ENABLING SUSTAINABLE MOBILITY IN EAST AFRICA; BUILDING SUCCESSFUL PPP FOR THE ROAD SUB-SECTOR IN DEVELOPING COUNTRIES.

Theme: Innovative Financing Mechanisms for Roads

Sub theme: Public-Private Partnerships (PPP)

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ABSTRACT
Mobilization of private sector investment and expertise in support of infrastructure development, operation and maintenance is of paramount importance. The private sector is seen to offer exciting alternatives and opportunities. By entering into PPPs, delivery of public service infrastructure may be enhanced by accessing the private sector's financial, managerial, professional and technical expertise (N.T. Rao 2003). Private sector resources can enhance the necessary maintenance and operation of infrastructure. This allows public services to be delivered more efficiently and effectively, which allows Government resources to be channeled into other areas where direct public investment and intervention is required. This paper analyses the prospects of encouraging Public Private Partnerships (PPP) in the transport sector in developing countries with particular focus on the East Africa region. It discusses the importance of securing the injection of private finance in order to accelerate the delivery of public capital designed to remedy East Africa's road infrastructural deficit. The paper notes that PPP plays an important role in facilitating national and regional mobility. It explores valuable insights about established PPP interventions in developed countries and goes on to argue that the relative maturity of these programmes offer a rich environment for the collection of useful and tested information of PPP policies and practices for East Africa. The paper identifies the challenges of the road sub sector in East Africa and proposes significant institutional learning prospects on how such challenges can be overcome. It also tackles practical experiences of designated national road agencies (Government Institutions responsible for Roads) in the East African Region, their formation, structure and institutional contribution to the development of roads using PPP. The paper concludes with an argument that since most countries have embraced privatization of state enterprises because they are not frugal in doing business, they should as well divest their interest from road construction and management since their capacity to do the same is quite limited too.

1.0 Introduction

The Public Private Partnership in the field of transportation, in general, is a contractual agreement between public and private sectors aimed at better delivery of transportation projects. PPP in infrastructure projects facilitates access to private investment, innovative finance and specialized expertise.[1] A considerable percentage of the budgets of East Africa Member States is committed to infrastructure development and on roads specifically. Constrained by low levels of tax base and therefore GDP, the resources required to develop road infrastructure remain scarce. Limited resources and economic constraints of the governments whose priorities are often pronounced towards providing basic amenities in social sector often hamper the growth of transportation systems in the third world countries. In addition, the poor maintenance of roads by the public sector calls for close study as to how the private sector can play a complimentary role in the road sub-sector. Private investors will rush into sectors with quick returns, such as mobile telephones, but "it does not make economic sense for them to become engaged in many of the infrastructure developments that we need to implement in Africa. These include building roads at great cost and little or no returns in remote rural areas.

Infrastructure development is a challenge to many countries especially developing ones. In particular roads development and maintenance remains a great hurdle that developing countries particularly in sub Saharan Africa, continue to grapple with. Huge amounts of resources as a percentage of their GDP are allocated to the road sector development and maintenance but the condition of such roads is not getting any better. The sub sector is riddled with several challenges ranging from high road construction and maintenance costs, outright corruption and embezzlement of resources allocated for the same sector. Urban and rural roads within East Africa region are in deplorable state. Many countries are now contemplating Public Private Partnerships (PPP) as an arrangement between public and private sectors to finance, design, build, operate and maintain public infrastructure, community facilities and related services.[2] Despite widely acknowledged benefits associated to PPP, international experiences have shown that there can be many issues affecting the successful implementation of these partnerships. It has been argued that a properly structured PPP can efficiently achieve better results than public sector initiatives. It is often claimed the private sector, with its wide range of managerial, commercial, and technical skills, can reputedly perform certain tasks more efficiently than the government, thereby offering potentially huge benefits to the public (Zhang *et al*., 2001). Despite avowed advantages, recent international experiences of PPP programmes have shown that extensive planning actions are required in order to guarantee the minimum level of risk (World Bank, 1999; Fisher and Babbar, 1996; Menckhoff and Zegras, 1999; Shaw *et al*., 1996).

[1] *Participation of private sector has social benefits too as it helps in empowerment of local contractors and consultants and paves a way for entrepreneurial development. This helps the governments in Africa to plan their resources for better use elsewhere.*

[2] *Partnerships need not necessarily mean mega investments but could also be involving more citizens to be part of partnerships that can bring in all the desired results normally associated with PPPs, more so in the transport sector.*

2.0 East Africa's Road Network

Uganda's road network comprises of national roads (20,000kms), district roads (13,000kms), urban roads 2,800kms) and community roads (30,000kms). Tanzania road network comprises of 12,786 Kms of trunk roads, 20,225kms of regional roads and 58,037 Kms of district, urban and feeder roads. Of these only 6,578 Kms are paved. Kenya has a road network of about 177,800 km out of which only 63,575 km is classified. It is presently estimated that about 70% (44,100 km) of the classified road network is in good condition and is maintainable while the remaining 30% (18,900 km) requires rehabilitation or reconstruction. Rwanda's transport system relies primarily on the road network with a total of 14,000 km of roads, of which over 1,000 km are paved, linking the capital Kigali and most other major towns. Rwanda has no intercity motorways. The government has invested heavily in transport infrastructure with aid from international donors, and recently upgraded and resurfaced most of these routes.

Road transport in the Democratic Republic of Congo (DRC) has always been difficult.[3] Furthermore, chronic economic mismanagement and internal conflict has led to serious under-investment over many years. Some parts of the DRC are more accessible from neighbouring countries than from Kinshasa, the capital. For example Bukavu, Goma and other north-eastern towns are linked by paved road from the DRC border to the Kenyan port of Mombasa, and most goods for these cities have been brought via this route in recent years. The new independent state of South Sudan, roughly the size of France, had only 50 kilometers of paved roads as of June 2011. Infrastructure in South Sudan is still recovering after a 22 year civil war with the North that ended in 2005. There has been marked improvement in roads in South Sudan which has allowed access to previously isolated communities, schools, health centres and markets. Travel time for people accessing markets and health centres has been cut in half along major routes. For instance before 2004, travel time from Kaya (Ugandan border) to Rumbek, was anything between 2- 4 weeks, and cases of trucks loaded with food being stuck for several months were not uncommon. Today it can take 10 to 12 hours. Road transport within the country is expected to improve especially after successfully seceding from North Sudan in early July 2011.

2.1 EAC Road Development Plan

East Africa region needs an interconnected road network system for ease of transport and movement of goods, services and people across the region. Although the roads have been improved upon in the recent past, a lot of resources are still needed to link the entire region with first class paved highways. According to the East African Community (EAC) the Secretariat needs a total of $25b in the next 10 years for the implementation of several road and railway projects[4]. A number of roads are under implementation at the level of completion of engineering studies and funds mobilization for construction. These roads include the Arusha-Moshi-Hilili-

[3] *The terrain and climate of the Congo Basin present serious barriers to road and rail construction, and the distances are enormous across this vast country.*

[4] *The programme under the East African Transport Development strategy and the long term roads development programme to 2018 are for regional interconnectivity undergoing and the estimated cost of these roads in the next 10 years is in excess of $25b.*

Taveta-Voi road and the Bagamoyo-Tanga-Mombasa-Malindi highway while the extension of the Tanzania Central Railway from Isaka to Kigali and Bujumbura is on the fore front. The main road that connects east and central African states to the coat has been in poor condition for some time. The road from Mombasa port in Kenya which is the major gateway for imports and exports of Uganda, Rwanda, Kenya, south Sudan, and eastern Democratic Republic of Congo has not been well maintained. Besides, due to heavy traffic that uses this road, the wear and tear is very high yet the countries have not yet harmonized their axle load control systems within the region. According to the EAC infrastructure development plan, the Northern Corridor from Mombasa to Bujumbura is part of the Transport African Highway (Mombasa – Lagos) while the Tunduma – Moyale road is part of the Cape to Cairo Highway. The development of the regional network has mainly been hampered by insufficient financial resources. There are two transit corridors that facilitate import/export activities in the region. The Northern Corridor (1,700 km long) commencing from the port of Mombasa serves Kenya, Uganda, Rwanda, Burundi and Eastern DRC. The Central Corridor (1,300 km long) begins at the port of Dar es Salaam and serves Tanzania, Zambia, Rwanda, Burundi and Eastern DRC.

Figure 1: East African Road Network

3.0 History of Partnerships

As far back as the 1960s, architects of African integration agreed that building infrastructure was vital to lubricate the wheels of intra-African trade and distribute its benefits regionally. Implementation of road projects and their maintenance suffered as it became solely dependent on the availability of funds from the government budget. Thus, it was important to explore alternative means of financing infrastructure projects. The continent's leaders embarked on ambitious projects such as the Trans-African highways -- segments of which would eventually stretch from Cairo to Dakar, Tripoli to Windhoek and Lagos to Mombasa. These would provide access to the sea to 15 landlocked countries and improve regional links (Gumisai Mutume 2002). As moves towards regional integration gain momentum, ways of overcoming Africa's transport problems are being sought. Building infrastructure involves significant initial outlays of capital and continuous expenditure on maintenance and management. Most African governments are in no position to provide this on any significant scale. Therefore, international agencies have traditionally been major contributors. The partnerships that the governments in Africa would enter into would help in accelerated implementation of projects with new approaches and better management techniques that are at the disposal of private sector. As the private sector has the capability to invest in terms of resources to handle large and complex projects[5], the resource-strapped public agencies have an option to prioritize their social commitments. The state, however, cannot be allowed to abdicate its role as the dominant provider of infrastructure, especially in rural areas where development remains dependent on public or donor funding.

5.0 Advantages of PPP in road development

There has been a growing tendency of involving the private sector in providing high-standard transport infrastructure to meet the needs of rapid economic growth. For many years, the public sector has traditionally financed and operated infrastructure projects using resources from taxes and various levies (e.g. fuel taxes, road user charges). However, the recent disparity between the capacity to generate resources and the demand for new facilities has forced governments to look for new funding methods and sources. In theory, PPPs may have the potential to solve sub-Saharan Africa's profound infrastructure and service backlogs.[6] PPPs potentially bring the efficiency of business to public service delivery and avoid the politically contentious aspects of full privatization. PPPs allow governments to retain ownership while contracting the private sector to perform a specific function such as building, maintaining and operating infrastructure like roads and ports, or providing basic services like water and electricity. Both sides stand to benefit from the contractual agreement. (Peter Farlam 2005).

Government earns revenue by leasing state-owned assets or alternatively pays the private sector for improved infrastructure and better service delivery. Often the private sector can do the job more efficiently, which can lower prices and improve rollout. The private operator gets reimbursed either by government or consumers for doing its work, at a profit. But there are

[5] *According to the ECA between 1982 and 1994 private companies financed projects worth $340 million. In comparison, Latin American private companies invested $10.5 billion in infrastructure during the same period.*

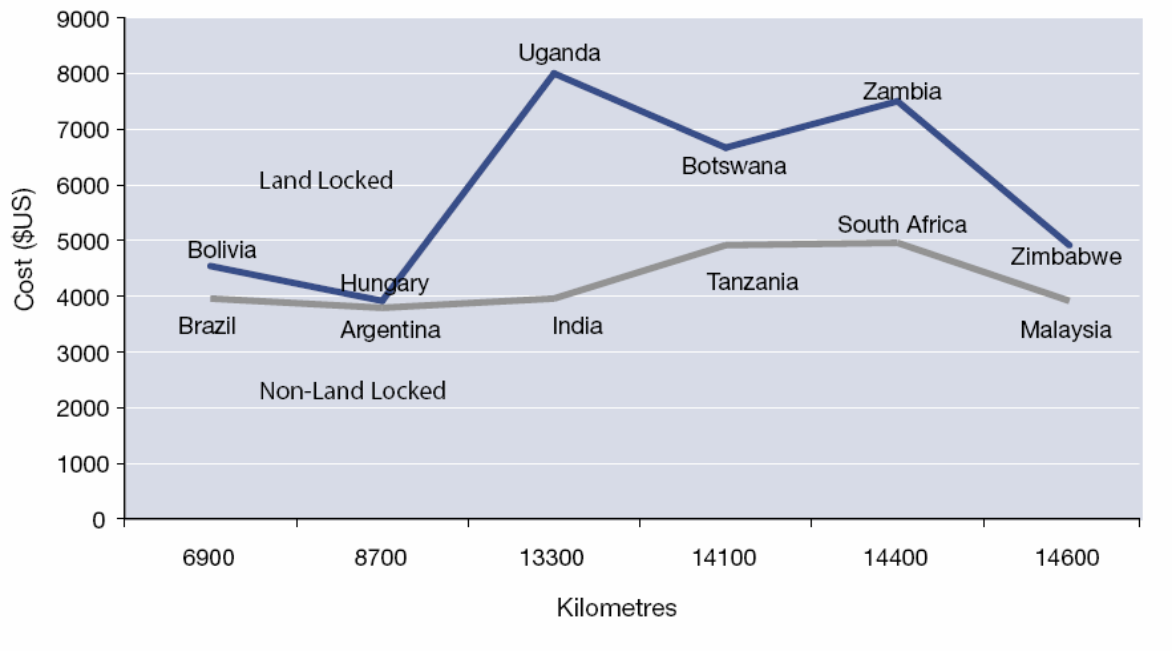
[6] *The record of PPPs in Africa over the last 15 years is mixed, the process is complex, and governments should not expect PPPs to be a 'magic bullet'*

several negatives as well. The private sector is not always more efficient and the service provision is often more expensive to the consumer. Big government contracts are complex and demanding and prone to abuse by unscrupulous individuals, firms or politicians, unless controlled by disciplined, highly transparent procedures. This review of PPPs suggests that, above all, governments must fundamentally improve their systems for dealing with the private sector to realize the efficiency and effectiveness gains that these partnerships promise.

6.0 Road Budgets in East Africa

Government of Kenya has increased its spending on roads by Shs 11 billion to aid economic growth. The road department will be allocated 100.9 billion (approximately $ 1 billion) - nearly half of the total budget for physical infrastructure for the fiscal year 2011/2012. In recent years Kenya has embarked on an ambitious infrastructure investment programme as it seeks to tap opportunities from growing regional trade. Landlocked Uganda needs low transport costs to compete internationally, sustain growth and reduce poverty. Instead, costs are higher than other landlocked countries. The cost of freight from Kampala to Mombasa at 9-10 cents/tonne/km, compares unfavourably with Zimbabwe's 2-3 cents/tonne/km. High transport costs affect also Rwanda, Southern Sudan and Eastern DRC as their freight transits Uganda.

Figure 2: Comparative Cost of Shipment to the US



Source: Cross Roads Programme Uganda

One of the main causes of high transport costs is the poor state of roads. Less than 30% of the country's national road network is paved and only 25% is in good or very good condition. In addition, there are traffic bottlenecks that increase journey times, particularly around Kampala and from Kampala to the border. The result is high costs of operating vehicles. Improving

Uganda's road network is a priority for Government. Last year, it committed $420 million, 13% of its budget. This year, it has budgeted $550 million, 19% of the budget, for roads, an exceptional proportion worldwide. However, concern is growing that Government's investment may not deliver its intended impact. The policy environment is improving but substantial challenges remain.

7.0 Road Agencies in East Africa

The African roads sector has passed through a wide ranging and consistent set of policy reforms, with strong donor support. There is a relatively high degree of consensus about the direction of reform, with most countries embarked on very similar paths. The initial thrust of the reform has been to create an independent source of funding for road maintenance based on road-user charges. (Ken Gwilliam 2008). The funds are fenced off from the general government budget and administered by an autonomous board. Close scrutiny of the new generation of road funds reveals that not all of them correspond fully to the conceptual blueprint. Only a few of the road funds for instance those in Kenya, Namibia and Tanzania meet all seven criteria of good design specified by the 35-member Sub-Saharan Africa Transport Policy Program.

Kenya has three major governments departments charged with responsibilities of developing and maintaining roads these include the national highways authority, Kenya rural roads authority and the Kenya urban roads authority. All these are coordinated by the Kenya Roads Board whose Mission is to Fund and Oversee Road Maintenance, Rehabilitation and Development. Uganda has two specific agencies namely Uganda National Roads Authority and the Uganda Road Fund. Uganda has developed a modern institutional structure for roads consisting of: the Ministry of Works & Transport (MWT), which sets policy; Uganda National Roads Agency (UNRA), an autonomous agency responsible for managing the national road network and; a Road Fund to channel funds from users to road agencies for maintenance of public roads. But the private sector remains weak. MWT has drafted and intends to implement a National Construction Industry Policy (NCIP), but lacks the means to do so. The Tanzania National Roads Agency (TANROADS) is an Executive Agency under the Ministry of Works, and came into operation in July, 2000. The Agency is responsible for the maintenance and development of the trunk and regional road network in Tanzania Mainland. In Rwanda roads are still under the ministry of infrastructure which is also in charge of transport in general. The country is in final stages of establishing the Road Maintenance Fund to be administered by a Road Maintenance Fund Management Board. Burundi's[7] roads are under the ministry of transport. The land locked country is yet to embark on instituting a functioning roads authority and a second generation road fund. Although most governments in East Africa have embraced the idea of establishing second generation road funds and road designated road agencies, these entities are yet to be fully functional and to bring in benefits to their respective governments in terms of negotiating competitive contracts with the dominant western multi-national construction companies. Majority of the road agencies have not yet developed their capacity not only to monitor ongoing projects but also to negotiate for fair costs in road construction

[7] *A landlocked country, Burundi experienced a long period of political instability that led to the deterioration of infrastructure and cumulative maintenance deficit.*

8.0 Road Development in Africa

Lack of adequate infrastructure in Sub-Saharan Africa is the primary problem of access and transportation. Over half of the rural roads in sub-Saharan Africa are in a very poor condition. Rural Africa has only 34% road access, lands covered by roads, as compared to 90% in the rest of the world (African Development Bank, 2010). In addition, the state of the infrastructure that does exist is generally very poor with many governments unwilling to spend the amount of money required to keep roads in basic repair (Easterly, 2001).This compounds the high poverty levels and low food security levels in Sub-Saharan Africa by impairing distribution of food aid, farmer connections to market, information exchange, and trade.

Viewed against the vastness of the subcontinent, the road network of Sub-Saharan Africa is sparse. It is much less dense than the networks of other developing regions. But viewed against the region's population and income—and hence its ability to pay for maintenance—road density begins to look rather high. In several countries (Madagascar, Malawi, Mozambique, Niger), the asset value of the road network exceeds 30 percent of Gross Domestic Product (GDP), an indication of the magnitude of the maintenance problem. Overall, road conditions already lag behind those found in other developing regions, although the network of main trunk roads has been maintained in reasonably good condition. The concept of an intraregional trunk network—the Trans-African Highway—has existed for some time, but owing to missing links and poor maintenance on key segments, its potential to connect the continent remains unrealized. The density of national primary and secondary road networks varies substantially across countries, but in many cases it already exceeds the length required to provide basic connectivity between primary and secondary cities and key ports and land border crossings. With accelerating urbanization, Africa is also developing a substantial network of intra-urban roads. However, urban road density lags far behind what is found in other developing cities, particularly with respect to paved roads.

The problem of road development and maintenance is not limited to east Africa alone. African governments are grappling with institutional challenges of ensuring that they can put in place roads at cheaper costs and which can last longer. Institutional rules and procedures help to raise the cost and risk of building roads. Slow contracting, uncertainty over payments, cost overruns and contractual disputes serve to increase cost and risk. For instance, the time taken between bid opening and contract signing is double Ghana's, adding to the cost of finance and increasing risk in estimating material costs (as material prices are quoted in US dollars, delays cause exchange rate risks to rise). Uganda has yet to adopt some of the new technologies that would help to reduce costs. Contractual disputes, caused by the system of separating design from the building of roads and poor supervision, result in delays in completing contracts

Table 1: Road Transport Quality Indices for Sub-Saharan Countries

Country	Road Transport Quality Index	Country	Road Transport Quality Index
South Africa	100.0	Cameroon	18.4
Botswana	87.5	Mauritania	16.6
Zimbabwe	50.0	Mali	16.5
The Gambia	41.6	Kenya	16.3
Sudan	40.4	Angola	15.8
Togo	37.0	Ethiopia	15.1
Senegal	36.0	Cote d'Ivoire	14.4
Nigeria	32.3	Congo, Rep.	13.6
Swaziland	27.4	Guinea-Bissau	13.2
Ghana	27.0	Somalia	12.4
Namibia	25.9	Rwanda	12.4
Lesotho	25.7	Niger	11.0
Zambia	25.1	Burundi	10.9
Benin	25.1	Uganda	10.7
Eritrea	25.0	Sierra Leone	9.6
Guinea	23.1	Liberia	7.1
Mozambique	23.1	Equatorial Guinea	6.5
Burkina Faso	21.2	Tanzania	6.2
Malawi	20.4	Central African Republic	4.4
Gabon	19.2	Congo, Dem. Rep.	3.8
Djibouti	18.5	Chad	1.8

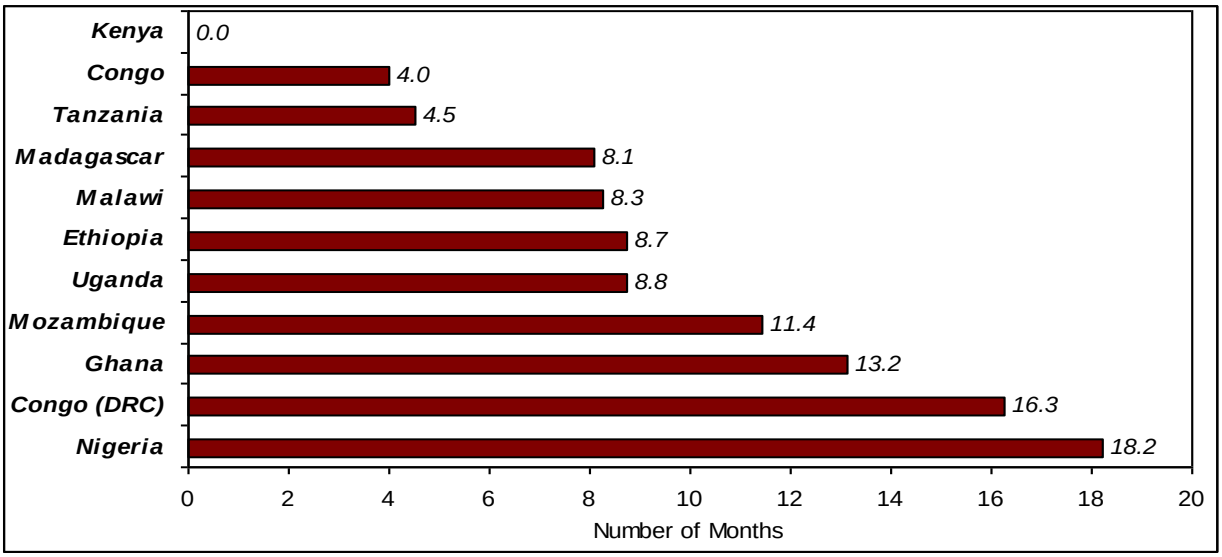
Source: Development Research Group World Bank 2006

Despite the importance of roads in the promotion of overall economic development and improvement in living conditions, efficiency of road transport systems in many developing countries is often constrained by high vehicle operation and maintenance costs due to poor road conditions. While demand for transport infrastructure continue to grow - a result of high population growth rates, urbanization and growth in economic activities – resources for road maintenance and asset replacement continue to be a burden. Domestic funding is generally not sufficient to cover expected road costs. The road sector continues to rely heavily on donor support for funding.[8] Even though donor support might appear indispensable, it is safe - from road financing sustainability perspective - to focus on available domestic funds when assessing developing countries' efforts at preserving their road assets. As a starting point, sustainable road financing requires a thorough awareness of both the expected network life cycle costs on one

[8] *In Ghana, between 1996 and 2003, donor funds constituted roughly 40% of annual road sector budgets. The question here is not about the necessity of donor supports, but rather the extent to which current levels of reliance on foreign assistance are sustainable.*

hand and corresponding available domestic funds on the other hand. The sustainability of any road-financing plan is therefore measured by the extent to which these available domestic funds cover the expected lifecycle costs of the road network. How do we assess the balance between road network costs and available domestic funds? This paper presents a pragmatic cost-revenue model for identifying and estimating in a systematic, transparent and logical manner, all road costs and user contributions. Drawing on the examples of Ghana and Namibia, performance indicators for measuring the extent to which road users are contributing to the financing of road network life cycle costs the findings show that while user contributions are often sufficient to cover expected maintenance costs, they are only able to finance 43% (Namibia) and 76% (Ghana) of annual network life-cycle costs. The coverage ratios are even lower when the costs of clearing existing maintenance backlogs are included. In Ghana, only 56% of road user contributions are actually allocated to the road sector. With existing network conditions, it is estimated that 1.5-3.0% and 4.5-6.0% of GDP allocation would be required for annual maintenance and network life cycle costs respectively.

Figure 3: Average Delays in Completion of Work: Selected African Countries



Source: Cross Roads Programme Uganda

9.0 Road Transport in Europe & Asia

Transportation problems of developing countries differ from those of developed nations, whose networks and infrastructure facilities were developed over the years with their own resources. PPP are being frequently used today to private sector investment in road projects. Most of the road PPP projects are either for new roads or for those that involve significant expansion of existing capacity. There are limited instances of PPPs for renovating and maintenance of existing roads. Previous research has indicated that long-term success of PPP projects largely depends upon effective risk management throughout the project life cycle (Ibrahim et al., 2006). Successful risk management strategies involve allocating various risks through a contractual framework to those participants who are able to manage those risks better (Miller and Lessard, 2001). Governments are looking to PPP to radically improve infrastructure networks in their

countries and enhance service delivery to their people. They are hoping that this development finance model — where the state shares risk and responsibility with private firms but ultimately retains control of assets — will improve services, while avoiding some of the pitfalls of privatization: unemployment, higher prices and corruption.

Table 2 Maintenance budgets as Percentage of GNP of Asian Countries

COUNTRY	MAINTENANCE AS % OF GNP
Indonesia	0.03
PNG	0.04
Mongolia	0.08
China	0.10
Philippines	0.16
Lao PDR	0.17
Cambodia	0.19
Thailand	0.19
Vietnam	0.22
Bhutan	0.38

Source International Labour organization (ILO)

The figures in Table 2 above suggest a median figure for maintenance expenditure of between 0.1 and 0.2% of GNP. This should be compared with annual capital investments in roads in general of the order of 2% of GNP. The World Bank has indicated that whilst a developed country such as New Zealand spends some 45% of the total road sector budget on maintenance, the figures for developing countries are much lower. Bangladesh for example spends 22%, Indonesia 31%.

Substantial resources are invested in the development of roads in developed countries. According to Road Transport Vision 2025 for Europe developed by Forum of European National Highway Research Laboratories (FEHRL)[9] Belgium, the demand for road transport has grown continuously over the last 50 years and although populations in some member states are declining, the demand for road transport is still predicted to increase. For the ten new European Union Member States, it is forecast to grow by 4% a year. There will be pressure for these countries to move towards Western European standards of infrastructure development, road safety and environmental protection. According to ERF estimates, the average motorway density in Central European Countries (CEC) is 6.3 times lower than in the western EU countries (EU-15) and 14,000 km of new motorways need to be built within the next 10 years simply to offer

[9] *It provides a coordinated structure for the interests of over thirty national research and technical centres from Europe, together with associated institutes from around the world. FEHRL is engaged in road engineering research topics including safety, materials, environmental issues, telematics and economic evaluation.*

similar levels of network accessibility to Central and Eastern European citizens. These countries are already investing heavily in building new infrastructure. For example, Hungary spends 90% of infrastructure resources on the construction of new motorways. Similarly, in Slovenia, 27% of all bridges on the main road network, comprising 48% of the entire bridge deck area, have been built in the last 15 years. However, a consequence of such policies is insufficient budget provision, for maintenance of existing infrastructure.

Conclusion

Investment in infrastructure especially transport and in particular roads is very vital for Africa's development. The current poor state of roads infrastructure calls for specific interventions in the sector through a systematic approach in order to develop it in a more sustainable manner. Whereas most governments have already created designated road agencies and second generation road funds, this may not be the only requirement in the development of roads in Africa. The cost of road construction has in the recent past continued to raise both regionally and internationally because of various global dynamics. The resources available for most African countries are quite inadequate given the fact that there are other equally important sectors that need substantial allocations such as education, health and agriculture. This therefore calls for sub Saharan African countries to resort to PPPs by attracting credible investors who are willing to invest huge sums of resources into the road development and maintenance both in the medium and long term. Western developed countries in America and Europe have embraced PPP in road management which has been to a great extent successful. Emerging economies in Asia are also embracing the same in the spirit of relying on the private sector to deliver public goods in an efficient manner and without government bureaucracy. In any case, the record of government performance in infrastructure investment in Africa has been poor. It is high time countries introducing innovative ways of bringing the state and the private sector into joint ventures to raise capital to finance, rehabilitate, operate and maintain better road network by relying on private finance to design, construct and maintain roads. Once the roads are built, private operators charge tolls to recover costs and realize a reasonable return on investments before transferring ownership to the state. For East African region to have strong PPP in the road sub sector however, there is need to include appropriate performance measures for the maintenance and condition of physical infrastructure, creating effective mechanism to update agreements between government and the private sector, and adopting best practices from countries that have successfully implemented PPP so as to avoid failures and unnecessary mistakes.

BIBLIOGRAPHY

1. Allan, J. R. (1999) *Public –Private Partnerships: A Review of Literature and Practice*. Saskatchewan Institute of Public Policy, Public Policy paper n.4.
2. Donnges Chris etal, International Labour organization (ILO) *Rural Road Maintenance Sustaining the Benefits of Improved Access* Bangkok, International Labour Office, 2007
3. Easterly, W, *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*. Cambridge, MA: MIT, 2001
4. Farlam Peter, *Working Together Assessing Public–Private Partnerships in Africa*
5. Gumisai Mutume, *Building an efficient road network, Public-private partnerships hold the key to regional infrastructure* From *Africa Recovery, Vol.16 #2-3 (September 2002)*
6. Gwilliam Ken, *etal Africa Infrastructure Country Diagnostic, Roads in Sub-Saharan Africa* World Bank and the SSATP report 2008
7. Harris, C. (2003) *Private Participation in Infrastructure in Developing Countries. Trends, impacts and Policy Lessons*. World Bank, Washington, D.C.
8. *Karisa Ribeiro, Private-Public Partnership Initiatives around the World: Learning from the Experience* André Dantas New Zealand 2002
9. Klein, M., Roger, N. (1994) *Back to the future- The potential in infrastructure privatization*. World bank, Private Sector no: 30.
10. Transit NZ *Alternative methods of funding future State Highway projects*. Draft Report. (2003)
11. Piet Buys etal *Road Network Upgrading and Overland Trade Expansion in Sub-Saharan Africa Development Research Group World Bank, February 2006*
12. . Thillai Rajan A. R. Siddharth and S.P. Mukund, *PPPs in road renovation and maintenance: a case study of the East Coast Road project Department of Management Studies, Indian Institute of Technology, Chennai, India, and Bloomberg LP*, New York, USA 2001
13. Urban Management Centre (UMC) *Mega Cities....Poised For Change – Leading Practices* Usmanpura, Ashram, Ahmedabad India 2007
14. World Bank (2002) *Private participation in Infrastructure: Trends in developing countries in 1990-2001*. World Bank, Washington, USA.
15. Zhang, X. Q., K. M. M. (2001) *Procurement Protocols for Public Private Partnered Projects*. Journal of construction Engineering and management, ASCE, vol. 127, n. 5,