

AFRICAN DEVELOPMENT BANK GROUP



KENYA

KAKUMA-LOKICHOKIO ROAD PROJECT

Project Performance Evaluation Report (PPER)

**OPERATIONS EVALUATION DEPARTMENT
(OPEV)**

16 October 1997

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EQUIVALENTS AND ABBREVIATIONS

Currency Equivalents

Kenya Currency Unit:

1 UA =	Kshs 11.95
1 UA =	Kshs 14.79
1 UA =	Kshs 18.58
1 UA =	Kshs 32.20
1 UA =	Kshs 82.94

Kenya Shilling(Ksh)

October	1982 (Appraisal)
January	1985 (Commencement of Works)
June	1990 (Completion of Works)
December	1990 (Last disbursement)
December	1996 (PPAR)

Weights and Measures

1 metric ton (t)	=	2,205 lbs
1 kilogramme (kg)	=	2.2 lbs
1 metre (m)	=	3.28 ft.
1 foot	=	0.305 m
1 kilometre	=	0.621 mile
1 mile	=	1.609 km
1 square kilometre (km ²)	=	0.386 Square mile
1 hectare (ha)	=	0.01 km ²

Fiscal Year

1st July - 30 June

Abbreviations

ADT	Average Daily Traffic
ADB	African Development Bank
ADF	African Development Fund
ERR	Economic Rate of Return
GDP	Gross Domestic Product
GNP	Gross National Product
GOK	Government of Kenya
MOTC	Ministry of Transport and Communications
MoPW&H	Ministry of Public Works and Housing
RD	Roads Department
UA	Unit of Account
v o c	Vehicle Operating Costs
VPD	Vehicle Per Day
NORAD	Norwegian Agency for Development

SUMMARY DATA SHEET

1.	Country	Republic of Kenya
2.	Project	Kakuma-Lokichokio Road, (Kenya-Sudan) Link
3.	Loan Number	CS/K/TR/83/014
4.	Borrower	Government of Kenya
5.	Beneficiary	Government of Kenya
6.	Executing Agency	Roads and Aerodromes Department of the Ministry of Transport and Communications

A. BASIC LOAN DATA

	<u>Appraisal Estimate</u>	<u>Actual</u>
1.	Request for Loan	5 October 1981
2.	Amount ADB (UA million)	27.00
3.	Amount cancelled (UA million)	N/A
4.	Interest Rate (% annum)	9.5%
5.	Commitment charge	1%
6.	Statutory Commission	1%
7.	Repayment period (years)	18
8.	Grace Period (years)	3
9.	Loan Balance (UA million)	15.08
10.	Loan Negotiation Date	8-10 August 1983
11.	Loan Approval Date	27 September 1983
12.	Loan Signature Date	14 December 1983
13.	Loan Effectiveness Date	20 March 1987

B. PROJECT DATA

	<u>Appraisal Estimate</u>				<u>Actual</u>				
1.	Total Cost (UA Million)	34.62			15.36				
	Total Cost (Ksh million)	486.76			332.87				
2.	Financing Plan (UA million)	<u>F.C</u>	<u>L.C</u>	<u>Total</u>	<u>%</u>	<u>F.C</u>	<u>L.C</u>	<u>Total</u>	<u>%</u>
	ADB	22.14	4.26	27.00	78	9.11	2.15	11.92	77.70
	NORAD	1.75	0.44	2.19	06	1.11	-	1.11	7.30
	G.O.K.	-	<u>5.43</u>	<u>5.43</u>	<u>16</u>	-	<u>2.33</u>	<u>2.33</u>	<u>15.00</u>
	TOTAL	<u>24.49</u>	<u>10.13</u>	<u>34.62</u>	<u>100</u>	<u>10.98</u>	<u>4.48</u>	<u>15.36</u>	<u>100.00</u>
3.	Deadline for First Disbursement	31 December 1984							
4.	Effective Date of First Disbursement	—			09 April 1987				
5.	Deadline for Final Disbursement	31 December 1987							
6.	Effective Date of Last Disbursement	—			23 January, 1992				
7.	Commencement of Implementation	—			3 September 1984				

E. ADB DISBURSEMENT (UA Million)

	<u>Appraisal</u>	<u>Actual</u>
Total Disbursement	27.00	11.92
Undisbursed Amount	—	15.08
Yearly Disbursement:		
1984	3.12	
1985	16.97	
1986	6.91	---
1987	—	1.56
1988	—	5.02
1989	—	5.26
1990	—	0.06
1991		---
1992	—	<u>0.02</u>
	<u>27.00</u>	<u>11.92</u>

F. CONTRACTOR

1. Name TMAM Construction Group, Kenya
2. Responsibility Execution of the Construction Works
3. Date Contract Signed 30 October, 1986

	<u>Appraisal</u>	<u>Actual</u>
4. Date of Commencement	June, 1984	August, 1986
5. Date of Completion	October, 1986	June, 1989
6. Duration of Contract	28 months	34 months
7. Amount of Contract (Kshs million) ---		324.09
8. End of Maintenance Period ---		June 1990

G. CONSULTANT

1. Name Norconsult AS Norway
2. Responsibility Pre-contract and Supervision services.
3. Date Contract Signed 6 March, 1987
4. Date Contract Terminated 30 August, 1990 with preparation of final payment certificate.
5. Contract Duration 53 months
6. Amount of Contract (NOK million) Tender 10.82
Final 9.80

1. EVALUATION SUMMARY

1.1 Project Rationale and Objectives

1.1.1 The Kakuma-Lokichokio Road Project comprised the construction of a two-lane bitumen standard road (93 km). having a 6.0 m wide carriageway and 0.5 m wide shoulders, between Kakuma and Lokichokio in Turkana District, and the consultancy services for the supervision of the construction works.

1.1.2 The Bank and the Government of Kenya jointly financed the construction works, and NORAD financed the consultancy services.

1.1.3 The road is a section of the link road from Lodwar, the headquarters of Turkana District in Kenya to Juba, the headquarters of Eastern Equatorial Province in Sudan. The road improvement was started as a joint project between Kenya and Sudan.

1.1.4 For Southern Sudan, the link road from Juba to Lodwar was the most economical and shortest export/import outlet to the sea at Mombasa Port; for Kenya, the link was expected to contribute to increased regional trade between Sudan and Kenya but also to provide easier access to the remote areas of Turkana District.

1.1.5 The project objectives were stated as follows:

- a) The primary aim of the project is to stimulate the economies of Kenya and Sudan through increased regional trade by providing a reliable, all-weather road link between the two countries.
- b) The section of the road will also provide access to the hitherto remote Turkana District which has considerable potential in terms of livestock, fishery development and tourism.

1.1.6 The main objective has not been attained. Sudan has not improved the road section on its side and there is a civil war in Southern Sudan. The second objective was only partly met to the extent that the road has provided access to Turkana District.

1.2. Project Implementation

1.2.1 The Loan was signed on 14 December, 1983 but it took 40 months to be declared effective on 20 March, 1987. This extremely long delay was a result of several causes, of which the main ones were: GOK budgetary constraints in allocating counterpart funds to the project; slowness of the Executing Agency in indicating to the Bank the procurement method to be followed in international competitive bidding; difficulties in applying Bank rules of procedure for procurement; and delay in fulfilling one of the conditions which was in fact inappropriate. The condition in question required the Government to draw up and submit to the Bank a satisfactory programme for the rehabilitation, the routine and periodic maintenance of the entire classified road network.

1.2.2 The construction works commenced 26 months later than expected at appraisal, and the overall delay at completion was 32 months. A notable anomaly was that the construction works started in August 1986 before the Loan was declared effective in March 1987.

The contractor and consultant were exempted from taxes and import/export duties for equipment, construction materials, spare parts and salaries; and

Drainage structures were inspected after a year of operation and were found to be functioning well.

1.4 Performance Evaluation

1.4.1 The annual average daily traffic forecast during appraisal was 20 vehicles in 1987 on the Kakuma-Lokichokio section, growing to 40 vehicles in 1996 and 90 vehicles by the year 2006. The actual average daily traffic is less than 20 vehicles comprising only local traffic. There is no international traffic and the road section on the Sudan side has not been improved.

1.4.2 It is worth noting that the bitumenous surface of the Kakuma-Lokichokio road has deteriorated due to the poor quality of bitumen used during construction and is to be replaced.

1.4.3 The EIRR calculated at appraisal was optimistic and was found to be 9.2%. For the re-calculation in the PCR, a growth rate of 5 % per annum is assumed for the overall traffic such that the the revised traffic would grow from ADT of 32 in 1995 to 63 in year 2009. On this basis, the recalculated EIRR was found to be 0.53% (PCR para. 7.4.2). The project is not economically viable and will not be for some time.

1.4.4 The project unit comprising the Chief Engineer of the Design Branch, assisted by the Resident Engineer supplied by the Consultant and the Roads Laboratory was directly responsible for the execution of the project. The unit performed satisfactorily except for the Roads Laboratory which did not advise and check adequately on the quality of the bitumen used for the wearing course of the road.

1.4.5 The Contractor utilized defective equipment during construction of the wearing course (Annex 6) and also shares responsibility for the utilization of poor quality bitumen which is the main cause of deterioration in the surface dressing. The Contractor's performance was therefore unsatisfactory.

1.4.6 The Consultant carried out the design and the supervision of works in a satisfactory manner; his reporting on the process of works was good. His performance was generally satisfactory.

1.4.7 With regard to the overall administration of the project, the Borrower and the Executing Agency were not particularly effective as the counterpart financing was not provided in time; they were slow in fulfilling the loan conditions and had difficulties in applying Bank rules of procedure for procurement.

1.4.8 The role of the Bank was effective at the project implementation stage, particularly in project follow-up activities and in the assistance given to Borrower. However, as a regional project involving two countries, the Bank should have played, at least at the initial stage of the project, a leading role in project formulation, preparation, resources coordination and mobilization and scheduling of project implementation. Furthermore, the project cost of the project was over-estimated and the economic evaluation was too optimistic inspite of the unforeseen civil war in Southern Sudan. The overall Bank's performance for the project was therefore unsatisfactory.

- iv) lack of familiarity with, or wrong application of the Bank rules of procedure for procurement can cause considerable delays during project implementation and can affect negatively the completed project (para. 3.5.1).
- v) important factors such as quantities, physical and price contingencies, unit prices, and currency exchange rates on which cost estimates are based, require careful consideration and need to be as realistic as possible (paras. 3.6.3 and 3.6.4).
- vi) frequent fluctuations in the value of the local currency can create difficulties for the Executing Agency in monitoring disbursements on a project and to determine its actual cost equivalent in UA during execution (para. 3.6.3).

1.6.3 Recommendations

For Government

- i) for a regional project which aims at economic integration of two countries, a joint coordinating committee is necessary for the coordination of activities and crucial decisions on the project at all levels of implementation (paras. 2.4.3 and 2.4.5).
- ii) the Government should intensify its efforts in acquainting itself with the Bank's Rules of Procedure for Procurement. In any case, the Government should be required to respect the target dates now in force concerning loan signature and loan effectiveness (para. 3.5.1).
- iii) Executing Agencies should include project implementation and disbursement schedules in project feasibility reports (para. 3.3.2).
- iv) Executing Agencies should periodically prepare up-to-date lists of unit prices and cost escalation factors to be used in project cost estimates (para. 3.6.3).
- v) the Roads Department should ensure that repairs and complete rehabilitation of the bituminous surface of the road is undertaken as soon as possible under financing from the Road Maintenance Levy Fund (para. 4.1.8).
- vi) the Government should not utilize bitumen MC 3000 on future Bank financed projects (para. 4.1.5).

For the Bank

- i) for a regional project which aims at economic integration of two countries, the Bank should always play an active role in project formulation, coordination of activities, and decisions on the project at all levels (paras. 2.4.6 and 4.8).
- ii)
 - a) the Bank has to ensure that project implementation schedules covering all main activities are included in feasibility studies or project preparation reports (para. 3.3.2).
 - b) the Bank should adopt a detailed implementation schedule in the guidelines for project preparation (para. 4.8).

2. THE ROAD SUB-SECTOR

2.1 Macro-Economic Setting

2.1.1 The Republic of Kenya is situated astride the equator in Eastern Africa. It has a coastline of about 1000 km along the Indian Ocean, and is bordered to the north-east by Somalia, to the north by Ethiopia and Sudan, to the west by Uganda, and to the south-west by Tanzania (Annex 1).

2.1.2 Kenya has a total area of 582,600 square kilometres, about 60% of which in the northern and north-eastern parts are arid areas which are sparsely populated and have few transport links. The southern and south-eastern parts consist of a low lying coastal plain which rises gradually inland to alternating plateau and mountain ranges. Further inland the plateau gives way to the lower lying lake Victoria basin.

2.1.3 The country's population was in 1995 estimated at 27.5 million with an intercensal growth rate of 2.7%. Kenya's population is still youthful, with 49.9% being under 15 years and 60% under 20 years.

2.1.4 The key growth sectors of the Kenyan economy are agriculture, manufacturing and tourism. Transport plays a key role in support of overall growth in the economy. In 1995, the agriculture and manufacturing sectors recorded growth rates of 4.8% and 3.9%, respectively. Tourism, however, showed a continued declining trend. The growth rate in the transport sector was 18.9% compared to 17.9% in 1994.

2.1.5 The Kenyan economy experienced relatively high growth rates, averaging 5% per annum, from 1985 to 1990. Growth of GDP (at factor cost) was 4.3% in 1990 but in 1991 the economy began to deteriorate as a result of both external and domestic factors. It is estimated that the growth of GDP at factor cost was 2.3% in 1991, and declined further to about 0.1% in 1993. The poor performance of the economy led to a decline in public investment in essential infrastructure down from 9.8% of central government expenditures in financial years 1981-1985 to 5.7% in financial years 1991-1992 with an even greater decline in road investment.

2.1.6 The Government has since taken measures to improve the economy; in 1986, a comprehensive structural adjustment programme was launched and various measures were taken to improve the state of the economy. These measures included decontrol of prices, removal of import licensing and exchange controls, freeing movement of maize and cereals, liberalization of petroleum and labour markets, and continued implementation of the public sector reform programme. The Government has continued to manage the fiscal budget deficit through efficient use of available financial resources by the establishment of recurrent expenditure ceilings for ministries, improved tax collection and reduction in domestic borrowing. As a result of these measures, major progress has been achieved in restoring macro-economic stability. Inflation declined from 54.7% at the end of 1993 to an estimated 6.6% at the end of 1994. The balance of payment situation improved, progress was achieved in the Civil Service reform efforts, the financial system was strengthened and there was substantial liberalization of the economy across all sectors.

2.1.7 Continued progress on the full range of economic reform measures and sustaining the new policy initiatives are critical to Kenya's future growth and stability. With the population growing at about 3.0% per annum and the labour force growing at 4.1% per annum, Kenya needs

2.2.7 All classes of roads are characterized by poor surfaces with consequent effects on the level of service and vehicle operating costs. The reasons for this state of affairs are many but inadequacy of maintenance funding has been identified to be crucial.

2.2.8 In order to raise the revenue required for funding the maintenance of the road network, a Road Maintenance Levy Fund Act was enacted by Parliament in 1993 and the levy on automotive fuel was introduced on 17 June, 1994 at the rate of Ksh 1.00 per litre of diesel, and Kshs 1.50 per litre of regular and premium petrol. The rate of the levy was revised upwards in June 1995 to Kshs 1.50 per litre of diesel and Kshs 2.00 per litre of regular and premium petrol. In addition, road transit charges were introduced on all foreign registered heavy goods vehicles in September 1994 at the rate of US\$ 8 per 100 km for heavy goods vehicles with more than 3 axles and all articulated vehicles, and US\$ 3/100 km for all heavy goods vehicles with up to 3 axles. The road transit charges have also been revised upwards in the course of 1995. These two systems replaced the system of road tolls and it is expected that the revenue derived from them and the allocations from the Treasury will enable the GOK to meet the funding commitments for the maintenance of the classified roads as indicated in Table 2.2 below:

Table 2.2
Funding Reaquirements for
the Classified Road Network

<u>Year</u>	<u>Kshs Million</u>
1995/96	3,645.03
1996/97	4,180.08
1997/98	4,605.28
1998/99	5,296.07
1999/2000	6,090.48

Additionally, donor assistance will be sought to finance the difference between the GOK resources and the Kshs 6.0 billion required annually to finance road maintenance. Further, donor assistance will be requested to finance the necessary improvement of the network and to remove the backlog of periodic maintenance, strengthening and rehabilitation works which have accumulated over the years. It is estimated that donor assistance to the tune of Kshs 5.0 billion will be required. To help ensure cost-effectiveness of maintenance and construction, the GOK with the assistance of the World Bank is establishing a Road Works Inspectorate to monitor the implementation and quality of the maintenance undertaken.

2.2.9 With assistance from the World Bank, other important measures are being taken to reorganize and improve the entire road maintenance system. The measures cover such areas as road maintenance, network data and information; expenditure priorities; material investigations and testing; staffing and training; equipment and maintenance policies; planning; and engineering.

2.3 History of Operations

The highest share of the Bank Group's commitments to Kenya is in the transport sector, amounting to UA 141.89 million or 31.64% of total commitment. Except for one railways project, all the other 14 financed projects in the transport Sector are in the Road sub-sector. As at March 1996, seven of them were completed and seven were on-going (Annex 7).

2.5.2 As indicated in **para. 2.4.3** above, the GOK sought the participation of the Bank for the financing of the improvement of 125 km of the road section from Kakuma to Kenya/Sudan border which was divided into two separate contracts, one from Kakuma to Lokichokio (93 km), and the other from Lokichokio to the border (32 km). This was done because after Lokichokio, the new design follows a new alignment **across** the border to **Boya Hills** in Sudan and it was not known whether or not the corresponding length on the Sudanese side would be constructed in sequence. The decision of limiting ADB participation to the Kakuma-Lokichokio section was taken at the recommendation of the appraisal team.

2.6 Protect Objectives and Score at Appraisal

2.6.1 According to the appraisal report, the objectives of the project were the following:

- a) the primary aim of the project is to stimulate the economies of Kenya and Sudan, through increased regional trade, by providing a reliable, all weather road link between the two countries.
- b) the section of the road will also provide access to the hitherto remote Turkana District which has considerable potential in terms of livestock, fishery development and tourism.

2.6.2 The main objective of stimulating the economies of Kenya and Sudan has not been met for several reasons:

- a) no improvement has taken place on the road section from the border to Juba on the Sudan side:
- b) the outbreak of civil war and insecurity in Southern Sudan which occurred soon after appraisal; and consequently,
- c) there was no trade between Kenya and Sudan through the road link.

2.6.3 The second objective is **only** partly attained, mainly because the expected development in Kakuma District has not taken place and also because of the unstable security situation in the area. However, the road section in Kenya has considerably improved access to Turkana District and has saved many lives by channelling food relief and medical supplies through the road to the Refugee Camp at Kakuma (47,000 people) from depots at Lokichokio.

2.7 Financing Arrangements

2.7.1 According to the consultant's completion report, the GOK **financed** 16.25% of the total works representing 51.25% of local costs and ADB financed 83.75% of the total cost including 48.75% of local cost of **the** works component. On this basis, the total local cost of works was Kshs 97.34 million of which ADB financed Kshs 47.45 million. The foreign exchange cost financed by ADB was Kshs 210.65 million. For the supervision of the project, **NORAD** disbursed UA 1.115 million in foreign exchange and GOK paid UA 0.015 million in local costs. The appraisal and actual financing plans are shown in Table 2.3 below.

programme would define the roads to be covered by the aforementioned categories of work and would contain detailed method statements showing in particular:

- i) the specific tasks to be performed;
- ii) the schedules for the performance of such tasks;
- iii) the agencies responsible for carrying out the individual categories of work;
- i v) an itemized budget for the entire work under the programme;
- v) an indication of definite sources of finance of the requirements of the entire programme. Upon approval of the said programme by the Bank, the Borrower would undertake to implement the same in strict accordance with the approved schedules, budget and plans and provide promptly the facilities and funds required for that purpose.

These were conditions precedent to first disbursement and are commented upon hereafter.

3.1.2 The Loan was signed on 14 December, 1983, but it took 40 months for it to be declared effective on 20 March, 1987. According to the PCR (paras. 4.1.2 and 4.1.3), this long delay arose from budgetary constraints which obliged the GOK to prioritise the allocation of counterpart funds to other on-going projects. An indication of the rescheduling of the project came from the MOTC in July 1984 when it proposed to the Bank the postponement of the commencement of the works by about 3 years. The Bank insisted that the implementation should be expedited (PCR, para. 4.1.3).

3.1.3 The delay of 40 months before declaring the Loan effective is, of course, unacceptable. In normal circumstances, the Loan should have been cancelled. But in retrospect, what were the real causes for such an extraordinary long delay before the Loan was declared effective.

3.1.4 Apart from the hesitation of the GOK for going ahead with the project because it might have realized in due course that the investment was costly and not a priority, it is considered that the real causes of this long delay are inherent in some of the conditions precedent to first disbursement themselves as could be shown through the comments herebelow:

- i) Condition a) relating to the designation of the procurement method to be followed by the Borrower should have been discussed and agreed upon in principle at project appraisal. concluded at loan negotiations and prescribed in the Loan Agreement. As reported in the appraisal report (para. 5.4.1) and PCR (para. 3.2.1) detailed engineering design and contract documents were ready before appraisal. Therefore, project components and costs were determined and so were the list of goods and services. Furthermore, the "arrangement of project component in distinct packages" for the acquisition of goods and services and choice of related modes of procurement should have been determined by the Executing Agency before appraisal. Given its experience in this matter, the Bank ought to have adopted this procedure.

covered. For example, the timing of the recruitment of the Consultant and duration of his contract were not shown in the schedule, probably because the financing was not by the Bank; and

- ii) the schedule for construction works was not detailed enough for the preparation of a reliable disbursement schedule.

3.4 Reporting

As indicated in the PCR (para. 4.4. 1), reporting on the execution of the project was adequate except for the annual financial audit reports which were not prepared. Concerning this issue, the Roads Department indicated that a tentative agreement was reached with the Bank to submit these documents as from 1997 for on-going projects. This statement should be confirmed and followed up by the Bank.

3.5 Procurement

3.5.1 Procurement for the works contract was in accordance with Bank's rules of procedure for procurement of goods and services (PCR, para 4.5.1). However, during the procurement process, considerable difficulties and delays were experienced because the country eligibility criteria of the Bank were not followed and the proposal of a joint venture had to be rejected because it included a partner that was not prequalified.

3.5.2 The consulting services were procured in accordance with NORAD procedures as NORAD was the financier of the services. The Consultant being engaged to supervise a project financed by ADB, the Bank should at least have approved the Consultant's curriculum vitae, TOR and contract; this was not done. In fact, there was little coordination between ADB, GOK and NORAD on this project.

3.6 Project Cost

3.6.1 As shown in Table 3.1 below, the total project cost at appraisal was estimated at UA 34.62 million, net of taxes, including an allowance for physical contingencies of 10%. Price escalation was calculated on the basis of a compound annual rate of inflation of 16% and the planned progress of the works and represented an addition of approximately 28% (appraisal report para. 5.5.3).

3.6.2 At project completion, the actual cost including the cost of the modifications was UA 15.34 million, net of taxes. This amount is derived from the actual schedule of payments to the contractor and consultant (Annex 5) which, according to the Roads Department, are net of taxes. The actual ADB disbursement was UA 11.92 million, out of a loan of UA 27 million; the unused balance was UA 15.08 million.

Table 3.1
Project Cost, Net of Taxes

	<u>Appraisal</u>	<u>Actual</u>	<u>Aooraisal</u>	<u>Actual</u>
	<u>Kshs million</u>		<u>UA million</u>	
Works	454.55	306.99	32.33	14.23
Supervision	<u>32.21</u>	<u>25.88</u>	<u>2.29</u>	<u>1.13</u>
	486.76	<u>332.87</u>	<u>34.62</u>	15.36

traffic is less than 20 vehicles comprising some passenger vehicles and mostly heavy trucks hauling food relief and medical supplies to the Refugee Camp at the Kakuma settlement. It is also worth mentioning that the road section on the Sudan side is in a very poor condition because little improvement has taken place since the studies were completed in 1977 for the entire road link.

4.1.3 The main concern about the Kakuma-Lokichokio road section is the unsatisfactory state of its surface; the major problem of the pavement lies with its wearing course which is being stripped off the road under traffic, leaving the base course unprotected.

4.1.4 A few problems do occur during surfacing, such as utilization of dirty aggregate, humidity and adverse weather conditions, and utilization of defective equipment, (PPAR, Annex 6); but the most serious defect is the utilization of inappropriate bitumen as a binding agent of the aggregates.

4.1.5 According to the Roads Department, the bitumenous material MC 3000, was locally produced from an imported standard cut-back. During construction, it was found that instead of being an MC bitumen (Medium Curing), it was found to be SC (Slow Curing) and the worst is that, after some time, say two to three years, it oxydizes and looses its binding quality. This is the main cause of desintegration of the wearing course which is now to be removed and replaced entirely.

4.1.6 As is usually the case, this material was prescribed by the Roads Department and it was not immediately clear why the Roads Laboratory did not check that the bitumen supplied by the contractor met prescribed specifications. The answer was to be found in the fact that the specifications were prepared many years ago and now appear inadequate and are being revised.

4.1.7 From the foregoing, it can be noted that the operating performance of the Kakuma-Lokichokio road section has been highly unsatisfactory.

4.1.8 The road was visited in the company of officials of MOPW&H and a visual inspection confirmed the deterioration of the wearing course; but apart from a few failures due to distress in the base and/or sub-base, the performance of the pavement's structure (subgrade, sub-base & base) was found to be satisfactory in general. According to the Executing Agency, a contractor had already been selected and the contract signed for the repairs and complete renovation of the wearing course. The works were supposed to start in February 1997 and funds are provided from the Road Maintenance Levy Fund. The Bank has to follow up on these works.

4.2 Financial Performance

Since appraisal, the local currency (the Kenya shilling) was being devalued every quarter and this introduced considerable fluctuations in the project cost particularly in the local cost. The project cost was also over-estimated, which was the main cause of the large unused balance on the ADB Loan. In spite of this situation, the proportion of ADB's contribution to the final total project cost remained almost the same as at appraisal (77.7% instead of 78%) but its local cost contribution increased from 13.40% to 14%. The proportion of NORAD was slightly increased from 6% to 7.3% and that of the Government was reduced from 16% to 15%.

- a) the Consulting Engineer was appointed by **NORAD** without any Bank's involvement in the selection or approval process. As the Bank was financing the project, supervision should have been considered as a crucial component of the project and therefore, the Bank should have approved the TOR and curriculum vitae of the Consultant and better coordinated its financing with that of **NORAD** and the **GOK**. As a result of this lack of coordination, the implementation schedule did not show the target dates of the employment of the consultant and though the PCR mentioned (para. 4.3.1) that the project activities started with the appointment of the Consultant in April 1986, the same PCR reported that the Consultant's contract was signed only on 6 March, 1987 (PCR, page iv), that is seven months after the commencement of works in August 1986;
- b) the Consultant did not seem to have exercised enough authority to ask the Contractor to remove and replace defective equipment during the construction of the wearing course (Annex 6).

4.4.3 What the Roads Department needs most is training on procurement matters and project administration, a reorganization, strengthening and training concerning the road maintenance system. In addition, the Roads Department is facing a staffing problem; Senior Engineers have left and/or are leaving the Department under the Government's early retirement scheme, but also to seek better pay in the private sector. If this trend continues, it will even exacerbate the need for training of new and younger staff.

Social Impact

4.4.4 Turkana District is situated in the remote north-west corner of Kenya. It had for a long time been isolated and access to the area was difficult; the then existing sand track was difficult to traverse even with four-wheel drive vehicles.

4.4.5 The district has a particularly harsh climate; rains are rare and when they come, they cause heavy floods. The residents are nomadic livestock herders, and animal keeping is the main source of their wealth.

4.4.6 Conditions of life in the district are therefore generally difficult and this has been aggravated by the deteriorating security situation which is characterized by frequent inter-ethnic livestock hustling. Consequently, most herders are selling off their animals for fear of being raided; they will soon have little or virtually nothing to sustain their livelihood. The provisions and supplies at the Kakuma Refugee Camp are strictly for refugees and the indigenous residents are excluded.

4.4.7 The construction of a bitumen surfaced road between Kakuma and Lokichokio has greatly aided the Government in its efforts to bring the security situation in the district under control. Residents are also able to access administrative, health and educational centres at Lokichokio, Kakuma, and Lodwar. Means permitting, residents can also access Kitale, an important agricultural centre further south of Lodwar.

4.4.8 Some herdsman have started to practise settled agricultural farming along the few existing water courses and to grow food crops for own consumption; some limited surplus is marketed in the trading centres which have sprung up alongside the road. Traders from Lodwar and Kitale are now able to visit the area; they bring consumer goods and purchase animals from

4.7.4 In retrospect, it can be said that the road was over-designed and its objectives are only partly met. The appraisal expectations in terms of traffic and effects on development were too optimistic. In the absence of a significant volume of trade between Sudan and Kenya, a lower standard of road should have been adopted, at least for the initial stage of improvement. In adopting a stage construction method, a good engineered gravel road with fairly good geometric characteristics (6 m carriageway and 0.5 m shoulders) would have been adequate, at the initial stage, to meet the planned objectives and be improved as traffic developed. Realizing that the project as conceived, was not a priority investment (PPAR, paras. 3.1.2 to 3.1.3), the GOK, before deciding to go ahead with the project, ought to have revised the project design by reducing its standards and cost, and adopting a stage improvement method.

4.8 Bank Group Performance

The role of the Bank was effective at the project implementation stage particularly in project follow-up activities and for assistance to Borrower. However, as a regional project, the Bank should have played a more active role during project formulation and preparation; particularly in the coordination of activities, resource mobilization and scheduling the implementation of the project so that improvements of the whole link could be undertaken in sequence on both sides. It is also worth noting that at appraisal, the project cost was over-estimated, the implementation and disbursement schedules were inadequate, one inappropriate condition was posed, and that, despite the unforeseen outbreak of civil war and insecurity in Southern Sudan, the appraisal report was too optimistic in terms of traffic projections and trade expansion between the two countries. From the foregoing, it can be concluded that the overall Bank's performance was unsatisfactory.

5. PROJECT SUSTAINABILITY

5.1 The Kakuma-Lokichokio road section was completed and opened to traffic in 1989. It was designed to carry increased vehicular traffic between Sudan and Kenya, and its economic life was supposed to be 15 years. After 7 years in operation, the economic viability of the road project is not assured. The unimproved road section in Sudan and the civil war in Southern Sudan have not allowed regional trade to develop, and the insecurity situation in Turkana District where no major development activity is foreseen, is not likely to change the performance of the road for some years to come.

5.2 What is of major concern is the actual deterioration of the bituminous wearing course which leaves the base course unprotected and will very soon lead to the total destruction of the road if quick remedy action is not taken.

5.3 As indicated in para. 4.1.8 above, funds have already been earmarked under the Road Maintenance Fuel Levy Fund and the contract has been signed for the repairs and renovation of the surface dressing of the road. These works should be followed-up by the Bank.

6. PERFORMANCE RATING

6.1 The overall assessment of implementation performance has a score of 1.8 which is unsatisfactory. The delay in implementation exceeds 9 months.

6.2 The Bank's performance is also unsatisfactory with a score of 1.75. This reflects the very poor role of the Bank in the formulation, identification, preparation, resources mobilization and coordination of activities on this regional project.

7.3 Recommendations

For Government

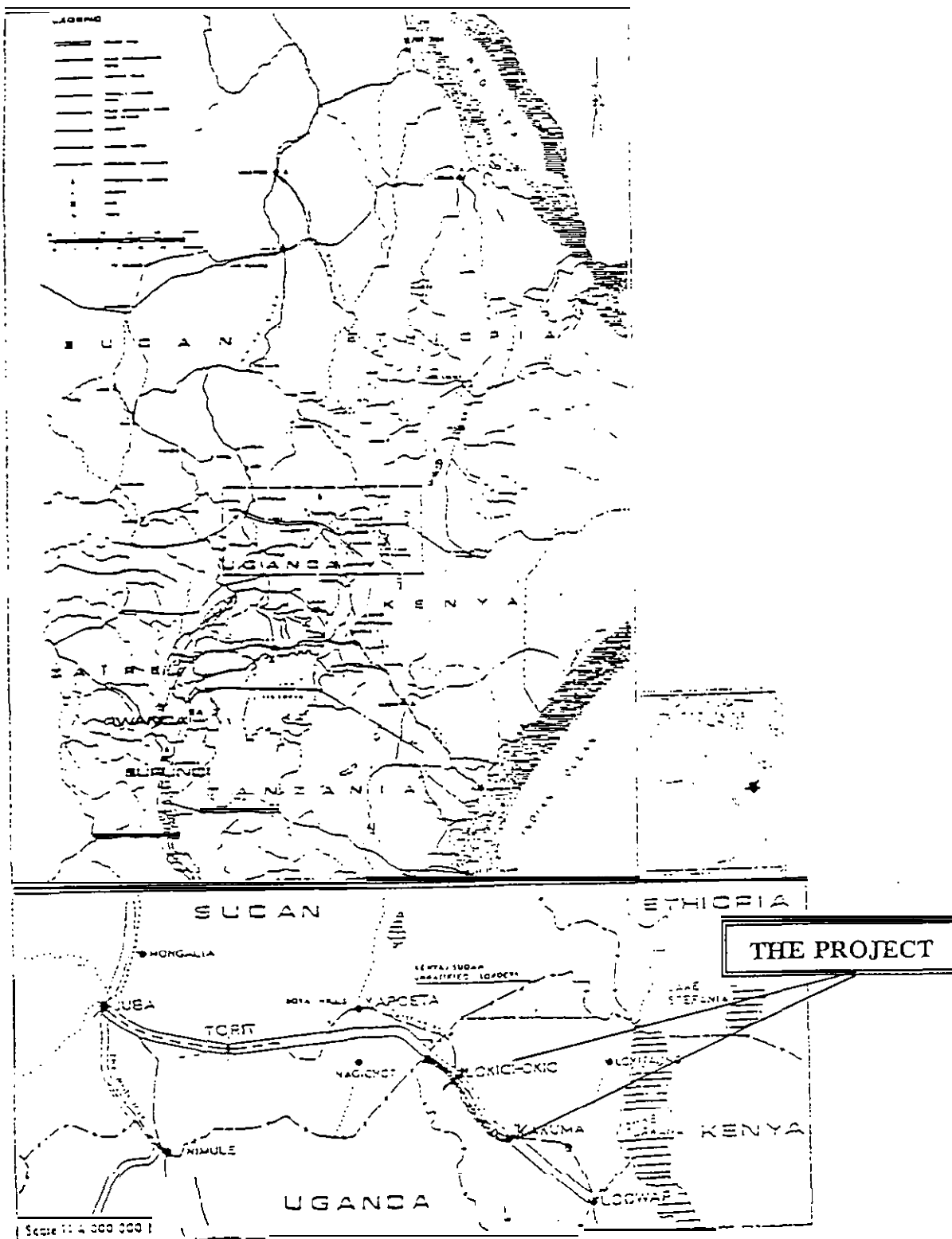
- i) for a regional project which aims at economic integration of two countries, a joint coordinating committee is necessary for the coordination of activities and crucial decisions on the project at all levels of implementation (paras. 2.4.3 and 2.4.5).
- ii) the Government should intensify its efforts in acquainting itself with the Bank's Rules of Procedure for Procurement. In any case, the Government should be required to respect the target dates now in force concerning loan signature and loan effectiveness (para. 3.5.1).
- iii) Executing Agencies should include project implementation and disbursement schedules in project feasibility reports (para. 3.3.2).
- iv) Executing Agencies should periodically prepare up-to-date lists of unit prices' and cost escalation factors to be used in project cost estimates (para. 3.6.3).
- v) the Roads Department should ensure that repairs and complete rehabilitation of the bituminous surface of the road is undertaken as soon as possible under financing from the Road Maintenance Levy Fund (para. 4.1.8).
- vi) the Government should not utilize bitumen MC 3000 on future Bank financed projects (para. 4.1.5).

For the Bank

- i) for a regional project which aims at economic integration of two countries, the Bank should always play an active role in project formulation, coordination of activities, and decisions on the project at all levels (paras. 2.4.6 and 4.8).
- ii)
 - a) the Bank has to ensure that project implementation schedules covering all main activities are included in feasibility studies or project preparation reports (para. 3.3.2).
 - b) the Bank should adopt a detailed implementation schedule in the guidelines for project preparation (para. 4.8).
- iii)
 - a) whenever feasible, crucial project issues should be resolved at preparation, appraisal or at loan negotiations stage rather than being established as loan conditions precedent to first disbursement (para. 3.1.4).
 - b) the Bank should introduce a "Launching Mission" as a normal regular procedure after a loan is signed in order to assist Borrowers in the fulfilment of conditions of loan effectiveness as well as in procurement and disbursement activities, including a follow-up on the fulfilment of "Other Loan Conditions" and covenants (paras. 3.1.4 and 3.8).

KENYA
KAKUMA-LOKICHOKIO ROAD
 PROJECT PERFORMANCE AUDIT REPORT

Project Location Map



This map has been prepared by the JICA Group's staff and is intended for the convenience of the readers of the report to which it is attached. The communications lines and the boundaries shown on this map do not imply, on the part of the Group and its affiliates, any judgment on the legal status of any territory or an acknowledgment or acceptance of such boundaries.

KENYA
KAKUMA-LOKICHOKIO ROAD PROJECT
PROJECT PERFORMANCE AUDIT REPORT

RECOMMENDATIONS AND FOLLOW-UP MATRIX

FINDINGS CONCLUSIONS	RECOMMENDATIONS	FOLLOW-UP ACTIONS	RESPONSIBILITY
<p><u>Project Formulation</u> <u>Rationale</u></p> <p>Without the firm commitment and support of the Government of Kenya, to improve the road section on its side. the Kakuma-Lokichokio road section should not have been considered as a regional project. Therefore, the objectives of the project design should have been redefined to achieve national goals.</p> <p>Project formulation was undertaken without Bank's consultation.</p>	<p>Before financing a road link expected to serve regional economic objectives, the Bank should ensure that the link is a priority for the countries concerned and that strong commitments are made for the financing and implementation of the project as a whole. In this case, the Bank should always play a leading role in project formulation and coordination of preparation, financing and implementation.</p> <p>The Bank should always be satisfied with project identification and preparation before deciding to appraise a project. In so doing, the appraisal team will avoid overlooking or oversimplifying some crucial issues at appraisal.</p>	<p>To be adopted as a basic principle for identification, preparation, appraisal and financing of regional road projects.</p> <p>Project officers are to check that the project is processed through identification and preparation stages before appraisal.</p>	<p>Operations Departments</p> <p>Operations Departments</p>
<p><u>Project Implementation</u> <u>Implementation Schedule</u></p> <p>Implementation schedule was not realistic and did not cover main project implementation activities.</p>	<p>Project officers should give more consideration to the project implementation schedule at project feasibility and/or preparation stage. It should constitute a realistic and detailed time-table indicating target dates to be observed by both the Bank and the Borrower.</p>	<p>A standard and detailed project implementation schedule should be designed and included in the guidelines for project preparation.</p>	<p>Operations Department</p>

<p><u>Disbursement</u></p> <p>Disbursement activities should be reinforced during project implementation, in particular delays in processing disbursement applications within both the Borrower's administration and at the Bank should be reduced.</p>	<p>a) Disbursement schedules based on detailed and realistic project implementation schedules should be included in project appraisal reports.</p> <p>b) Launching and supervision missions should always deal with this subject</p>	<p>Guidelines on disbursement schedule should be prepared to assist project officers</p> <p>To ensure that Launching and Supervision missions deal with this issue</p>	<p>Country Department</p> <p>Country and Disbursement Departments</p>
<p><u>Communication</u></p> <p>Communication difficulties caused delays in project implementation</p>	<p>Quick response should always be given to all Borrower's submissions.</p>	<p>Speedy action should be taken to reply to correspondences</p>	<p>Borrower and the Bank</p>
<p><u>Changes in Design</u></p> <p>Changes in design during construction affected the progress of project implementation and may lead to cost and time overruns;</p>	<p>As far as possible, changes in design should be avoided</p>	<p>Borrower and the Bank should closely supervise project preparation</p>	<p>Borrower and the Bank</p>
<p><u>Utilization of Bitumen of Poor Quality</u></p> <p>Surface dressing is deteriorating because bitumen of poor quality was utilized.</p>	<p>a) In future ADB/ADF projects, the Bank should not approve the utilization of the MC 3000 for surface dressing</p> <p>b) The Bank should follow-up the repairs and renovation of the surface dressing</p>	<p>Action to be taken at project preparation and appraisal</p> <p>A supervision mission should visit Kenya in 1997</p>	<p>Operations Departments</p> <p>Operations Departments</p>
<p><u>Sustainability</u></p> <p>Road was not maintained</p>	<p>The Bank should always monitor maintenance activities on completed road projects</p>	<p>Supervision missions should ensure that the road is rehabilitated to acceptable standards</p>	<p>Operations Departments</p>

KENYA
KAKIJMA-LOKICHOKIO ROAD PROJECT
PROJECT PERFORMANCE AUDIT REPORT
Performance Rating

Implementation Performance

Component Indicators	Score (I-4)	Remarks
1. Adherence to Time Schedule	1	The project implementation schedule was not respected. There was considerable delay before the loan could be signed. The overall delay in project implementation was 32 months.
2. Adherence to Cost Schedule	2	Project costs were over-estimated; despite several modifications in design and time extension, the actual cost was 56% below the appraisal estimate.
3. Compliance with Covenants	2	All loan conditions were fulfilled but after a lengthy delay
4. Adequacy of Supervision and Activity Reporting	3	The works were adequately supervised and progress reports were prepared and issued. Audited financial statements were not prepared.
5. Satisfactory Operations (if applicable)	1	The road has not been maintained and the running surface has deteriorated badly -- due to the use of poor quality bitumen. The entire running surface (95 km) has to be re-instated.
TOTAL	9	
<u>Overall Assessment of Implementation Performance</u>	1.80	Implementation performance was unsatisfactory

Bank Performance

Component Indicators	Score (1-4)	Remarks
1. At Identification	1	The Bank undertook no identification mission on this project.
2. At Preparation of Project	1	There was no preparation mission by the Bank. The Bank played no role at this stage of the project cycle.
3. At Appraisal	2	The appraisal of the project was rather optimistic regarding traffic development on the road, and trade expansion between Sudan and Kenya.
4. At Supervision	3	The Bank was effective in follow-up activities and in providing assistance to the Borrower. There were six follow-up missions and one supervision mission.
TOTAL	7	
<u>Overall Assessment of Bank Performance</u>	1.75	Bank's performance is considered unsatisfactory

iv)	Staffing by qualified persons (including turnover), training & counter-part staff	1	Most senior and qualified staff have departed from the Roads Department under the Government's retirement scheme. A major recruitment drive and training are required to restore the Department to capacity.
3	Sustainability ***	1.57	expected project benefits have not accrued. due to a combination of factors; the insecurity in Turkana and Southern Sudan, and the draught conditions in the zone of influence of the road.
i)	Continued Borrower Commitment	2	The Government is committed to the proper functioning of the Roads Department; a re-organization study was commissioned and is underway. Government is also resolved to repair the running surface of the road and to bring the security situation in Turkana district under control.
ii)	Environmental Policy	2	Roads Department has will incorporate environmental concerns into project studies and designs. and ensure their implementation.
iii)	Institutional Framework	1	Institutional framework is currently weak and needs to be strengthened through re-organization and training.
iv)	Technical Viability and Staffing	1	The road was constructed to good technical standards and is durable. However. staff of the Roads Department need to be vigilant in considering alternative design options. They also need to carefully review the technical specifications (including bitumen) of materials to be incorporated into road works.
v)	Financial Viability including cost recovery systems	N/A	
vi)	Economic Viability	1	The project is not economically viable; the re-calculated ERR at PCR is 0.53%.
vii)	Environmental Viability	2	There are no negative environmental impacts.
viii)	O&M facilitation (availability of recurrent funding, foreign exchange, spare parts, workshop facilities etc.)	2	Adequate funds for road maintenance are being generated from the Fuel Levy Fund and from Transit charges: these guarantee the future maintenance of the road following its repair and rehabilitation.
4	Economic Internal Rate of Return ***	1	The EIRR calculated at PCR is 0.53% indicating that the investment is not worthwhile.
	TOTAL	5.48	
	<u>Overall Assessment of Outcome</u>	1.37	Project performance is highly unsatisfactory

RETROSPECTIVE LOGICAL FRAMEWORK MATRIX

Project Kakuma-Lokichokio Road
 Completion Date June, 1989
 PCR Date August, 1995
 Date of Audit December, 1996
 Post-Evaluation Team W. Byaruhanga/G. Dossou

Hierarchy of Objectives	Objectively Verifiable Indicators				Means of Verification	Assumptions/Risks																																							
	At Appraisal		At Evaluation																																										
I Objectives To improve road transport services Reduce transport costs Reduce Government expenditure on road maintenance To provide improved transit access to Sudan.	1.1	Increase in total length of upgraded roads	Length of upgraded/rehabilitated roads increased.		1.1	Annual road construction statistics from the Roads Department Traffic and Trade Statistics Annual Accounts from Roads Department																																							
	1.2	Overall growth in traffic	Budgetary expenditures on road maintenance increased in line with increase in road network		1.2																																								
	1.3	Trade between Kenya and Sudan			1.3																																								
Objectives To improve road transport service between Kakuma and Lokichokio; reduce vehicle operating costs; and provide improved access to Turkana district, and Southern Sudan.	1.1	VOCs to be reduced by 62% when road is opened to traffic	1.1	Re-calculated ERR at PCR decreased from 9.2% to 0.53%	Political Stability in Southern Sudan as well as in Turkana district.	International traffic to Sudan diverted from the Nimule route Increased trade between Kenya and Sudan; boost in economic activities in Turkana district																																							
	1.2	Traffic growth	1.2	Traffic count: average daily traffic in 1990 was 24, 80% of appraisal estimate.																																									
	1.3	Trade between Kenya and Sudan.	1.3	Only about Kshs 82 million worth of trade between Kenya and Sudan.																																									
Two-lane, bitumen standard road (93 km) constructed between Kakuma and Lokichokio	93 km of bitumen road constructed between Kakuma and Lokichokio.		A 95.0 km (including 2 km of streets in Kakuma settlement) bitumen surfaced road completed in June, 1989. Road shoulders widened from 0.5 m to 1.0 m		Completion and maintenance certificates issued in May 1990 and May 1991 respectively.	Government to allocate sufficient funds for road maintenance																																							
es Procurement of consultancy services for supervision Procurement of contractor for road construction Actual construction of the road and its supervision	Inputs/Resources Appraisal Cost Estimates (UA million) <table border="1"> <thead> <tr> <th>Component</th> <th>FE</th> <th>LC</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Works</td> <td>22.74</td> <td>9.69</td> <td>32.43</td> </tr> <tr> <td>Supervision</td> <td>1.75</td> <td>0.44</td> <td>2.19</td> </tr> <tr> <td>Total</td> <td>24.49</td> <td>49.10</td> <td>34.62</td> </tr> </tbody> </table>			Component	FE	LC	Total	Works	22.74	9.69	32.43	Supervision	1.75	0.44	2.19	Total	24.49	49.10	34.62	Actual Project Costs (UA million) <table border="1"> <thead> <tr> <th>Component</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Works</td> <td>14.23</td> </tr> <tr> <td>Supervision</td> <td>1.13</td> </tr> <tr> <td>Total</td> <td>15.36</td> </tr> </tbody> </table>			Component	Total	Works	14.23	Supervision	1.13	Total	15.36	Progress reports and project supervision reports There was a saving in the loan, in amount of UA 15.08 million.	Timely recruitment of competent consultant and contractors Use of good quality road building materials and equipment. Government's budgetary situation is good.													
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Schedule of Payments to the Contractor

KSHS

CERT. N°	DATE	AMOUNT PAID BY ADB	AMOUNT PAID BY GOK	TOTAL AMOUNT
1.	15/11/86	10,206,000.00	4,374,000.00	14,580,000.00
2.	15/12/86	2,805,561.65	1,202,383.60	4,007,945.25
3.	16/03/87	----	4,475,509.20	4,475,509.20
4.	30/04/87	----	4,272,016.70	4,272,016.70
5.	30/06/87	----	5,651,713.08	5,651,713.08
6.	25/08/87	5,288,790.51	1,064,111.00	6,352,901.51
7.	30/09/87	7,324,659.00	367,290.60	7,691,949.60
8.	31/10/87	6,245,319.52	313,167.75	6,558,487.27
9.	30/11/87	15,381,568.09	771,299.45	16,152,867.54
10.	31/12/87	3,809,628.72	191,031.55	4,000,660.27
11.	31/01/88	4,759,450.74	238,659.80	4,998,110.54
12.	29/02/88	8,745,308.16	438,528.20	9,183,836.36
13.	31/03/88	7,887,225.91	395,500.17	8,282,726.08
14.	30/04/88	4,761,556.79	238,765.38	5,000,322.17
15.	31/05/88	9,005,775.75	451,589.20	9,457,364.95
16.	30/06/88	8,228,133.34	412,594.75	8,640,728.09
17.	31/07/88	8,130,319.03	407,689.95	8,538,008.98
18.	31/08/88	14,545,316.77	729,366.10	15,274,682.87
19.	30/09/88	9,805,887.91	491,710.30	10,297,598.21
20.	31/10/88	10,248,782.58	513,919.00	10,762,701.58
21.	30/11/88	10,991,920.05	2,132,760.60	13,124,680.65
22.	15/12/88	13,111,092.20	2,159,973.55	15,271,065.75
23.	31/01/89	12,755,699.73	2,474,986.50	15,230,686.23
24.	17/03/89	11,237,015.49	2,180,316.45	13,417,331.94
25.	31/03/89	10,499,912.40	2,037,296.45	12,537,208.85
26.	30/04/89	10,963,405.29	2,127,227.89	13,090,633.18
27.	26/05/89	10,093,746.79	1,958,488.20	12,052,234.99
28.	30/06/89	10,329,887.76	2,004,306.60	12,334,194.36
29.	31/07/89	9,079,854.20	1,761,762.75	10,841,616.95
30.	21/10/89	18,899,250.06	3,667,018.65	22,566,268.71
31.	30/11/89	1,437,170.95	278,854.05	1,716,025.00
32.	30/08/90	527,131.43	102,279.25	629,410.68
	TOTAL	257,105,370.82	49,886,116.72	306,991,487.54

SOURCE: MOPW&H

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KAKUMA-LOKICHOKIO ROAD PROJECT
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Comment of the Consultant on the Execution of the Wearing Course During Construction,

Oil and diesel leaks from various pieces of equipment were a constant problem throughout the surfacing operation; all affected areas were cut out and the surfacing redone but this required constant vigilance and was a daily occurrence.

Drip trays were placed under the lorries and other plant where possible but the problem still persisted although to a lesser extent: After completion, the whole road was carefully inspected and all areas where the bitumen had been flushed were cut out and repaired.

Traffic was kept off the surface for about one month due to slow rate of curing of MC 3000. This problem originated with supplies and could not be connected by the contractor. Materials Branch personnel explained that they had investigated the problem but nothing **could** be done other than allowing a longer than usual curing period. After traffic, the surface dressing has a satisfactory appearance.