CHAPTER FIVE.

WORLD BANK FINANCING OF INFRASTRUCTURE IN KENYA.

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5.1 INTRODUCTION

The productivity, welfare and Economic prosperity of both rural and urban population are mostly impacted by the degree of infrastructural advancement in their areas and the infrastructural connections to division, district, provincial, and national centers of government facilities and business. Infrastructure is a public input, which plays a vital role in the production process as well as the provision of information. According to Jeffrey Sachs *"Our safety and prosperity depend at least as much on collective decisions to fight disease, promote good science and wide spread education, provide critical infrastructure, and act in unison to help the poorest of the poor"* [1], No doubt such facilities and services are vital.

Infrastructural services share technology economic features such as economies of scale and spillovers from users to nonusers and enhance productive capacities of firms within agriculture, commerce, industry and households. A country's economic development and welfare of its citizens depend in large part on the level of infrastructure services. Infrastructure plays a central role and is now viewed as a major contributor to growth, poverty reduction and the achievement of the Millennium Development Goals (Anup Chatterjee 2007 pp55).[2]

The services provided by infrastructure are known as public inputs, public intermediate goods or collective factors of production. Broad examples include public infrastructural services such as public utilities, public works, and other transport sectors and the provision of information. Infrastructure is important and there has been substantial empirical investigation of their impact, which has established their significant role in economic growth, and development of the country. (Aschauer 1989)[3] established that roads are the largest component of public capital, which shows the positive correlation between infrastructure and productivity. Infrastructural basic installations that support a community's day to day life and economic activity in Kenya includes roads, electricity, water systems, telecommunication services, and public transportation. It fosters productivity and improves the quality of life for a society thus reducing poverty. Roads enable people to be transported to markets, schools, and health care facilities. Dependable electricity saves businesses and consumers from investing in costly backup systems or more expensive alternatives and relief rural women as well as children from the laborious job of collecting firewood.

The objective of this chapter is to analyse financing of World Bank projects in physical infrastructure, which is composed of transport, communications, constructions, water and energy. An efficient network of the infrastructural facilities in both urban and rural areas is most important for Kenya to emerge from the current dismal growth and achieve substantial GDP growth rates. Poor infrastructure in the 1990s led to increased production costs and transport costs

and reduced competitiveness (World Bank 2004) [4]. These indicate that there is insufficient resource provision for construction, maintenance and rehabilitation of facilities. The situation was exacerbated by Poor contractual work, rapid urbanization, and soaring population growth and adverse whether conditions. Moreover there has been overwhelming empirical studies showing the significant role of infrastructure in the economic development of country (Shah 1992) [5].

The dilapidated economic and social infrastructure has been acknowledged as a major impediment to economic growth in Kenya. Availability of adequate efficient and affordable infrastructural facilities constitutes the core of development strategy and efforts. By their very nature infrastructural projects (power, railway, ports, civil aviation, roads and telecommunication) involve huge investments, long gestation periods and high risky [6] (Anup chatterjee pp78)

Road transport accounts for over 80 percent of Kenya's total passenger and freight transportation. The infrastructure has over recent years deteriorated to the extent that 47 percent of the classified road network is currently in a failed condition and requires reconstruction. The rail transport, the second mode of transport after roads is faced with low reliability, lack of maintenance of infrastructure and rolling stocks resulting in a decrease in capacity of more than 50 percent. In telecommunications, the total fixed line telephone exchange capacity is estimated at 507,230 lines with 331,500 line connections and another 1.2 million cellular phone subscribers. Only two percent of the households have fixed lines, with 60 percent of them located in the Nairobi area, waiting time for

new lines is estimated at eight years. The current inefficiency and monopolistic structure in the fixed-line telecom sub-sector has resulted in poor access and services. The monopoly license held by the Telecom Kenya expired in July 2004, and the Government is engaged in the process of introducing competition in the international segment by licensing another fixed line operator with a view to lowering the cost of both local and international calls, (World Bank 2004) [7].

Development literature over the past years has undergone a sea change however all types of development theories lay emphasis on the importance of infrastructure as a necessary precondition for vibrant economy. Infrastructure boost growth by eliminating the accessibility bottlenecks, bridges time and provides stimulus to entrepreneurial activities through creation of numerous opportunities. The experience of USA Japan and Britain bear witness to this proposition, the American economy was subsistent agricultural economy till 1830s due to the high costs of land transport. Construction of canals, turnpikes and subsequently the railway transformed the country into an agricultural surplus and industrialised country (L.N. Dash 2002) [8]. Development of infrastructure is a major step towards the economic development of a country.

Development of a power generation reliable transport and communication gives an impetus to the industrialization of the country however when any country neglects the infrastructure the development process is doomed to stagnate. The evidence from various studies point out the crucial role infrastructure play in

economic development of the country where by there is positive correlation between infrastructure and productivity (Fernald 1999).[9]

Ineffective rural transport services are a primary impediment to economic and social development in Kenya. In order for the World Bank to reduce poverty by improving access to social and economic facilities it has funded various road projects in Kenya. In Kenya 80 per cent of the people live in rural areas their development depend on better infrastructure, such as roads, tracks, footpaths and footbridges.

Insufficient rural transport infrastructure and deficient of mobility pose main limitations to rural development in Kenya and Sub-Saharan Africa. Poverty evaluations from Sub-Saharan Africa underscore the close relationship linking isolation of the rural population and rural poverty. Kenyan and African villagers walk and carry their goods and commodities. The most widespread means of transport in Africa are the legs, heads and backs of African women. Seventy percent of the population in Sub-Saharan Africa and 80 per cent in Kenya live in villages and depend on rugged roads, tracks, and paths to carry out their productive activities and everyday jobs. Despite this poor local transport network the Kenyan and African rural population carry a third of the region's gross domestic product (GDP) which becomes food for urban populations and generates 40 percent of the continent's export revenues.[10] The people desire infrastructure because it enables them to overcome the distance that separates

their homes from the places where they work, shop, seek medical attention, go to school, do business, or visit friends and relatives. Businesses also desire infrastructure because it also helps them overcome distance — the distance that separates them from their sources of raw materials, from their markets, and from their employees.

Movement of goods, factors of production, tradable resources flock to places where adequate infrastructure is in place. Therefore World Bank financing in Infrastructure has tremendous bearing on poverty reduction and enhancement of living standards in Kenya. The productivity, welfare and security of both rural and urban people in Kenya are greatly influenced by the level of infrastructure development in their communities and the infrastructural links to district, provincial and national centers of administration and commerce.

5.2 INFRASTRUCTURE POLICY IN KENYA.

Unprecedented supply deficit and increasing freight and transport congestion problems in roads railway ports is undermining the government of Kenya's ambitions towards economic development. The broad strategy to address the infrastructural scarcity encompasses application of joint venture and streamlining the tendering and procurement procedures to minimise abuse and promote professionalism in construction projects. Modernization and liberalisation policy to improve the status of the infrastructure is sought. The government of Kenya has given priority to developing competent and quality infrastructure services

(GoK 2002). [11] Poverty assessments from many Sub-Saharan African countries point to the pivotal role of infrastructure as an enabling condition for development in all sectors. Improving rural mobility and ease of transport should therefore be part of any poverty reduction program.

5.3 WORLD BANK FINANCING FOR INFRASTRUCTURAL SECTOR

The World Bank financing for infrastructure is highlighted in the following subsections.

(I) ROAD TRANSPORT

Road transport accounts for over 80 percent of total passenger and freight transportation in Kenya. Poor road network as a major constraint on economic growth and poverty reduction as it contributes to the high cost of doing business. Household surveys show that 87 percent of trips in rural Africa take place on foot and women devote more than 65 percent of the household time and effort spent on transport, (Barwell 1996) [12]. World Bank believes that a road transport sub-sector that is performing well has a major impact on access to employment and an extensive variety of social services. As a facilitator of the movement of goods and persons it is a key element for the functioning of the markets contributing to match supply and demand. Road transportation is a key instrument for regional integration and generates a supportive environment for private initiative and willingness to invest. An efficient and resourceful road transport sub sector also

has a substantial influence in the country's competitiveness and it is one of the vital elements in determining the price of goods.

Kenya's transport system comprises of five major modes namely roads, railway, marine, air and pipeline. These modes integrate the various production and population centers and facilitate mobility in both rural and urban areas. The transport and communication sector promote the export of goods, improves the trade with the neighbouring countries and provides these countries with transit facilities. Urban roads transport is an important element in achieving high productivity in the manufacturing sector and the other sectors of the economy. An improvement of rail transport is vital for high haulage particularly in the transport of bulk commodities over length distances. Railway offers the cheapest mode of transport for bulky products to and from the port of Mombasa to the mainland as well as Kenya and the great lake region and thus creates a most important contribution to the development of the economies of the Region, (GoK 2004). [13] The oil pipeline provides an environment friendly mode of transport for oil products from the coast and helps in lowering the costs related to maintenance of roads of physical infrastructure. Kenya has one oil pipeline from Mombasa to Kisumu via Nairobi and Eldoret.

Most of the vital transport facilities are already in place but in poor conditions due to poor maintenance, inadequate funding and inefficient operation and management. The poor state of the roads has caused high vehicle operating

costs high fare for public transport and unstable delivery schedules. This has resulted to high production costs, uncompetitive exports, and high costs of imported inputs and capital goods thus constraining economic development. Transport facilities are in high demand in the Kenyan economy considering the enormous population explosion in the recent years. Agricultural and industrial advancement of the economy require robust transport facilities. Inadequate transport facilities are major bottleneck to economic growth and development like lack of capital or lack of technology.

During the early years of independence, Kenya achieved commendable economic growth compared with other developing countries. GDP grew on average at 6.6 percent per year in 1964–1973. The rapid growth resulted mainly from successful rural development policies that led to increased agricultural output, industrialization strategy supported by access to the East African community market and good macroeconomic management. Infrastructural growth contributed to the rapid growth during this decade through its increased performance over the last decade of the colonial period. The five most rapidly growing sectors over 1954–1963 were banking, insurance and real estate with annual rates of growth of 12.5%, electricity and water 10.8%, government services 9.4%, services 8.8%, manufacturing 7.6%, transport, storage and communications 8.3%, rents 7.1%, and agriculture 6.4 per cent.

Table 5.1

The five most rapidly growing sectors over 1954–1963

Sector	Rate of growth (%)
Banking insurance &real estate	12.5
Electricity & water	1..8
Government services	9.4
Services	8.8
Manufacturing	7.6
transport Storage and communications	8.3
Agriculture	6.4

Source, economic survey Reports various issues.

(ii) AIR TRANSPORT

It is the major transport mode to tourists, high value exports and imports and perishable goods. Kenya has three main international airports, Jomo Kenyatta International Airport (JKIA) located in the capital city Nairobi, Moi International Airport (MIA) in Mombasa and Eldoret International Airport (EIA) in Eldoret. The Wilson Airport in Nairobi deal with light aircrafts and quite a number of scheduled and chartered domestic flights make use of the aerodromes here. There are more than 250 airstrips located strategically country wide linking all parts of Kenya to Nairobi. Jomo Kenyatta International airport (JKIA) is a hub for all International airlines, (GoK 2004) [14]. Air transport is vital for transport when high value imports and perishable horticultural exports are being transported. Air transport also plays an enormous role in promotions of tourism. Marine transport

has historically provided linkages between international markets with Kenya and the hinterland countries within the region.

Kenya is the major airline hub in East Africa and the port of Mombasa is one of the main ports on the east coast of the continent. It serves the whole of Kenya and countries such as Uganda, Burundi, Rwanda, which are land-locked countries. The challenge for Kenya is to exploit these opportunities by expanding regional infrastructure networks.

(iii) COMMINICATION

An efficient and modern communication system in the era of globalisation is today the key for achievement of rapid economic development. A reliable and efficient communication system contributes directly and indirectly to poverty eradication by fostering economic growth and development. It has been established that more than two-thirds of foreign firms and 40 percent of domestic firms identified poor infrastructure as a severe constraint to doing business. This is in sharp contrast to neighbouring Tanzania and Uganda, where in similar surveys, telecommunications was placed last in the list of constraints, identified as such by fewer than 6 of firms in Uganda. Telecommunications can play a vital role in reducing the costs of business transactions. Evidence from Botswana and Zimbabwe for instance, suggests that areas lacking telephone access experience significantly less entrepreneurial, (Kippra). [15]

World Bank road sector development Projects has improved the reliability of Kenya's road transport infrastructure by expanding and maintaining the road

network and strengthening the institutional capacity in quality and efficiency of road construction, management and maintenance. The World Bank financing in the infrastructure sector has also created conditions conducive for the domestic construction industry to develop in the road transport sector. The emphasis has been on facilitating growth in both the agriculture and industrial sectors by improving transport corridors as well as better linking emerging regions to the rest of the country. The enhanced infrastructure country-wide has in a socially and environmentally sustainable manner created trade and job opportunities, enhanced private sector participation and strengthened capacity of the road sector in providing service delivery in an efficient and decentralized manner.

Table 5.2:EXPANSION TELECOMMUNICATIONS NETWORK IN KENYA

Year	Telephone and cellular	Internet users
1995	258713	200
1996	269606	2500
1997	278583	10000
1998	299007	15000
1999	313757	35000
2000	419110	100000
2001	909379	200000
2002	1508604	400000
2003	1919143	1000000
2004	2845412	1500000

Source, Information and communications technology sector 2005 report Kenya

Telkom Kenya is today the only fixed national operator and arrangements are underway to licence a second national operator. One regional telecommunication operator (Bell Western Communications Ltd) has been licensed to provide services in the North Eastern region. The Government has liberalized the mobile cellular market and currently there are two mobile cellular operators, Safaricom Ltd and Celtel International (formerly Kencell Communications Ltd). The third mobile cellular service provider (Econet Wireless) has recently been licensed but is yet to commence operations.

By September 2004, there were 240,000 fixed telephone line subscribers and 2.8 million cellular mobile subscribers. This translates into fixed telephone density of 0.75 per hundred inhabitants for fixed and 9.75 per hundred inhabitants for mobile against the world average of 19 and 21 respectively. It is also lower than that of many African countries like Tunisia (11.3% and 16.9%) and Egypt (10.8% and 17.7%) respectively. There are about 121,000 applicants on the fixed telephone waiting list.[16]

(iv) Energy Sector

The energy sector is dominated by the use of fuel wood and other biomass, which account for over two-thirds of total energy consumption petroleum contributing another twenty percent and electricity about a ten percent of energy consumption. Energy cost in Kenya is expensive due to lack of adequate

capacity to meet the rising demand and high system losses estimated at 21 percent.

Table 5.3: Table showing energy sector in Kenya. Electricity MW (installed by type of power).

1 Megawatt=1000 kilowatts

	1993	1994	1995	1996	1997	1998	1999	2000	2001	20002	2003
Hydro	594.5	594.4	594.5	595.5	598.5	594.5	594.5	674.5	677.2	677.2	677.2
Thermal	144.3	147.3	147.3	148.1	216.7	217.2	290.7	427.9	407.0	407.0	407.0
Geothermal	45.0	45.0	45.0	45.0	45.0	45.0	45.0	58.0	58.0	58.0	58.0
Total	783.8	786.8	786.8	787.6	860.2	856.7	930.2	1160.4	1142.2	1142.2	1142.2

(Source, statistical Abstract various issues.)

The drastic explosion of the population strains the energy sector, which has not grown proportionately to the demand. The current state of the infrastructure has failed to create and support an enabling business environment that would facilitate private sector investment, growth and job creation particularly in the key productive sectors. This has effectively hampered the expansion of economic activity and delivery of social services, particularly in the remote areas where the need for economic development and poverty alleviation is most critical. Most of the sub-Saharan rural areas do not have electricity implying that there are less economic activities taking place. We have elucidated this by table 5.4.

Table 5.4: Electrification rates by region (%)

Region	1970	1990	2000	2015*	2030*
North Africa	34	61	90	98	99
Sub Sahara	9	16	23	33	49
Africa	14	25	34	43	56
South Asia	17	32	41	53	66
Latin America	45	70	87	94	96
East Asia/china	30	56	87	94	96
Middle east	36	64	91	97	99
Developing countries	25	56	64	72	78
World	49	60	73	78	83

Source World Bank report 2006.

On infrastructure-related issues, power was perceived as unquestionably the most problematic. Power shortages have been recurrent in recent years particularly in 2000 when a drought impacted severely on the predominantly hydro-based system and have been compounded by inefficiencies and losses (of 21%) in transmission and distribution. Arrears from power sales have contributed to liquidity constraints. In 2002, firms reportedly experienced 33 outages, which together with power surges resulted in an average value in terms of lost production of 9.3 per cent of total annual sales. In addition, 64 per cent of firms experienced damage to equipment on account of power fluctuations and outages valued at as much as Ksh 1.15 million nearly $15,000) per firm in 2002. To cope with frequent outages, the majority (70%) of firms owned generators, a higher percentage than in Uganda,

Tanzania, which added to the cost. Nearly 15 per cent of their electricity requirements were met with these generators. Utility costs were cited from the fourth largest proportion of firms (23.6%) as among the top three constraints (World Bank 2004).[17]

RATIONALE OF THE WORLD BANK FINANCING ON INFRASTRUCTURAL SECTOR.

The Bank's contribution in the sector signify the ongoing and evolving partnership with the Government of Kenya that dates back from the early 1970s when the Board approved two loans for development of hydropower facilities on the Tana River. Since then, the Bank's support to the sector has undergone change from an initial focus on financing construction and equipment to supporting institutional development, particularly on geothermal development and to an emphasis which started in the early 1990's on sector reforms. The switch to a focus on sector reforms came about when it turned out to be apparent that while implementation of physical components was generally satisfactory, but institutional improvements were less therefore foremost reforms were desired to provide a foundation for efficient and sustainable development of the sector. Traditionally, most investment in infrastructure has been publicly funded with about 70% of the total spending, and the private sector has contributed roughly 20 to 25 per cent while official development assistance has financed only around 5 to 10 per cent. Infrastructure provision is no longer assumed to be neither the sole responsibility

of the public sector nor that of the private sector, but increasingly it is about public-private partnerships.

Table 5.5: Expenditure on roads (KSH millions)

	Trunk road	Primary road	Secondary roads	Miscellaneous	Recurrent exp	Total
1993	773.6	494	174.4	56.1	1243.2	2741.2
1994	971.5	743.9	364.1	345.2	2575.3	50008.4
1995	1817	1035	576.9	563	3555.6	7471.5
1996	785.7	829.7	683.6	465.3	4707.3	7471.6
1997	995.4	1156.4	317.6	399.7	4682.3	7551.5
1998	1422.3	752.6	135.3	376	5922.1	6785.1
1999	714.3	18.3	5.8	124.6	5922.1	6785.1
2000	711	5.5	1131.1	277.2	6696	9320.3
2001	1335	601.4	635.8	-	8042.4	10066.6
2002	1459.5	808.3	345.8	-	6005.2	8618.8

Source, Computed from economic survey reports various issues.

Infrastructure investments are characterized with regulated low returns and long depreciation periods, which face budget constraints in most developing countries and the impediments to private investments. The World Bank aims to help Kenya mobilize all available resources and reverse the decline in private investment by offering innovative financial instruments such as greater access to quality infrastructure, investments in new physical assets as well as operations and maintenance (O&M) expenditures. Current estimates of the financing needs in developing countries stand about 7 per cent of GDP and these needs can be as high as 9 per cent of GDP in low-income countries. Achievement of these goals would require a doubling of present levels of infrastructure financing. Many donor countries have increased support for special humanitarian assistance and debt reduction over four decades, but unfortunately this does not translate into additional resources for African countries to rebuild their infrastructure, train

teachers and combat HIV/Aids and malaria. With modern energy, fewer women and children will die prematurely of indoor smoke inhalation, water and air will be cleaner, Kenyan youth will be able to learn at night and productivity will increase.

A bizarre trend prevails in the energy sector. The percentage of households with electricity in Nairobi is far greater than that of the rest of the other seven provinces combined. Firewood, charcoal and biogas are the major sources of energy used in many parts of Kenya. Wood fuel accounts for about 70% of the energy consumed and electricity counts for 9 per cent. Should this trend continue the effect on environment and therefore on sustainable development for future generations will be disastrous.

(iv) ROAD TRANSPORT

Kenya's road network is approximately 150 kilometers out of which 63,300 kilometers are classified, the total roads under Bitumen increased by 3.2 per cent from 8.66 thousand kilometers in 1999 to 8.94 thousand kilometers in 2003. The total numbers of road by type and classification between July 2003 and July 1999 is represented in the table below. Secondary roads under bitumen decreased from 1.18 thousand kilometers in 1999 to 1.17 thousand kilometers in 2003 representing a 0.8 per cent decline. The poor state of road transport infrastructure has been a major factor contributing to Kenya's lost productivity and an obstacle to economic recovery and sustainable development. Among six African countries (Cameroon, Kenya, Malawi, Nigeria, Senegal, and Tanzania), external finance accounted for 50-90 percent of total resources for investment in

rural roads and 10-20 percent of resources available for maintenance (Gaviria 1991)[18].

Table 5.6: Kilometers of road as at 2004

Type of road	1999		2003	
	Bitumen	Earth/ Gravel	Bitumen	Earth/ Gravel
International trunk	2.65	0.96	2.89	0.87
National trunk	1.30	1.37	1.43	1.37
Primary	2.56	5.47	2.49	5. 18
Secondary	1.18	10.16	1.17	10.05
Minor	0.75	26.30	0.75	25.80
Special purpose	0.22	11.00	0.21	11.09
Total	**8.66**	**55.26**	**8.94**	**54.36**

Source, statistical abstracts Kenya bureau of statistics

- Special purpose roads include government access, settlement rural access, tea, sugar, and wheat roads.

The transport sector in Kenya comprises a road network with 150,000 km of roads, a single-track railway running from Mombasa to Uganda, a major sea port at Mombasa, small ports at Lamu and Malindi, a ferry service to Uganda, four international and many small airports, and three inland container depots (IEA 1998). With a 34% share in the total transport sector in 1998, road transport has the highest contribution to national output among the transport systems. It is

followed by air transport, with 25 per cent and water transport with 16% (Ikiara et al. 2000). Road transport holds the potential for rapid economic growth and poverty reduction through its influence on production costs, employment creation, and access to markets and investment [19].

Poor and deteriorating conditions of the road transport reflect the state of the transport sector in Kenya. As there is much expansion on the networks it has exerted institutional and financial burden on the government budget, which has tended to increase more dramatic than the government budget will cater for. The government is overburdened to cater for maintenance costs let not the construction of new roads in the rural areas where dire need for them is. Incase the roads are build they do not meet the stipulated standards per the ministry of roads and public works this can be attributed to the rampant corruption which has characterized the government projects in Kenya. Kenya road system has a network of 150,000KM and 350,000ton vehicles. The road sector holds a key role in the economic development of Kenya as most of the people 80% of the people live in the rural areas where road is an important mode of transport. Twin probable avenues exist through which new or improved infrastructure can facilitate poverty alleviation. The first route is through the indirect link between infrastructure and economic growth. The second one is through the direct contribution of infrastructure to the process of pro-poor growth. The poor are usually associated with inadequate access to infrastructural facilities like clean water, sanitation, transportation and communication. This limits their access to

another set of input indicators, namely, health services, education facilities, food, markets and this causes a negative impact on poverty indicators such as life expectancy, literacy, income and nutrition. Hence, road transport, water supply, and sanitation are the major components of infrastructure most likely to promote pro-poor growth.

These improvements in road transport can raise incomes of the poor through diverse mechanisms especially agricultural output where bulky low-value crops are involved the rural people would benefit from the reduction in the time wasted on water and firewood collection particularly by women. Trucks can be hired to move bulk produce and agricultural supplies in close proximity to the farmers where it is needed. Improved tracks and footpaths facilitate the movement of hired farm labour to the fields. In isolated rural areas where there is great difficulty in marketing produce crops can be transported in smaller quantities by non-motorized transport if roads or paths are in sound condition. Improving roads will impact to better access to social amenities like health clinics, income-generating activities and travel from rural to urban locations to work in services and construction in the informal sector.

World Bank with the partnership with the government of Kenya has facilitated in the construction of the following road system as highlighted in the following agreement. Lack of maintenance has left over 50 per cent of the paved roads in Africa in poor state, and the condition of more than 80 per cent of the unpaved

main roads would be considered just fair. The case of rural feeder roads is even worse, at the end of 1999; up to 85 per cent of them were projected to be in poor condition with accessibility limited to dry seasons in most cases. The inadequate and poorly maintained rural feeder roads linking villages and farming areas with each other and with market centers is a major gap in rural transport in Kenya.

Table 5.7: Paved primary roads for selected African countries

Region or country	% of paved roads						% in good condition
	1991	1992	1993	1994	1995	1996	1989
Sub-Saharan Africa (SSA)	17.0	16.5	16.4	16.1	16.2	16.5	39
SSA excluding South Africa	17.0	16.5	16.4	16.1	16.0	16.5	39
SSA excluding South Africa and Nigeria	17.0	16.0	15.8	15.6	15.5	15.8	41
Botswana	34.0	19.9	21.1	22.2	23.3	23.5	94
Cameroon	10.9	11.3	11.7	12.1	12.5	–	25
Ethiopia	15.0	15.0	15.0	15.0	15.0	15.0	47
Ghana	23.0	23.5	23.9	24.4	24.9	24.1	28
Kenya	**13.3**	**13.8**	**14.3**	**13.6**	**13.8**	**13.9**	**32**
Malawi	17.0	17.0	18.0	18.0	20.0	20.0	56
Mauritius	93.0	93.0	93.0	93.0	93.0	93.0	95
Namibia	10.9	10.9	7.3	7.9	7.9	8.2	–
Nigeria	30.0	30.0	30.0	21.3	18.8	18.8	34
South Africa	–	–	–	–	41.5	–	–
Tanzania	37.0	37.0	4.2	4.2	4.2	4.2	39
Uganda	–	–	–	–	–	–	10
North Africa	70.0	66.0	66.7	68.0	68.9	78.1	–
Algeria	70.0	66.0	66.7	68.0	68.9	–	–
Egypt, Arab Republic	52.7	53.8	54.9	56.0	57.1	–	–
Morocco	49.5	49.5	49.6	50.2	50.2	51.8	–
Tunisia	75.5	74.6	76.0	77.4	78.8	78.9	–
All Africa	17.2	17.5	17.8	18.1	18.6	18.3	39

Source: World Bank (2000:

The following table shows the early projects which the World Bank financed in Kenya.

Table 5.8

INFRASTRUCTURAL FUNDING BY THE WORLD BANK IN 1960S AND 1970S ($ MILLIONS)

Approval date	Project cost	Name of the project
	4.5	Roads project
June 1965	3	Tea roads project
Sept. 1965	0.1	East African Railway
Sept. 1965		East African Harbors II
Feb. 1967	0.1	
May 1967	5.3	Sugar Roads Transport
June 1968	10.7	Trucks Transport
July 1969	0.1	East African Harbors
Sept. 1969	23.5	Combined Road highway
May 1970	0.1	Post and Telecomm II
Dec 1979	12.6	High way maintenance
Dec. 1971	22	Highway project 4
May 1972	29	Nairobi Airport
May 1973	0.1	
Aug 1973	29	Highway project 5
June 1975	20	Mombasa Nairobi Pipeline
July 1976	8	Rural Access Road Project
June 1979	20	
April 1979	90	

Source, Projects and Operations database and annual reports of the World Bank.

5.4 ANALYSIS OF SELECTED PROJECTS FINANCED BY THE WORLD BANK IN INFRASTRUCTURE.

The Tea Project (01) commitment amount US$ 2.8 million was approved on 17th August 1964. The first project entailed the design improvement and the reconstruction of the seven roads of the length of 194miles and building of bridges. This project intended to improve the low standards of the trunk road network and relocation of part of the road sections improvement of the drainage paving and repairing of certain narrow and poorly placed roads.[20] The tea roads

project focused on design and construction of 800 miles of the tea collection roads and 94 miles of factory access roads in the rural areas to cater for the small-scale farmers of Kenya.

Energy Sector Recovery Project focused to enhance the policy, institutional and regulatory environment for private sector participation and sector development. Commitment amount was US 80 million. The project increased power generation capacity to meet the economy projected supply deficits and increase access to electricity in urban and rural areas while improving the efficiency, reliability and quality of service to existing consumers. The project concept Note had included the conversion of the 2x30 MW gas turbines at Kipevu to combined cycle operation in accordance with the GoK request of July 15, 2003. The upgrading of the distribution network intended to reduce losses, approximately at 18.7 per cent, improve the quality of supply as well as reduce frequency and duration of interruptions caused in part by overloaded transformers and lines.[21]

Northern Corridor Transport Improvement Project sought to increase efficiency of road transport along the Northern Corridor to facilitate trade, regional integration, enhance aviation safety and security to meet international standards. Commitment amount was US$ 275 million. The Rehabilitation of the Northern Road project has been strengthening and rehabilitating priority road sections along the Northern Corridor to withstand traffic projections and provide reliable road transport services. Additionally, improvements at the Airport North Road will be provided as well as consultant services for supervision of works. The project

has contributed to socioeconomic enhancement, roadside amenities and HIV/AIDS mitigation involving the construction of bus stop terminals at key selected locations, to include parking areas. Bicycle paths, pedestrian sidewalks as well as other roadside features to enhance safety.

The road safety improvement component seeks to reduce accidents, through implementation and monitoring of a road safety program like road safety education, emergency services, regulations and enforcement. The project fostered institutional strengthening in the roads sector, policy reforms, strengthening research, engineering and design studies on the Mombasa bypass. Support to the Kenya Airports Authority through civil works, consultant services, technology to improve operations, search and rescue capacity, and the safety and security standards at the various airports were financed. Support to the Kenya Civil Aviation Authority (KCAA) for safety inspection, training, reform implementation, equipment and implementation of Global Navigation Satellite Systems, Global Positioning Systems was funded. General aviation training, support to the Ministry of Transport and Communications through technical assistance and training, particularly related to maritime laws and regulations was funded.[22]

The energy sector reform and power development project objectives were to assist the government of Kenya in formulating and implementing major policy and institutional reforms which aimed at creating an efficient and environmentally

sustainable energy sector and support investments needed to meet power demand and increase operational efficiency. Cost of the project was US$798.9 million.

The project's specific objectives were to:

1) Finance investments needed to meet power demand and improve the operational efficiency in the sub-sector;

2) Reform the organizational structure of the power sub-sector to enable the operating entities to function efficiently and on a commercially sustainable basis;

3) create a legal and regulatory environment necessary for private sector participation in the supply of electricity;

4) Support GoK's adoption of economic pricing of both electricity and petroleum products and implementation of demand and supply-side efficiency improvement measures; and

5) Develop indigenous geothermal energy resources and a strategy for sustainable household and rural energy development. The project will consist of sector reform and other institutional support. Efficiency improvements, power system expansion, geothermal resource development; and future project preparation.

The Energy Sector Reform for Kenya project performance was modest .It is our strong contention from the analysis of the project that performance will be improved by tackling the issues macro-economic environment, poor governance of the sector, weak financial performance of Kenya Power and Lighting Company Limited (KPLC) as the power off taker under the PPAs, inadequate track record

with implementation of an autonomous regulatory framework and perceptions of high resource risk in the case of geothermal power development. Another important lesson was the recognition that, for projects involving substantial resource risk, a public-private partnership approach may be necessary to ensure successful implementation. The setting up of a dedicated project implementation team including external experts if needed at an early stage of project formulation is also a lesson to be drawn from the implementation of the Project.[23]

The Nairobi-Mombasa Road Rehabilitation Project, the lessons learned indicate that institutional and financial reform, staff reduction and increased use of private contractors were difficult to resolve yet they were key to alleviate future recurrence of financial problems that contributed to the poor state of the road network. Bank support was critical for success of the reform program. The Bank's choice of the option of including institutional, policy and road maintenance financing reform was a sound one. The poor state of the key transport corridor solicited strong government's commitment to implement the project. This provided an opportunity to jointly implement some critical institutional policy changes recognized as important to address underlying fundamental recurring problems of the sector. There is need to include a dedicated financial management function within the project technical team that will be responsible for funds flow, accounting and reporting.[24]

The Urban Transport Project consisted of road transport investments, capacity building, project implementation support, and future project preparation support. The objectives of the project are to increase economic efficiency of the urban road network, build sustainable road maintenance capacity, institutional, financial and engineering of the project towns and a program of municipal reforms. The project represented a substantial investment by the government of Kenya's urban centers for the benefit of the national economy. The project established adequate maintenance capacity and encouraged basic maintenance discipline to all the local authorities and assisted the Ministry of Local Government to efficiently plan, manage and finance the maintenance of urban roads; b) improve conditions of the urban roads which were deteriorating rapidly. Through a balanced investment program of routine and periodic maintenance, improved traffic management measures in the project towns, which were used largely by the poor and improve the access to non-motorized transport facilities. Introduced measures to increase implementation efficiency through increased use of existing private sector capacity for both construction and maintenance, improve management, financial and operational practices of the project towns aimed at strengthening their capacity to better finance and maintain road infrastructure. The Project had an unsatisfactory outcome, [25]

The principal objective of the Geothermal Development and Energy Pre-Investment Project was to assist Kenya in preparing the necessary expansion of its generating capacity, and in particular the mobilization for a major geothermal program. The project composed first, a geothermal component, which consists of

drilling supplies and materials for 32 wells, procurement of a drilling rig rated for 2800 meters, drilling infrastructure and geothermal scientific equipment. The second component was energy pre investment, which consisted of a feasibility study of hydro resources of the Miriu-Sondu basin and an engineering report for the Lower Miriu weir and power station. The project also involved comparative reconnaissance on several potential hydro sites, an energy pricing study of the Kenyan LPG supply and a rural electrification cost minimization study.[26]

Railway Project (02) supported government efforts to lower transportation costs by promoting efficiency in the railway system. It also helped the Kenya Railways Corporation (KR) realize its economic role as a carrier of long distance, bulk cargo and main carrier of traffic for the landlocked countries. The project entailed institutional development, which involves the reorientation of Kenya Railway's management toward more commercial practices and introduction of modern management skills. The project also funded purchase of locomotive spare parts, improved locomotive repair and maintenance and training. Finally, the project improved train operations through organizational changes, minor capital investments and technical assistance. The project benefited Kenya railway significantly. The main quantified economic benefit derived from the project was savings in transportation costs.[27]

Telecommunications Project (03) aimed at expansion of telephone and telex switching facilities, associated cable networks, subscriber plants, expansion of

international and long distance facilities. The project also funded improvement in workshops, repair facilities, spare parts, strengthened of KPTC training programs and procurement of laboratory equipment. Lastly there was improvement of KPTC's management systems and provision of consultants' services for studies as well as a review of the telecommunications tariff structure[28]

Highway Sector Project (02) financed the last four years of the Government's Fifth Highway Sector Plan (FY1984-88). The main objectives of the project were to assist the Government to reduce transport costs and to strengthen the Ministry of Transport and Communications in the areas of highway administration and plan implementation. These objectives were achieved through improving the maintenance of the existing road network, strengthening and upgrading priority roads, improving highway planning and administration and enforcing appropriate vehicle axle load regulations. The project also funded development of the domestic road construction industry, instituting appropriate user charges for various vehicle categories and improving the model distribution of traffic along Kenya's main transport corridor.[29]

The main objective of the Kiambere Hydroelectric Power Project was to assure a reliable firm source of electricity generating capacity to meet the growth in demand, which exceed the capabilities of the existed generating facilities. The project funded development of indigenous renewable energy resources and created new job opportunities. Particularly during the construction period, and

reduce the country's heavy dependence on imported oil. The main project components were: first a rock and earth fill dam (approximately 100 m high with a crest length of about one KM), a saddle dam with a concrete-lined spillway, and two diversion tunnels. Secondly an intake concrete and steel-lined shaft and a tunnel to connect the reservoir to an underground powerhouse and a reinforced concrete surge shaft near the downstream end of the tunnel. Third it financed underground powerhouse with two 70 MW vertical turbines and a short tailrace tunnel, a 220-KV switchyard; 80KM of 220-KV transmission lines to connect the powerhouse to the existing grid. Fifth consultants' services for detailed design and construction supervision, project team leader, and a panel of experts to advice on civil works[30]

The primary objectives of the Olkaria Geothermal Power Expansion Project, was the follow-up expansion project to the first Olkaria Geothermal Power Project (US$40 million, Loan No. 1799-KE of April 25, 1980) as well as ensure the availability of a definite source of power and energy within the country to meet the growth in demand which could exceed the capacity of the existed facilities in 1984 and as stated in the Government's Fourth Development Plan 1979-1983, to reduce the country's heavy dependence on imported oil. The project was the least costly means, which supplemented the existed generating facilities to achieve that efficacy. A further objective was to strengthen the power industry in Kenya by maintaining the power industry's viability through sound institutional management, and financial prowess.[31]

Telecommunications Project (02) comprised the installation of a total of about 80,900 additional lines of local automatic exchange equipment with associated cables and subscribers' plant to connect about 75,000 additional main lines. A total of about 7,100 terminations in long distance exchanges, three microwave and radio systems and about 1,270 additional channels whereby a rural carrier systems, which provided about 200 additional channels. Two telex systems with a total of 3,000 additional lines and connection of about 500 additional subscribers and buildings to house project equipment. The project also included consultants' services and training in association with this installations.[32]

Railway Project (01) covered the last three years of Kenya's Railway 1979-83-investment plan and included essential track rehabilitation, equipment and operational improvements to increase Kenya Railway effective capacity to meet traffic demands. The Project financed relaying of 103 KM of main line track and improved 73 KM of branch line track through ballasting and formation works, improved yards, crossing stations, and buildings. A transshipment depot at Malaba, provision of machinery, vehicles and spare parts for track maintenance, improved the telecommunications system, purchasing hopper wagons and provision of spare parts for locomotives and wagons were funded under this project. The project also financed the Improvement of maintenance facilities, marine services, staff housing; extension of the training school and overseas training. Finally studies to improve utilization of Kenya Railway facilities were

financed and technical assistance at the middle management level was carried out. [33]

Olkaria Geothermal Power Project's primary objectives were to provide a secure source of power and to assist in reducing dependence on imported oil. The project consisted of the drilling of geothermal steam wells, the construction of a generating station comprising two 15 MW units, and the installation of 22 KM of 132 KV transmission lines. The project funded technical assistance in engineering, training of local personnel and studies of further geothermal potential and the next power project. The implementation and financial risks were moderate. The wells drilled have been producing steam for an extended period. The engineering loan financed drilling equipment and supplies to drill production wells for the recovery of steam at Olkaria sufficient to power an electric generator with the capacity of 15 MW. The purpose of the drilling will be to provide adequate quantities of steam at appropriate temperatures and pressures for the Power III Project. The training element helped KPC develop indigenous geothermal drilling experience, which strengthened the capacity of executing an uninterrupted drilling program. The project performed satisfactory most wells already drilled produced steam.[34]

The Kenya Urban Transport Infrastructure Project had an unsatisfactory performance. The assessment project demonstrates the need for oversight and discussion of project results to be conducted at a high level, both on the government and Bank side. Permanent secretaries of responsible ministries and

senior Bank staff should do regular reviews, not just of project results but of administrative, procurement and financial procedures. A well-developed communication strategy should be adopted to inform civil society of project efficacy, intended outputs and progress. In addition, the project should include programs to actively seek the participation of civil society organizations in designing and implementing the agreed programs Lastly there should be streamlining the procurement and sound payment procedures, strengthening financial and technical audits and appropriate, staffing. (Implementation and results evaluation report). [35]

One hypothesis that emerges from the contrasting experiences is that lending for infrastructure is intrinsically simpler than for policy reform in general and for the agricultural sector in particular. The difficulty with such generalizations is that the tightness of adherence to conditions is crucial to judging both ambition and success. A move by the Bank toward an institutional-development orientation was certainly understandable, particularly when the commitment of the government to substantive policy reform was neither clear nor sincere. Since the mid-1990s, the World Bank has dramatically altered its direction to emphasize poverty eradication as the institution's main mission. Many programs and policies have been revised, with the objective of making the Bank more effective in its support of the global fight against poverty.

Table 5.99The table below shows the projects funded by the World Bank from 1980 to 2004$ Million)

Project name	Commitment amount ($ millions)	Approval date
Northern corridor Transport	275	2004
Energy Sector Recovery Project	80	2004
Energy sector& power reform	125	1995
Nairobi –Mombasa Road	122	1996
Urban Transoprt	155	1996
Geothermal development energy pre-investment	40.7	1988
Railway	28	1987
Energy(Oil and gas)	72	2000
Telecommunications	32.6	1985
Geothermal Exprolations	24.5	1984
High way sector	90	1984
Kiambere Hydro Electric power	95	1983
Olkaria Geothermal power Expansion	12	1983
Telecommunications	44.7	1982
Olkaria Geothermal	40	1980
Railway	58	1981
Petroleum Exploration	4	1981

(SOURCE, WORLD BANK ANNUAL REPORTS VARIOUS ISSUES)

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