CHALLENGES IN FINANCING ROAD MAINTENANCE IN SUB-SAHARA AFRICA.

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International seminar on sustainable road financing & investment.

Introduction
(The role of Road Infrastructure)

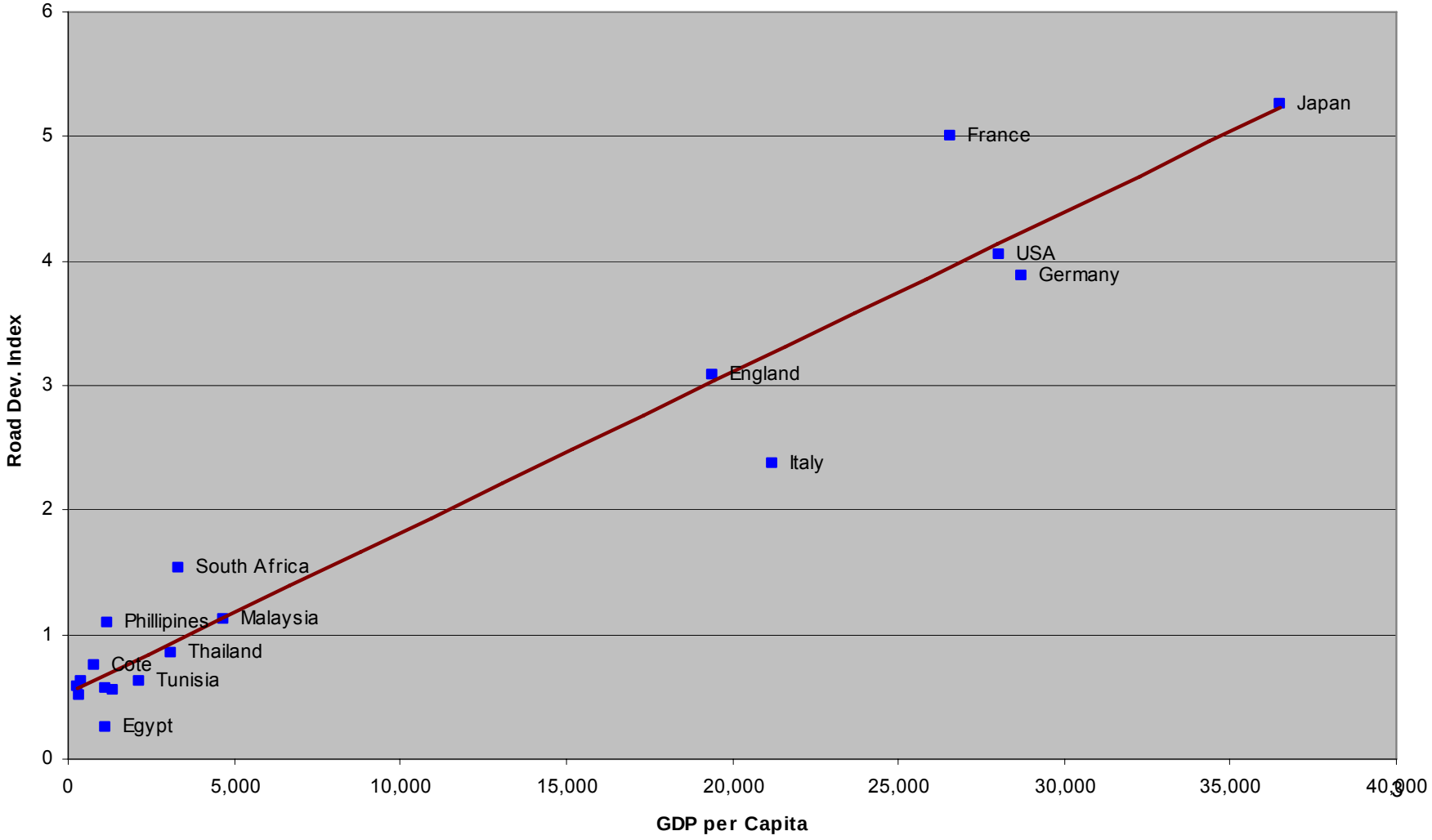
- In SSA where road transport is the dominant mode, road infrastructure is essential for socio-economic development and has sometimes been referred to as the engine of socio-economic growth.

  e.g. There is a highly correlated relationship between GDP and Road Density

Introduction
(The role of Road Infrastructure) cont…

GDP per Capita (US$/per)/ Road Development Index

Fig. 1: GDP vs RDI



Introduction
(The role of Road Infrastructure) cont…

- Roads provide links between centres of production and markets for economic sectors such as agriculture, mining, tourism and industry.

- Facilitates flow of people and goods along import-export corridors linking land-locked countries and coastal ports and thus promote trade

Introduction
(The role of Road Infrastructure) cont…

- Transport is a factor in determining the price of goods and services.

- Provides access to employment, health and education and other social services

Why Maintain Roads?

- Without adequate and timely maintenance, roads deteriorate.
  - leading to higher vehicle operating costs
  - increased number of accidents
  - reduced reliability of Road services
- ➢ The result is that Road Transport costs become high and suppress socio-economic development.

Why Maintain Roads? (Cont…)

- The Road Infrastructure is any country's most expensive asset.

  - for example the replacement cost of only the National roads in Tanzania is estimated at T.Shs 2.6 trillion (≈ US$ 2.3b).

- By far this is a huge asset by any standards and requires routine and periodic maintenance to keep it in a stable long-term condition to enable it play its role as a catalyst for socio-economic development.

Why Maintain Roads? (Cont…)

- Each dollar saved on required maintenance increases vehicle operating costs by up to US $ 10 over the life of the road.

- The cost of rehabilitation or reconstruction can also be up to 20 times more expensive than the cost of sustained maintenance over the life of the road.

- Despite the realisation that maintenance is necessary for the optimal performance of road infrastructure, maintenance has not always received the attention it deserves.

Why Maintain Roads? (Cont...)

- This has been attributed to inadequate provisions for financing and deficiencies in the management of roads.

  - Road infrastructure has not always been managed as part of the market economy but usually as a social service.

Why Maintain Roads? (Cont...)

- Expenditures are usually from general revenues and were the first to be cut during difficult periods. Maintenance was usually the first casualty.

- There are more often than not inadequate institutional frameworks within which roads are managed.

Reforms in the Road Sub-Sector

- To enable the road sub-sector support socio-economic development in SSA, a number of countries have embarked on Reforms over the last 2 or so decades.
- Reforms were the result of sustained dialogue with Development Partners in the Sub-Sector.
- Reforms aimed at addressing huge backlog of deferred maintenance, shortage of funds for maintenance and ineffective institutional arrangements.

Reforms in the Road Sub-Sector cont…

- Main thrust of the reforms have been to bring roads into the market place by charging for road use on a fee-for-service basis.
- To manage roads like a business.
- To be supported by the four building blocks of ownership, financing responsibility and management.

Reforms in the Road Sub-Sector cont…

- Most significant outcomes of the reform process has been the:

- Creation of "2nd Generation road Funds"
- Setting up of autonomous and semi-autonomous road agencies

Reforms in the Road Sub-Sector cont…

- The key characteristics of a 2nd Generation Fund are:
- A sound legal basis ensuring a separate independent administration
- Strong oversight by a broad-based management board with members from both the private and public sectors
- Sound financial management systems with a lean and efficient administration structure
- An agency which is a purchaser not a provider of road maintenance
- Regular Financial and Technical Audits
- Revenues are derived from road use

Reforms in the Road Sub-Sector cont…

- Most of the Road Funds in SSA derive a large proportion of inflows from levy on fuel
- Other sources include vehicle registration fees, transit charges and overloading fee
- The creation of these funds have ensured a predictable flow of funds for maintenance for better planning and execution of maintenance activities

Reforms in the Road Sub-Sector cont…

- Budgets for road maintenance have increased from 15 to 20 per cent of needs in the early 1990s to between 30 and 80 per cent now
- The setting up of the Funds was not intended to exclude government budgetary support for maintenance

  This has however not happened
- There are no robust mechanisms for adjusting fuel levy and other road use charges in relation to inflation and exchange rate depreciation
- With only 30 to 80 per cent of needs being met, the sustainability of maintenance funding in SSA appears questionable

The Tanzania Example

- Tanzania set up a 2nd Generation Road Fund in 1999 and it is seen as one of the better performing funds
- It is recognized that there cannot be a tailor-made solution to fit all countries
- However the challenges in funding maintenance in Tanzania typifies the problem in SSA

Road Infrastructure in Tanzania

- Road Sub-Sector comprises a network of approximately 85,000km
- 29,000 km classified a National Roads made up of 10,000 km of trunk and 19,000 km of Regional Roads
- Managed by the Tanzania National Roads Agency (TANROADS)
- Remaining 56,000 km are Municipal, District, Feeder and Community roads
- Managed by the Municipalities, and Districts under the Prime Minister's Office, Regional Administration and Local Governments (PMO-RALG)
- 5 per cent of the network is paved
- Road transport carries over 80 per cent passenger traffic and over 75 per cent of freight traffic

Road sub-sector maintenance needs

- **The Road Sub-Sector**
  - **The National Network**

    The following assumptions are made in determining the maintenance needs of the national network:

    i. The remaining 5,238 km of unpaved trunk roads would be upgraded by 2015 (approximately 500 km/yr).

    ii. 1,000 km of regional roads would be upgraded by 2015.

Road sub-sector maintenance needs cont…

iii. Roads in poor condition totalling 4,200 km would be rehabilitated by 2015 putting all roads in a maintainable condition only requiring routine and periodic maintenance.

Table 1 gives the estimates of the annual maintenance needs of the national network.

Table 1

Maintenance Needs from Year 2006 to Year 2015 for the National Road Network

Year	Routine	Periodic Paved	Periodic Unpaved	Total
2006/07	28,864	98,343	117,855	245,062
2007/08	29,846	67,778	15,671	113,295
2008/09	30,827	33,292	21,374	85,494
2009/10	31,809	36,886	20,178	88,873
2010/11	32,790	74,657	22,358	129,805
2011/12	33,772	77,326	23,572	134,669
2012/13	34,753	76,045	29,362	140,160
2013/14	35,735	29,322	35,575	100,632
2014/15	36,716	16,798	39,999	93,513
2015/16	37,698	9,735	41,515	88,948
Total	**332,808**	**520,183**	**367,461**	**1,220,452**

Road sub-sector maintenance needs cont…

- The figure for 2006 is much higher than for subsequent years. This is because the analyses take account of the current condition of the network, while for subsequent years it is assumed that the current needs would have been met.
- Current needs are unlikely to be met; therefore, prudent to eliminate current backlog or deferred maintenance over say a five-year period.
- This would mean reducing the current year's requirement to a manageable level and spreading the balance over the ensuing five years to say 2010.

Road sub-sector maintenance needs cont…

- Taking into consideration that the budget available for 2006/07 is TShs.90 million, a realistic assessment of the maintenance needs for the national network is shown on the next slide.

Table 2

Realistic Maintenance Needs – 2006 to 2015
For the National Road Network

Year	Realistic Maintenance Requirement	
	TSHS. MILLION	US$ MILLION*
2006/07	90	68
2007/08	145	110
2008/09	145	110
2009/10	145	110
2010/11	140	106
2011/12	135	102
2012/13	140	106
2013/14	101	76
2014/15	94	71
2015/16	89	67

1US$ = TShs.1,325.00

Road sub-sector maintenance needs cont…

- It would, therefore, be reasonable to assume an initial increase of funds by 50% while the funds are increased slowly to about US$60 million in 2015/16 as shown in Table 3.

Table 3

Local Government Roads Maintenance Requirements: 2006 – 2015

Year	Maintenance Requirements: US$ Million
2006/07	30
2007/08	40
2008/09	43
2009/10	45
2010/11	48
2011/12	50
2012/13	53
2013/14	55
2014/15	57
2015/16	60

Maintenance Funding in the Sub-Sector

- Roads fund was set up in 1991.
- Second Generation fund set up in 1999 to ensure funds were available when needed.
- The main source of revenue to the Roads Fund has been fuel levy. Accounts for about 95% of revenue.
- Fuel levy has been increased over the years but has not always kept pace with devaluation of the Tanzanian Shilling.
- The current levy is TShs.100.00 per litre equivalent to US7 cents.
- Government proposes to gradually increase the levy to US10 cents in real terms and maintain it at this level.

Figure 2

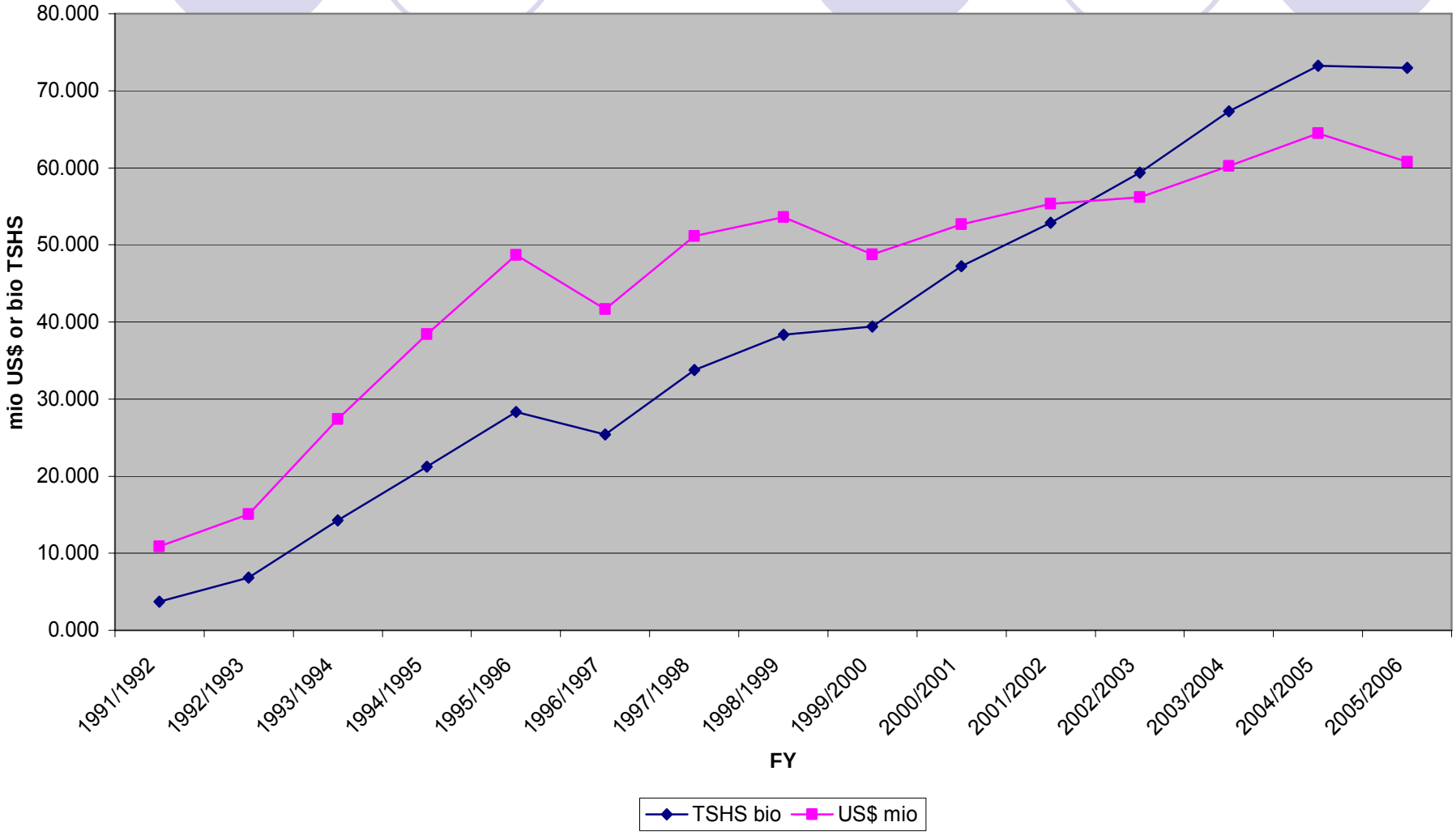


Figure 6.1 shows that between 1999 and 2005 the funds revenue increased from US$50 million to US$65 million, an average of about 3 per cent per annum.

Maintenance Funding in the Sub-Sector cont…

- With Government's commitment to increase the fuel levy to US10 cents and maintain it at this level, it would be reasonable to assume that the fund's revenue would increase at around 3 per cent annually from the US$61 million collected in fiscal year 2005/06 based on the current instruments.
- With current agreements with various Development Partners and the Government of Tanzania, it is expected that there would be additional maintenance funding of approximately US$30 million for National Roads and US$10 million for Local Government Roads over the next four years.

The projected income to the Roads Fund for the 10 year period, 2006/2015 is given in Table 4.

Table 4

Expected Roads Fund Revenue – 2006 – 2015

Year	Expected Roads Fund Revenue (USD Million)
2006/07	61
2007/08	63
2008/09	65
2009/10	67
2010/11	69
2011/12	71
2012/13	73
2013/14	75
2014/15	77
2015/16	80

Table 5

Maintenance Gap for the Road Sub-Sector

Year	Requirements Total US$	Available Funds (US$ m)	Maintenance Gap (US$ m)
2006/07	98	98	0
2007/08	150	103	47
2008/09	153	105	48
2009/10	155	107	48
2010/11	154	109	45
2011/12	152	71	81
2012/13	159	73	86
2013/14	131	75	56
2014/15	128	77	51
2015/16	127	80	47

Strategies for Bridging the Funding Gap

- These would have to be addressed to ensure sustained funding of road maintenance .
- For the road sub-sector to cover this gap, the base of the Roads Fund would have to be widened.
- A quick assessment indicates that at current consumption levels a levy of 24 cents per litre would cover the needs.
- It may, however, not be prudent to increase the levy to this level. A levy of US10 cents per litre is considered optimal since increasing the levy beyond this value could push general inflation up and retard economic growth.

Strategies for Bridging the Funding Gap cont…

- The other instruments which include:
  - Transit fees (contributes approximately TShs.0.3 billion annually).
  - Transit charges (contributes TShs.1.88 billion annually).
  - Overloading fees (contributes TShs.1.2 billion annually).

  Together contribute less than 5 per cent of the income of the Roads Fund.

  It would, therefore, be difficult to increase these to cover the funding gap identified.
- Since the desire is to eliminate overloading, overloading fees should not be used for planning purposes.

Strategies for Bridging the Funding Gap cont…

- It is suggested that a charge called “Annual Access Fee” be charged for all vehicles using the roads in the country.
- The fee would be structured to reflect the relative damaging effect a vehicle does to the road network.
- The fee may, therefore, range from about US$50 for a saloon car to about US$250 for a 7-axle articulated vehicle.
- This would replace the annual licensing fee of TShs.20,000 per vehicle currently charged and retained by the Tanzania Revenue Authority (TRA).
- This could cover a substantial portion of the maintenance funding gap of the roads sub-sector.

Strategies for Bridging the Funding Gap cont…

- The gap can be further reduced by introducing the principle of “fee for service” to generate additional funds for maintenance where economically feasible.
- For example, road corridors with traffic of say 1,000+ vehicles per day should be studied for Maintain Operate and Transfer (MOT) Schemes to allow funds from traditional sources to be used on less trafficked but important roads.
  - A target for this could be the Tanzam highway, the North-Eastern Corridor and the Central Corridor, the maintenance of which could be taken out of the Roads Fund budget.

- Government in the meantime may have to bridge the gap through additional budgetary collections from the consolidated fund.

Strategies for Bridging the Funding Gap cont…

- These initiatives could be further strengthened by:
  - Instituting a sound investment policy and ensuring proper investment decisions in the sub-sector since any new investments ultimately put pressure on the maintenance budget.
  - Road sub-sector Agencies putting in place systems to ensure better use of available resources.
  - Designing appropriate and cost-effective maintenance interventions.
  - Developing more innovative and cheaper ways of maintaining Roads infrastructure by the road sub-sector agencies.

Strategies for Bridging the Funding Gap cont…

- To raise additional funds for maintenance and possibly for upgrading of Roads infrastructure, government may introduce an infrastructure levy of say one (1) per cent of CIF on all imports.
- Alternatively, infrastructure bonds could be floated by government to cover gaps in infrastructure maintenance funding and also for upgrading Roads infrastructure in the country. This is however a long-term option.

MWISHO

THE END

NINAWASHUKURU SANA

THANK YOU