nineties, “privatization” or “private sector participation” were concepts and terms that were not always welcome from governments whose economies were just beginning to make a transition from central planning and State control to a market economy. They had after all, over the decades, invested considerable time and resources building up their “parastatal sectors” and most perceived the push for privatization as a ploy by the more developed countries to rob them of the means to control their own economic destinies.

It is not surprising therefore, that there was and still is, some resistance on the part of the some African governments to privatization particularly for infrastructure services and facilities which are seen as key and critical to their economies. Thus, at the initial stages, the approach in infrastructure was to emphasize restructuring and commercialization and not outright privatization.

A lot has changed in Africa over the past decade. Conditions are increasingly becoming more favorable in most countries for private sector participation. However, there are still a number of challenges that need to be overcome. One of the major ones is the negative perception of Africa that unfortunately, is perpetrated in the western press. African countries need a collective approach to mitigate against this unfavorable publicity. Overall, there are more positives than negatives in favor of private sector participation in infrastructure in Africa.

### ***Level of Private Sector Participation in Regional Infrastructure***

In terms of regional infrastructure projects, the direct involvement of the private sector in new infrastructure investment has been evident in large projects where there is a clear demand. Examples are the Maputo Corridor linking South Africa’s industrial heartland of Gauteng to the port of Maputo in Mozambique. The other is the Lesotho Highlands Water Project (LHWP) driven by a private company, Rand Water, to move water from the mountains of Lesotho to South Africa.

Governments have also recognized that to attract private sector investment, an attractive investment environment that mitigates against risk and provides the necessary incentives, needs to be put in place. Thus, almost all African countries now have Investment Centers and/or Privatization Agencies/Commissions. Although these do not specifically address issues related to private sector participation in infrastructure, they nevertheless, provide a framework for private sector involvement.

The degree of private sector involvement in infrastructure in Africa varies by region, country and sector. However, there are some regions and sectors where more progress has been made than in others. Below is an indicative summary of private sector involvement in infrastructure in Africa.

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**Box 6: Factors Affecting Private Sector Participation in Infrastructure in Africa  
(The Negatives and Positives)**


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NEGATIVES (-VES)	POSITIVES (+VES)
<ul style="list-style-type: none"> <li>▪ Varying levels of macro-economic stability and varying levels of consistency and commitment</li> <li>▪ Large government ownership and indecision on privatization</li> <li>▪ Prevalence of government monopoly provision particularly in power and telecommunications still considered strategic sectors</li> <li>▪ Varying levels of political stability by region and by country – overall, political instability</li> <li>▪ Limited local finance</li> <li>▪ Limited extent and capacity of local partners</li> <li>▪ Limited negotiating capacity and skills by government agencies</li> <li>▪ Limited technology</li> <li>▪ Small national markets</li> <li>▪ In some countries, “Culture” of non-payment</li> <li>▪ Exchange controls and restrictions on repatriation</li> <li>▪ Unproven track record on liberalization and private sector participation – fear of reversal of policies</li> <li>▪ High lead times in concluding negotiations</li> <li>▪ High risk of deals not reaching closure</li> </ul>	<ul style="list-style-type: none"> <li>▪ General economic reforms and macro-economic stability</li> <li>▪ Liberalization and government divestiture</li> <li>▪ Legislation to promote private sector participation</li> <li>▪ Emergence of independent regulators</li> <li>▪ Measures to combat corruption</li> <li>▪ Emergence of international and African infrastructure funds</li> <li>▪ Emergence of stock exchanges</li> <li>▪ Emergence of local partners</li> <li>▪ Availability of skills in some sectors</li> <li>▪ Economic blocks and prospects for larger regional markets</li> <li>▪ Liberalization of exchange controls</li> <li>▪ Liberalization and privatization taking hold</li> <li>▪ New technology allowing the advantage of “leap frogging”</li> <li>▪ A rapidly growing population</li> <li>▪ Large unmet demand – industrial, commercial, social</li> <li>▪ Huge mineral and natural resource potential that needs to be harnessed</li> <li>▪ High economic growth potential</li> <li>▪ Relatively high returns on infrastructure investment in Africa</li> <li>▪ Increasing moves towards stronger regional integration and cooperation</li> <li>▪ Growing African entrepreneurship</li> </ul>

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Source: Shemmy Simuyemba.

**Box 7: Degree of Private Sector Participation in Infrastructure**

SECTOR	LOW	MEDIUM	HIGH
Road Infrastructure		X	
Telecommunications			
▪ Fixed	X		
▪ Mobile			X
Transport			
▪ Road Passenger			X
▪ Road Freight			X
▪ Rail		X	
▪ Ports		X	
▪ Port and inland terminals			X
▪ Airports		X	
▪ Airlines			X
▪ Cross-border investments	X		
Water	X		
Power		X	

Source: Shemmy Simuyemba.

**Financing Infrastructure**

Privatization, which can be described as the systematic restructuring of government services/assets for ownership and/or operation by the private sector can take many forms. These include direct investment and/or ownership by the private sector, concession or BOT as well as public/private partnerships.

Availability of finance is critical to private sector participation. This can take the form of direct cash investment, debt or equity financing or both. Unfortunately, availability of financing has been a major constraint to private sector participation in Infrastructure in Africa.

**Limitations of Capital Markets to Support Infrastructure Development**

The listing of bonds on international capital markets to raise funds for infrastructure development in Africa is yet to take hold. African capital markets are still too new and too small to support infrastructure investment

A recent conference of stock exchanges in Africa listed impediments to investment in Africa as "...exchange controls, high levels of taxation, foreign investor limits, a lack of investment, the slow pace of privatization, low trading volumes, a lack of or poor information..."<sup>25</sup>

At the same conference, it was reported that a unified stock market for Kenya, Uganda and Tanzania is planned and may be operational by 2000 while Central African countries that use the franc have initiated moves for a regional stock exchange serving Cameroon, Central African Republic, Chad, Congo Republic, Equatorial Guinea and Gabon.

The growth and unification of stock markets in Africa will contribute to providing the much needed local investment funds for infrastructure projects. However, for this to happen, capitalization and listings on African stock markets need to grow substantively.

Very few African countries with the exception of countries such as Nigeria have used the international bond market as a source for raising capital for financing infrastructure. This is due to a combination of factors, among them, lack of exposure, skills and expertise to participate in international money markets, poor credit ratings for most African countries and sometimes inability to package projects in manner that is attractive on the international money market.

## **6. Strategies and Policies for Linking Africa through Infrastructure and Promoting Private Sector Participation**

### *A Single Integrated African Market*

The vision and ultimate objective for Africa should be to create a single market of 750 million people that is competitive within itself and within the global economy. Africa can only prosper and grow and provide a credible quality of life for the majority of its people by opening up the continent to function not as closed fragmented markets, but as a single vibrant market. A critical pre-requisite to this is regional infrastructure integration across Africa.

This vision exists at the highest political level through the African Economic Community (AEC), a declaration of the Organization of African Unity (OAU). The plan and expectation is that various regional groupings would form the building blocks for the AEC. Thus far, there does not appear to be a transparent and credible plan to achieve this as each grouping is moving more or less at its own pace and there are little or no linkages among the various regional groups in Africa.

### *Steps to Infrastructure Integration*

Experience elsewhere particularly in southern Africa, has shown that a number of steps are required to forge meaningful regional integration. Southern Africa, which has made considerably more progress in integrating regional infrastructure than other regions of Africa has been successful largely because it has followed a deliberate, systematic and regionally coordinated approach to development of infrastructure. For this approach to succeed requires that a number of critical factors are in place. Among them, political goodwill, a participatory consultative approach, equitable partnerships between countries, an institutional framework to drive the process and public/private partnership. An illustrative model is outlined below:

#### **Infrastructure Protocols as a Basis for Regional Integration**

The regional co-operation framework has provided a basis for defining private sector participation. For example, southern African countries have concluded protocols or legally binding frameworks to facilitate cooperation in regional infrastructure integration. There are three major protocols in infrastructure and these are on: Transport, Communications and Meteorology; Energy; and Shared Water Courses.

**Box 8: Framework for Successful Regional Integration**

<b>THRESHHOLD</b>	<b>CRITICAL SUCCESS FACTORS</b>	<b>RESULTS/REQUIREMENTS</b>
POLITICAL WILL	<ul style="list-style-type: none"> <li>▪ Common Vision</li> <li>▪ Common Goal</li> <li>▪ Collective Commitment</li> <li>▪ Peer Pressure</li> </ul>	<ul style="list-style-type: none"> <li>▪ Collective understanding, aspirations and commitment</li> <li>▪ Check against back tracking</li> </ul>
CONSULTATIVE STRUCTURES	<ul style="list-style-type: none"> <li>▪ Political buy in</li> <li>▪ Policy framework</li> <li>▪ Technical analysis</li> <li>▪ Operational coordination</li> <li>▪ Identification of needs</li> <li>▪ Criteria for prioritization</li> <li>▪ Information sharing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Broad Based Participatory</li> <li>▪ Ownership</li> <li>▪ Inclusive (public/private)</li> <li>▪ Transparent</li> <li>▪ Credible</li> <li>▪ Goal driven</li> </ul>
REGIONAL COOPERATION FRAMEWORK	<ul style="list-style-type: none"> <li>▪ Regional agreements</li> <li>▪ Memoranda of Understanding</li> <li>▪ Protocols</li> </ul>	<ul style="list-style-type: none"> <li>▪ Obligations and responsibilities</li> <li>▪ Timeframes</li> <li>▪ Resource implications</li> <li>▪ Resource mobilization</li> </ul>
IMPLEMENTATION MODALITIES	<ul style="list-style-type: none"> <li>▪ Task Forces</li> <li>▪ Feasibility/design</li> <li>▪ Operationalization</li> <li>▪ Monitoring and impact assessment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Definition of specific requirements</li> <li>▪ Assessment of viability</li> <li>▪ Implementation plans</li> <li>▪ Redesign – adaptation – improvement</li> </ul>
PRIVATE SECTOR PARTICIPATION	<ul style="list-style-type: none"> <li>▪ Liberalization and market driven service provision</li> <li>▪ Independent and transparent regulation</li> <li>▪ Conducive macro-economic environment</li> <li>▪ Capital markets</li> <li>▪ Market demand</li> </ul>	<ul style="list-style-type: none"> <li>▪ Competition</li> <li>▪ New investment</li> <li>▪ Jobs and incomes</li> <li>▪ Improved Efficiency</li> </ul>
IMPROVED REGIONAL INFRASTRUCTURE LINKAGES	<ul style="list-style-type: none"> <li>▪ Improved efficiency</li> <li>▪ Improved quality of service</li> <li>▪ Consumer choice</li> <li>▪ Service expansion to meet demand</li> <li>▪ Improved linkages</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improved access</li> <li>▪ Affordable service</li> <li>▪ Reliable service</li> <li>▪ Facilitative of trade, investment and economic growth</li> </ul>

Source: Shemmy Simuyemba.

**Box 9: Regional Infrastructure Protocols in Southern Africa<sup>26</sup>**

<b>PROTOCOL</b>	<b>DATE SIGNED AND COUNTRIES</b>	<b>COUNTRIES THAT HAVE RATIFIED</b>	<b>COMING INTO FORCE</b>
ENERGY	August 24, 1996, Maseru, Lesotho - all 12 SADC member countries at the time	Angola Botswana Lesotho Malawi Mauritius Namibia South Africa Swaziland Tanzania Zambia Zimbabwe	April 17, 1998
SHARED WATER COURSE SYSTEMS	August 28, 1995, Johannesburg, South Africa - 11 countries with the exception of Angola	Botswana Lesotho Malawi Namibia South Africa Swaziland Zambia Zimbabwe	September 28, 1998
TRADE	August 24, 1996, Maseru, Lesotho - 11 countries with the exception of Angola	Botswana Lesotho Malawi Mauritius Namibia Tanzania Zimbabwe	Not Yet in Force
TRANSPORT, COMMUNICATIONS AND METEO-ROLOGY	August 24, 1996, Maseru, Lesotho - 11 countries with the exception of Angola	Angola Botswana Malawi Mauritius Mozambique Namibia South Africa Swaziland Tanzania Zimbabwe	July 6, 1998

Source: Compiled from SADC Secretariat Reports.

SADC has over the years received and continues to receive considerable donor support from international co-operating partners particularly the European Union (EU) and the United States Agency for International Development (USAID) to define and implement the various protocols. Without such support, it would have been difficult for the region on its own to move as quickly as it has done and also to achieve the magnitude of success it has in linking regional infrastructure. Thus, resources from cooperating partners can go a long way towards leveraging local resources and efforts.

### ***Industrialization and Trade and Impact on Infrastructure***

As long as Africa continues to export primary commodities and source its raw materials from outside Africa, Africa's transportation systems will remain "outward oriented and sea-bound" rather than "inward oriented and hinterland bound." For the current trend to be reserved, Africa's industrial and trade patterns must undergo dramatic transformation.

African Business<sup>27</sup> quoting UNIDO (United Nations Industrial Development Organization), indicates that at \$50 billion, Africa accounts for less than one percent of the world's Manufacturing Value Added (MVA). Compare this with 5 percent for Latin America, 8 percent for Asia excluding China, 27 percent for North America and 31 percent for Western Europe. Africa's MVA is one fourth of the United Kingdom, one eighth of Germany's and only 4 percent of the USA's.

Thus, Africa's infrastructure strategies cannot be viewed in isolation from industrialization and trade policies as well as other broader macro-economic policies. An "Integrated Cross-Sectoral Approach" is required to deal with Africa's "Infrastructure Revitalization and Repositioning." This requires the setting up of goal oriented, multi-sectoral and multi-disciplinary teams to define and facilitate the implementation of targeted and specific interventions to promote and improve regional infrastructure linkages in Africa.

It must be recognized that the private sector alone cannot address all the requirements of Africa's regional infrastructure even if all the conditions were in place. In some cases, viability will only be realized if the basic infrastructure is put in place to stimulate production and/or trade. In yet others, the state of the infrastructure to be privatized is in such poor state that some investment is required to bring the assets to a level where it becomes attractive to the private sector. Thus, some strategic interventions and investments by governments will be necessary to spur Africa's infrastructure linkages alongside the private sector. Partnerships between the public and private sector are therefore both necessary and inevitable.

### ***Framework for African Regional Infrastructure Cooperation (FARIC)<sup>28</sup>***

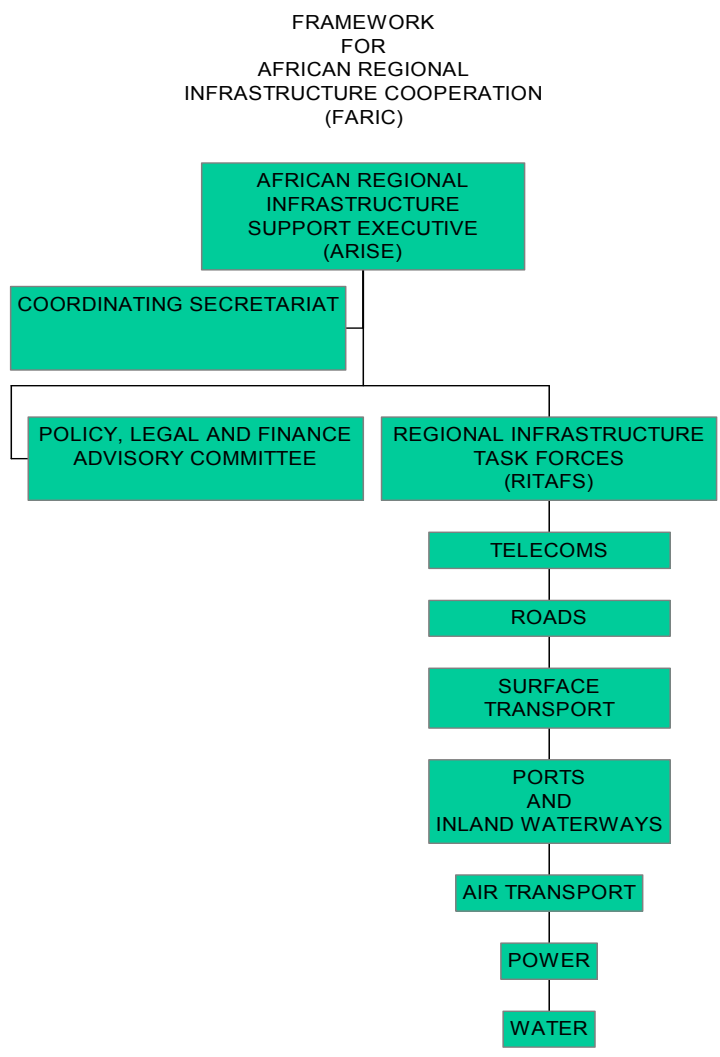
Currently, there is little or no direct cooperation among the various African regional bodies – ECOWAS, UMA, ECCAS, COMESA, EAC and others. Consequently, there is no common vision of what the African infrastructure situation should look like. Outside the framework of global meetings of the United Nations Economic Commission for Africa (UNECA) and the Organization of African Unity (OAU), there is no implementation oriented coordination on the ground. The result is that each region is left to define its own program and try and mobilize the necessary resources to implement it.

**Collective and not Individual Effort**

Even at regional level, for those region’s which may have defined their regional infrastructure needs, the onus of translating plans into action is often left to the individual countries. For example, the need and economic value of upgrading infrastructure or completing a missing link in a transit country may be more important to the originating and country of final destination than it is for the transit country. Yet, it is the transit country on its own that is often left to put in place the necessary infrastructure link. Such a link may not be a priority for the transit country and in most cases, the transit country would not have the resources to devote to such a link. Thus, innovative and radical solutions are required to address Africa’s regional infrastructure linkages.

The way forward is to put in place a continent-wide framework for addressing Africa’s regional infrastructure needs on an integrated basis. This should not be a bureaucratic or political process but a goal oriented, results driven, practical approach to evolving an integrated, coordinated and efficient African regional infrastructure system that is supportive and facilitative of the ultimate goal of creating a single African market of 750 million people.

The single major proposal and recommendation of this report is the creation of a Framework for African Regional Infrastructure Cooperation (FARIC). Below is a diagrammatic presentation of the proposed functional structure of FARIC:



### **Coordinating Mechanism and not New Institutions**

FARIC would not be an institution or a body but a coordinated consultative mechanism to drive the process its linking and improving the efficiency of Africa's infrastructure systems across Africa's major regions. However, for this concept to work, it requires buy-in at the highest political level supported by the necessary agreements to make it operational.

FARIC would have four basic functional structures:

#### *African Regional Infrastructure Support Executive (ARISE)*

ARISE would be the highest policy body under FARIC. Its role would literally be to ensure that Africa "arises" to the vast opportunities for harnessing the Continent's immense potential through promoting regional infrastructure linkages.

This body would be made up of Chiefs of infrastructure in various regional bodies. In addition, it would have a select group of Ministers based on diversity and value added rather than regional or country representation. ARISE would also have selected prominent and influential private sector representatives. This would really be a "select high powered Steering Committee" and not a "talk shop".

At the formative stages, ARISE would perhaps need to meet more often, but once established, could meet at least two times per year.

#### *Coordinating Secretariat (COSEC)*

This would be a lean action oriented coordination and information dissemination body which would provide technical support and administrative oversight for FARIC. The services to be performed by COSEC could be contracted out to a consortium of leading African infrastructure consulting companies. This would then be a contractual arrangement between the consortium and ARISE. This way, COSEC becomes a results driven body and not a bureaucratic secretariat. The actual location of COSEC would need to be decided by ARISE based on considerations of neutrality and effectiveness.

#### *Policy, Legal and Finance Advisory Committee*

FARIC should operate within a coherent policy and legal framework. The aim should be as far as possible, to harmonize policies and legal frameworks supporting regional infrastructure development and operation across Africa. The aim would also be to ensure that regions learn from each other and share best practices.

Issues of financing cut across infrastructure sectors and therefore, a common approach to devising coordinated strategies for infrastructure mobilization would be advantageous. Policy, legal and finance issues would still be addressed within individual infrastructure sectors but converge in the Advisory Committee.

*Regional Infrastructure Task Forces (RITAFS)*

These would be established for the following:

- Telecommunications including Information Technology (IT)
- Road Infrastructure
- Surface Transport (Road and rail both passenger and freight including cross-border facilitation)
- Inland waterways and ports
- Air transport
- Power
- Water

The RIFTAS would have the complex and practical task of among others, defining the regional networks to link Africa and the criteria for selection as to what would constitute the main African network for roads, railways and power grids; definition of standards and specifications; design and introduction of coordination and operational arrangements; analysis and information dissemination; and providing implementation support to regions or individual countries and/or programs/projects.

Specialized sub-committees would need to be established as dictated by demand. These should really be ad-hoc issue specific committees with a mandate to achieve clear deliverables within a specified time period. The RIFTA on Surface Transport could for example, have a sub-committee to deal with issues related to Customs and Cross-border Facilitation.

The RIFTAS would by nature need to be multi-disciplinary involving engineers, economists, technicians, service providers and in some instances, potential investors. An integral part of their role would be to act as fora for forging public/private sector partnerships and dialogue.

RIFTAS would also assist in resource mobilization by for example, convening project or sector specific investor roundtables or conferences, undertaking marketing missions and other such measures that would raise awareness to the needs and opportunities for infrastructure investment in Africa. RIFTAS would draw upon expertise both international and African to address specific issues as necessary.

**Financing and Long Term Sustainability of FARIC**

A major consideration would of course be, how FARIC would be financed. The major costs would be fees for COSEC consultants and operational costs of COSEC as well as travel costs for members of the various structures. There are also costs associated with establishing a data base and to support analytical work and information dissemination. The bulk of such funding would have to come as grants to from multilateral funding agencies such as ADB, World Bank, IFC and others. Being an African initiative, the ADB should play a pro-active and catalytic role establishing FARIC.

Another source of funds may be to place a marginal levy on all grants (and perhaps loans) provided for regional infrastructure in Africa. Such a levy could go to a fund that could be set up at say, the ADB which could be termed, ARISUF (African Regional Infrastructure Support Fund). Oversight of the fund could be done by ARISE with support from a financial institution that would be contracted to manage the fund. In the long-term, countries may be asked to make a contribution

say from revenues derived from infrastructure services (fuel levies, license fees etc) to sustain the fund. This fund would not be for infrastructure investments but to support the work of FARIC in coordinating approaches, positive marketing of Africa internationally, harmonizing policies and standards and ensuring that Africa's infrastructure systems are linked regionally and operate as integrated seamless systems.

#### Box 10: Structure, Mandate and Potential Impact of Faric

STRUCTURE	COMPOSITION/MANDATE	EXPECTED IMPACT
AFRICA REGIONAL INFRASTRUCTURE SUPPORT EXECUTIVE (ARISE)	<ul style="list-style-type: none"> <li>▪ Selected prominent public and private sector officials and politicians</li> <li>▪ Policy overview and guidance for FARIC</li> <li>▪ Coordination and progress reporting at higher levels – OAU, UNECA, regional and international organizations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Coordinated approach to African Infrastructure Integration</li> <li>▪ Information sharing and improved coordination across African regional bodies</li> <li>▪ Integrated marketing of African infrastructure needs and potential</li> <li>▪ Africa wide buy in and ownership</li> </ul>
COORDINATING SECRETARIAT (COSEC)	<ul style="list-style-type: none"> <li>▪ Consortia with access to expertise across infrastructure sectors and areas</li> <li>▪ Program Manager and support staff</li> <li>▪ Analytical, marketing and advisory support</li> <li>▪ Establishment of comprehensive data base and web site on African regional infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>▪ Integrated coordination</li> <li>▪ Rapid expert mobilization support</li> <li>▪ Analysis</li> <li>▪ Marketing of positive African image</li> <li>▪ Mobilization of finance</li> <li>▪ Improved information sharing</li> <li>▪ More informed decision making</li> </ul>
POLICY, LEGAL AND FINANCE ADVISORY COMMITTEE	<ul style="list-style-type: none"> <li>▪ Select prominent experts and personalities in the policy, legal and finance areas</li> <li>▪ Practical guidance on policy, legal and finance issues</li> <li>▪ Development of regional models</li> <li>▪ Documentation of lessons learned and best practices</li> <li>▪ Promoting linkages with financial institutions both within and outside Africa</li> </ul>	<ul style="list-style-type: none"> <li>▪ Coordinated framework for harmonizing policy and legal frameworks to support infrastructure development across Africa</li> <li>▪ High level targeted professional advise</li> <li>▪ Harmonization of approaches</li> <li>▪ Optimization of resource use</li> <li>▪ Advise on financial mobilization</li> <li>▪ Resource mobilization</li> </ul>
REGIONAL INFRASTRUCTURE TASK FORCES (RITAFS)	<ul style="list-style-type: none"> <li>▪ Infrastructure Chiefs from regional organizations – ECOWAS, UMA, ECCAS, EAC, COMESA, SADC, IGAD</li> <li>▪ Select experts in the various infrastructure sectors across Africa</li> <li>▪ Representatives of multilateral financing institutions and donors</li> </ul>	<ul style="list-style-type: none"> <li>▪ Integrated profile of African infrastructure</li> <li>▪ Regional integration of infrastructure based on harmonized standards and</li> <li>▪ Regional infrastructure operating as integrated, interconnected, seamless service</li> <li>▪ Collective and coordinated</li> </ul>

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| <ul style="list-style-type: none"> <li>▪ Investors/developers</li> <li>▪ Private sector groups</li> <li>▪ NGOs and industry and trade associations as necessary</li> <li>▪ Assessment of condition and status of Africa's regional infrastructure</li> <li>▪ Definition of missing links</li> <li>▪ Integrated packaging of regional projects</li> <li>▪ Promotion of dialogue and advocacy on infrastructure issues</li> <li>▪ Definition of technical standards and specifications</li> <li>▪ Operational coordination arrangements</li> </ul> | <ul style="list-style-type: none"> <li>resource mobilization</li> <li>▪ Improved efficiency of Africa's regional infrastructure</li> <li>▪ Economies of scale and resource optimization through increased collaboration among regional bodies</li> <li>▪ Sustainable structures, systems, processes and mechanisms put in place</li> <li>▪ Improved information sharing</li> <li>▪ Improved African capacity to manage infrastructure systems</li> </ul> |
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Source: Shemmy Simuyemba.

## Conclusions and Recommendations

### Conclusions

1. Sound infrastructure is critical to any development process. Investment, production and trade cannot occur without adequate water and power sources as well as functional roads, transportation and telecommunications systems.
2. Further, as globalization and liberalization take root, it will be increasingly difficult for Africa to remain competitive if its infrastructure systems continue to be sub-standard and continue to under perform. Africa's competitiveness in a global economy requires that Africa's infrastructure is overhauled.
3. It is important to recognize that transportation systems and related infrastructure in Africa were conceived and constructed to meet the economic needs of the colonial powers and were not intended to support balanced economic development to meet the needs and aspirations of African countries.
4. Historically, Africa's trade patterns have been outward looking – with the rest of the world, rather than inward looking – into the rest of Africa.
5. Africa's road, rail and transport networks generally have, therefore, tended to develop from centers of production to sea-ports with little inward expansion. This is because the systems are geared to bulk outward transportation of primary commodities and importation of raw materials and finished products with the outside world as opposed to inward distribution of finished products traded among African countries. As long as Africa's trade does not change in form, content and direction, there will be little impetus to dramatically alter Africa's infrastructure systems.

6. Instead of functioning as a single integrated market of 750 million or so people linked by modern transportation and telecommunications systems, Africa continues to function as small fragmented and uncoordinated markets with inadequate and inefficient infrastructure linkages.
7. Increased Intra-industry trade is viewed as enhancing regional integration and the integration of individual countries into the global economy. Intra-industry trade is very small or non-existent among many African countries. This is largely due to the fact that exports among African countries are highly concentrated in very similar primary products thus limiting gains from exchange.
8. Africa needs a deliberate, systematic and concerted effort at the practical level to integrate, upgrade and modernize regional infrastructure so that it becomes the catalyst for Africa's growth. This requires a fundamental shift in approach, policies and strategies for Africa not just in infrastructure but also in production, trade and investment patterns and practices.
9. The efficiency of infrastructure has a direct bearing on the competitiveness of any economy whether this is in international trade, regional trade, expansion of markets, realization of economies of scale or expanding regional investment.
10. Consumers are willing to pay a higher infrastructure price if this mitigates against the risk of potential economic loss.
11. Because infrastructure systems in Africa are generally inefficient and unreliable, consumers are prepared to pay a higher premium to secure a better quality service because of the economic savings and the lower total cost that this entails. For this reason alone, infrastructure investments in Africa are likely to have higher returns at least in the short to medium term, than perhaps elsewhere in the world.
12. Inefficient infrastructure systems therefore, pose a high economic and opportunity cost to Africa. This is not just to the producer or consumer in terms of a higher economic price and additional investment required to mitigate against inefficient infrastructure. More importantly and critically, to the entire economy in terms higher resource costs, lost opportunities to expand investment and therefore markets, jobs, incomes and consequently, upliftment of the standards of living of the vast majority of Africans.
13. Freight costs are a far more restrictive barrier to African exports than tariffs.
14. Reducing transport costs would not only lead to improved competitiveness in the international market place, but would also result in lower input, production and consumer costs and ultimately to better economic performance for Africa's economies.
15. Evidence shows that investments in Africa are more profitable than in most parts of the world. The profitability of FDI in Africa has been consistently higher than in most other regions of the world.

16. Africa's infrastructure record has been both impressive and dismal. From virtually no infrastructure in the 60's at the time of political independence, infrastructure flourished in the 70's and 80's.
17. The combination of state monopolies, poor policies, poor management, lack of re-investment and absence of effective maintenance has led to deterioration of infrastructure, decline in service levels and massive losses. In the process, everyone is a loser, the State, operators and consumers as well as other sectors of the economy. Within just over two decades, infrastructure has become a hindrance rather than a facilitator to development in Africa.
18. Neither the financiers nor recipients paid much attention to long-term sustainability and viability of the investments made.
19. Generally in Africa, across the board, infrastructure is inefficient and expensive, conditions and standards have deteriorated and service quality is poor.
20. There are differing schools of thought on the merits and de-merits of establishing supra-national bodies or funds to support infrastructure development. The overriding concern seems to be the reluctance by governments to cede their control of roads to "supra national" regional bodies as this is perceived as surrendering their sovereignty. However, for Africa to develop, this transition must be made.
21. A current weakness at regional level and even in relatively more successful regions like southern Africa, is the fact that although regional projects may be designated and agreed upon, the responsibility for mobilizing resources to complete a critical section of a missing link is often left to the country where the link is situated to do so. This limits the regional dimension of the project.
22. The most vibrant, visible and competitive example of private sector participation in regional infrastructure operations in Africa is the road transport industry both for passenger and freight transport.
23. For road transport to function effectively and be the catalyst that it has been in Africa's trade and development, it needs to be streamlined so it can operate effectively and efficiently. Among the measures required are, liberalization of the market so as to promote cross border operations; simplification of systems for permits; harmonization of legislation related to road safety, driver training and testing and licensing; harmonization of transit charges; improved overload control; and generally improved enforcement.
24. Poor customs facilitation has been cited as one of the biggest constraints to trade in Africa. The issues are many and varied but include, systems that are not streamlined and harmonized across countries, multiplicity of documentation and procedures that are not standardized, different nomenclatures that are not standardized or harmonized, poor customs practices, corruption practices and inadequate physical facilities and basic services at border posts.

25. Most railways in Africa have been progressively losing traffic to roads over the past two decades. From a dominant mode of transport in the seventies, railway transport performance started to decline in the eighties and this trend has continued into the nineties.
26. The potential for rail connectivity in Africa is great. All regions of Africa have one thing in common. They all have at least a 1.067mm gauge rail.
27. Innovative private sector led initiatives such as the rail service between east and southern Africa, can provide solutions to major constraints thereby not only easing trade but also creating the potential for increased trade between two regions in Africa.
28. Private sector involvement in infrastructure service provision is not only changing the conduct of railway business but offers prospects for improved rail efficiency in Africa which should lead to a more customer focussed service.
29. The regionally integrated corridor approach offers prospects for speedier integration of infrastructure systems in Africa. There are two basic albeit related approaches, Development Corridors (DevCors) and Spatial Development Initiatives (SDIs). These initiatives are by design, partnerships between the public and private sector.
30. The general principle is to view the major transport routes from the maritime ports to the hinterlands that they serve, not merely as transport, but economic corridors with activities related to agriculture, industry, commerce, communications tourism and other industries. Thus, the corridors would serve as growth points, not just for large industries, but also for emerging small-scale industries.
31. Regional agreements intended to promote trade in Africa such as the proposed COMESA and SADC Free Trade Areas will have limited impact if cross-border trade facilitation is not improved. As long as Africa continues to operate as small discrete markets each with its own systems, rules and regulations, regional integration will not achieve the desired results and benefits for Africa.
32. Africa will not emerge from its slumber, grow and prosper as long as there is no political will and courage to harmonize and implement such basic and relatively simple administrative systems to facilitate cross-border movement of goods, services and people.
33. African Heads of State in the various regions need to conclude some of agreement or Memorandum of Understanding (MOU), pledging themselves to introducing harmonized and simplified cross-border facilitation measures within a defined time frame.
34. Africa should aim to have integrated, harmonized and simplified cross-border facilitation along all of Africa's major transport corridors.
35. For southern Africa, studies have shown that delays at major border posts cost the region about \$60 million annually. This is an additional cost to business and to the economy.

36. Introduction of a computerized customs systems that are regionally linked would greatly improve cross-border facilitation. Such as systems would, provided there was concurrence by governments, result in quicker transit through pre-clearance of goods. Most countries in Africa are using of introducing ASYCUDA. The viability of introducing an Africa wide linked computerized customs system needs to be explored.
37. Governments in Africa still view the telecommunications sector as a strategic sector where government participation is necessary in the national interest. However, they also recognize that this is the one sector whose development requires introduction of new technologies and where private sector capital is available for investment.
38. To facilitate private sector participation, most countries in Africa have repealed hitherto monopoly legislation and replaced it with legal frameworks that facilitate the participation of the private sector. A number of countries have set up independent regulators. These reforms need to be continued and sustained to build the necessary confidence in the African transformation process.
39. Water is already a scarce resource in most parts of Africa. The Congo Democratic Republic has the Africa's largest water basins. As population grows, there will be increased pressure on water resources. By nature most large water and river basins are transboundary. Regional cooperation is therefore vital to the exploitation and conservation of these resources.
40. The focus of water management systems should be economic efficiency, ecological sustainability, financial sustainability and social equity. The challenge facing any water management system is that a number of factors make water management complex among them, social, cultural and political dimensions of water use.
41. There has to date been very little private sector participation in the energy sector in Africa, particularly in electricity. This is despite the fact that private electricity is making an increasingly significant contribution to the power needs of developing countries.
42. With an effective regional market for electricity trade, countries need not duplicate investment in capacity and facilities. However, effective electricity trade requires that systems are interconnected, agreements are put in place for wheeling of power, setting market based tariffs and contingency power sharing arrangements are devised.
43. Africa's population is predominantly rural. Of Africa's 750 million people, 63 percent are in the rural areas and only 37 percent in the urban areas. Only 11 countries have urban populations of 50 percent or more. Another characteristic is that African countries are small both in terms of population and economic size and income levels. This has implications on the pattern and nature of African infrastructure development.
44. There are three fundamental principles that determine private sector participation in any economy. The first is the political will and ideology to embrace private participation. The second is putting in place the macro-economic environment and policy framework to support private sector participation. The third is market demand to support investment and yield

returns on investment and profit.

45. Apart from new investment to cater for the large unmet demand, there is the need for rehabilitation, upgrading and modernization of existing infrastructure systems in Africa. Financing is critical to this process. Unfortunately, funds from multilateral funding institutions such as the World Bank, African Development Bank and others as well as bilateral and local sources, are not sufficient to meet this huge financial requirement. Private investment and involvement is therefore critical to this process.
46. The need for a stable macro-environment and market are evident. However, a positive regulatory framework is critical. Effective regulation encourages private investment, innovation and infrastructure buildout. It also promotes fair competition and provides a framework for managing scarce resources efficiently. It promotes the public interest where the market may not.
47. Infrastructure was financed, owned and operated by governments. All infrastructure services were viewed as natural monopolies to be managed by governments. Infrastructure systems were also considered strategic and “commanding heights” of the emerging economies. That the provision and management of infrastructure could be shared with the private sector was inconceivable until recently. Thus, for most African countries, the transition from monopoly service provision to competition has been a difficult one.
48. There have been inadequate resources for maintenance, rehabilitation and upgrading of infrastructure. The result is that most infrastructure, plant and equipment having been built or been in operation for nearly three decades, requires massive capital injections for expansion, improvement, rehabilitation and modernization.
49. The African population has been growing rapidly over the past decades. According to the World Bank, one billion people in the developing world lack access to clean water, two billion lack adequate sanitation, electric power has yet to reach two billion people and urban populations are growing. This growing demand means that there is growing pressure on infrastructure facilities and services.
50. A new partnership is emerging between the government and the private sector in infrastructure in Africa. This has been made possible by the break up of state monopolies, liberalization, institution of the relevant legal frameworks and private sector interest.
51. The spectrum of private sector involvement in infrastructure ranges from internal restructuring, commercialization and corporatization to concessioning and direct investment. The interesting factor is that a multiplicity of these reforms can be seen by country, sector and even within an organization sometimes all going on at the same time.
52. A lot has changed in Africa over the past decade. Conditions are increasingly becoming more favorable in most countries for private sector participation. However, there are still a number of challenges that need to be overcome. One of the major ones is the negative perception of Africa that unfortunately, is perpetrated in the western press. African countries

- need a collective approach to mitigate against this unfavorable publicity. Overall, there are more positives than negatives in favor of private sector participation in infrastructure in Africa.
53. In terms of regional infrastructure projects, the direct involvement of the private sector in new infrastructure investment has been evident in large projects where there is a clear demand. However, this trend is only just beginning with southern Africa having made the most progress in Africa.
  54. Governments have recognized that to attract private sector investment, an attractive investment environment that mitigates against risk and provides the necessary incentives, needs to be put in place. Thus, almost all African countries now have Investment Centers and/or Privatization Agencies/Commissions. Although these do not specifically address issues related to private sector participation in infrastructure, they nevertheless, provide a framework for private sector involvement.
  55. Privatization, which can be described as the systematic restructuring of government services/assets for ownership and/or operation by the private sector can take many forms. These include direct investment and/or ownership by the private sector, concession or BOT as well as public/private partnerships.
  56. The growth and unification of stock markets in Africa will contribute to providing the much needed local investment funds for infrastructure projects. However, for this to happen, capitalization and listings on African stock markets need to grow substantively. Very few African countries with the exception of countries such as Nigeria have used the international bond market as a source for raising capital for financing infrastructure.
  57. The vision and ultimate objective for Africa should be to create a single market of 750 million people that is competitive within itself and within the global economy. Africa can only prosper and grow and provide a credible quality of life for the majority of its people by opening up the continent to function not as closed fragmented markets, but as a single vibrant market. A critical pre-requisite to this is regional infrastructure integration across Africa.
  58. For this approach to succeed requires that a number of critical factors are in place. Among them, political goodwill, a participatory consultative approach, equitable partnerships between countries, an institutional framework to drive the process and public/private partnership. Protocols or legally binding agreements are essential to providing a framework for regional infrastructure integration in Africa.
  59. As long as Africa continues to export primary commodities and source its raw materials from outside Africa, Africa's transportation systems will remain "outward oriented and sea-bound" rather than "inward oriented and hinterland bound." For the current trend to be reserved, Africa's industrial and trade patterns must undergo dramatic transformation.
  60. Africa's infrastructure strategies cannot be viewed in isolation from industrialization and trade policies as well as other broader macro-economic policies. An "Integrated Cross-Sectoral Approach" is required to deal with Africa's "Infrastructure Revitalization and Repositioning."

This requires the setting up of goal oriented, multi-sectoral and multi-disciplinary teams to define and facilitate the implementation of targeted and specific interventions to promote and improve regional infrastructure linkages in Africa.

61. The private sector alone cannot address all the requirements of Africa's regional infrastructure needs even if all the conditions were in place.
62. In some cases, viability will only be realized if the basic infrastructure is put in place to stimulate production and/or trade. In yet others, the state of the infrastructure to be privatized is in such poor state that some investment is required to bring the assets to a level where it becomes attractive to the private sector. Thus, some strategic interventions and investments by governments will be necessary to spur Africa's infrastructure linkages alongside the private sector. Partnership between the public and private sector is therefore both necessary and inevitable.
63. Currently, there is little or no direct cooperation among the various African regional bodies – ECOWAS, UMA, ECCAS, COMESA, EAC and others. Consequently, there is no common vision of what the African infrastructure situation should look like. Outside the framework of global meetings of the United Nations Economic Commission for Africa (UNECA) and the Organization of African Unity (OAU), there is no implementation oriented coordination on the ground. This lack of coordination weakens linkages across Africa's regions.
64. The way forward is to put in place a continent-wide framework for addressing Africa's regional infrastructure needs on an integrated basis. This should not be a bureaucratic or political process but a goal oriented, results driven, practical approach to evolving an integrated, coordinated and efficient African regional infrastructure system that is supportive and facilitative of the ultimate goal of creating a vibrant single African market.
65. The single major proposal and recommendation of this report is the creation of a Framework for African Regional Infrastructure Cooperation (FARIC). FARIC would not be an institution or a body but a coordinated consultative mechanism to drive the process of linking and improving the efficiency of Africa's infrastructure systems across Africa's major regions.
66. FARIC should operate within a coherent timeframe and results oriented framework. The aim should be as far as possible, to harmonize policies and legal frameworks supporting regional infrastructure development, integration and operation across Africa. The aim would also be to ensure that regions learn from each other and share best practices.

### **Recommendations**

The recommendations of this report are inherent from the conclusions above. The major recommendation however, is the creation of FARIC and the resultant structures.

The proposal to establish FARIC should not be seen as duplicating current Africa or regional initiatives, but rather, as adding value to these efforts by providing a practical demand driven goal oriented approach to addressing Africa's regional infrastructure linkages. This is the only way

various initiatives and strategies across Africa can be integrated into one coherent framework to move the Africa infrastructure integration agenda forward.

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