

THE WORLD BANK GROUP ARCHIVES

PUBLIC DISCLOSURE AUTHORIZED

Folder Title: Zambia: Reports and Background Material for PCR/PPAR - 1v

Folder ID: 1298506

Series: Completion Reports and Audit Reports

Dates: 01/01/1990 - 12/31/1991

Fonds: Records of the Office of Operations Evaluation

ISAD Reference Code: WB IBRD/IDA OPE-06

Digitized: 06/25/2025

To cite materials from this archival folder, please follow the following format:

[Descriptive name of item], [Folder Title], Folder ID [Folder ID], ISAD(G) Reference Code [Reference Code], [Each Level Label as applicable], World Bank Group Archives, Washington, D.C., United States.

The records in this folder were created or received by The World Bank in the course of its business.

The records that were created by the staff of The World Bank are subject to the Bank's copyright.

Please refer to <http://www.worldbank.org/terms-of-use-earchives> for full copyright terms of use and disclaimers.



THE WORLD BANK

Washington, D.C.

© International Bank for Reconstruction and Development / International Development Association or

The World Bank

1818 H Street NW

Washington DC 20433

Telephone: 202-473-1000

Internet: www.worldbank.org

PUBLIC DISCLOSURE AUTHORIZED

Zambia
Ln. 1566/Cr. 798



1298506

R1995-175 Other #: 10 Box #: 102442B

Zambia: Reports and Background Material for PCR/PPAR - 1v

DECLASSIFIED
WBG Archives

OFFICE MEMORANDUM

DATE: September 24, 1990

TO: Mr. Sarshar Khan, Resident Mission

FROM: Graham Donaldson, Chief, OEDD1

EXTENSION: 473-2893

SUBJECT: ZAMBIA - Third Highway Project (Ln. 1566-ZA/Cr. 798-ZA)
Project Completion Report

Please distribute the enclosed copies of the above report and cover letters to the officials concerned. I have included an additional copy of the report for your information, and would appreciate it if you could encourage the addressees to respond by November 12, 1990.

Enclosures

JdeWeille:ej

OFFICE MEMORANDUM

DATE: September 24, 1990

TO: Mr. Isaac K. Sam, Chief, AF6IN

FROM: Graham Donaldson, Chief, OEDD1

EXTENSION: 32893

SUBJECT: ZAMBIA: Third Highway Project (Ln. 1566-ZA/Cr. 798-ZA)
Project Completion Report

1. This PCR has been reviewed in OED (copy attached). The project will not be subject to an audit at this stage but may be in the future.
2. The PCR will now be sent to the Borrower, for their comments by November 12, 1990. Any comments we receive will be passed on Mr. Preben Jensen to be reflected in the PCR and reproduced as an annex. Subsequently, we will release the PCR to the Executive Directors and the President.

Attachment

cc: Mr. Stephen M. Denning, AF6DR
Mr. Preben Jensen, AF6IN

JdeWeille:ej

The World Bank

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

(202) 477-1234
Cable Address: INTBAFRAD
Cable Address: INDEVAS

September 24, 1990

Dear

ZAMBIA - Third Highway Project (Ln. 1566-ZA/Cr. 798-ZA)
Project Completion Report

The Operations Evaluation Department is an independent department reporting to the World Bank's Executive Directors. It reviews projects and programs supported by the World Bank, evaluates the extent to which objectives were achieved, determines reasons for variations between planned and actual results, and assesses the general effectiveness of World Bank experience so that it may be applied in future projects and programs and be of use to agencies concerned in your country. An important document in this context is the Project Completion Report (PCR).

Enclosed is the draft PCR for the above project which was prepared by the Infrastructure Operations Division, Southern Africa Department of the Africa Regional Office. We would welcome any comment on the report which you would like to make. In particular, we would appreciate your views on the principal factors which have affected the outcome of the project, in a positive or in a negative way. Please let us have your comments by November 12, 1990, preferably by telex.

Copies of the draft report have also been sent for comment to the persons listed below:

All comments which we receive will be reflected in the final report which we will then distribute to our Board of Directors. At the same time we will send you a copy.

Sincerely,

Graham Donaldson, Chief
Agriculture, Infrastructure and
Human Resources Division
Operations Evaluation Department

Attachment

JdeWeille;ej

September 24, 1990

LIST OF ADDRESSES

Mr. T. Ngoma
Director of Roads
Ministry of Works and Supply
Lusaka, Zambia

Mr. T. I. Mazaba
Permanent Secretary
Ministry of Works and Supply
Lusaka, Zambia

Mr. Lennard Nkhata
Senior Permanent Secretary
Ministry of Finance
P. O. Box 50062, Ridgeway
Lusaka, Zambia

OPERATIONS EVALUATION DEPARTMENT
PCR REVIEW/AUDIT PROCESS /1

CONTROL SHEET

Project: ZAMBIA: Third Highway Project
Loan/Credit No: Ln. 1566-ZA & Cr. 798-ZA
PCR Format (circle one): Old-Style New-Style
Evaluating Officer: Jan de Weille
Approved by (Div. Chief or designate): G. Donaldson

Date: Nov. 13, 1990

Date:

A. Timetable

- PCR logged in by Division
- If incomplete, PCR returned to Region
- If PCR is unlogged

Date
(mo/dy/yr)

3/5/1990

3/20/90

In case evaluating officer requests
Region to revise draft PCR: /2 Per telephone by
Division Chief

- Note to Regional task manager
- Follow-up memo from Division Chief,
OED, to Sector Division Chief,
Region, if revision delayed
- Satisfactorily revised PCR received
from Region

-

-

6/6/90

B. If PCR Returned to Region for Revision

Nature of revision requested (circle one):

minor

major

Degree of hassle involved (circle one):

none

minor

major

/1 In the case of a PPAR which does not include the PCR complete section E only.

/2 Please attach copy of note to regional task manager and follow-up memos if any.

C. Complete for Old-style PCRs

	<u>YES</u>	<u>NO</u>
Covenant requiring Borrower to prepare PCR <u>/3</u>	<u>X</u>	<u> </u>
PCR prepared by		
I. <u>Borrower</u>		
- Borrower staff or agencies	<u> </u>	<u>X</u>
- FAO/CP or consultants <u>/4</u>	<u> </u>	<u>X</u>
II. <u>Bank</u>		
- Bank staff	<u>X</u>	<u> </u>
- Some input from Borrower	<u> </u>	<u>X</u>
- Inadequate/incomplete Borrower PCR	<u> </u>	<u>X</u>
Use of Borrower PCR in final document <u>/5</u>		
- As final PCR	<u> </u>	<u> </u>
- With overview	<u> </u>	<u> </u>
- An Annex to Bank PCR	<u> </u>	<u> </u>
- On file, Bank prepared its own PCR	<u> </u>	<u> </u>

D. Complete for New-style PCRs

Did Borrower complete Part II of the PCR?	<u> </u>	<u> </u>
If yes,		
- Part II agrees with Parts I and III	<u> </u>	<u> </u>
- Part II disagrees with Parts I and III	<u> </u>	<u> </u>

E. OED Staff and Consultants Input

	<u>Days</u>
Staff	<u>5</u>
Consultants	<u> </u>
<u>Total</u>	<u>5</u>

Attachment(s): (See footnote 1, page 1)

-
- /3 Please remember that a standard clause has been included in general conditions since January 1, 1985 (Article IX).
- /4 The PCR is clearly identifiable as a consultancy firm product.
- /5 Applies to item I.

OPERATIONS EVALUATION DEPARTMENT

NOTE OF RECORD

REVIEW OF
PROJECT COMPLETION REPORT

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

1. Recommendation

It is recommended that the PCR for this project be released to the Executive Directors and the President.

2. Origin and Quality of the PCR

This is an old-style PCR, prepared by Bank staff. It is of very good quality, frank and to the point, and conforms well with the old (1977) guidelines.

3. Overall Project Assessment and Main Issues

This project aimed at improving the maintenance of the Zambian road network as a first priority and secondly, to limit new road construction to what is really needed. However, the Government disagreed and the Bank did not appreciate this at appraisal and negotiations.

As a result the Government dragged its feet at making funds available for maintenance and implemented road construction which the feasibility study undertaken under the project recommended against. As the PCR concluded: the Bank was right on what was needed to be done but wrong in believing that the Government agreed. The rate of return of the project is probably negative (PCR) and the project is judged unsatisfactory

The project illustrates again that signatures on loan agreements do not necessarily reflect consensus on the project proposed for implementation. But it is this consensus which is an essential ingredient for project success.

4. Recommendation for Follow-up

I do not propose any follow-up on this project.

5. The PIF has been completed (attached).

Prepared by:

Jan de Weille



Signature

November 14, 1990
Date

Reviewed by:

Hon-Chan Chai



Signature

November 26, 1990
Date

OFFICE MEMORANDUM

DATE: December 4, 1990

TO: Mr. Yves Rovani, DGO

FROM: H. Eberhard Köpp, Director, OED

EXTENSION: 31700

SUBJECT: ZAMBIA - Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

D. G. O.

'90 NOV 15 AM 9 16

OED has reviewed this Report. It was prepared by the Africa Regional Office and sent to the Borrower on September 24, 1990 for comments by November 12, 1990. No comments were received. The attached final version of the Report is now being released to the Executive Directors and the President.

Attachment

cc: Mr. Louis Y. Pouliquen, INUDR
Mr. Stephen M. Denning, AF6DR

PROJECT COMPLETION REPORT

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

November 26, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

CURRENCY EXCHANGE DATA

Name of Currency (Abbreviation) Kwacha (ZK)

Year:	Approved Year Average	US\$ 1 = ZK 0.80
	Intervening Years Average	US\$ 1 = ZK 1.47
	Completion Year Average	US\$ 1 = ZK 8.22

LIST OF ABBREVIATIONS

FY	-	Fiscal Year
MSB	-	Mechanical Services Branch
MSD	-	Mechanical Services Department
MWS	-	Ministry of Works and Supply
RD	-	Roads Department

FISCAL YEAR OF BORROWER

January - December

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

TABLE OF CONTENTS

PREFACE	i
BASIC DATA SHEET	iii
EVALUATION SUMMARY	v
I. INTRODUCTION	1
II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL	2
Origin of the Project and Project Preparation	2
Appraisal of the Project	2
Credit Negotiations and Subsequent Processing	3
III. PROJECT IMPLEMENTATION AND COST	4
Physical Implementation of the Main Component	4
Implementation of Miscellaneous Components	5
Project Costs	6
Disbursements	6
Loan/Credit Covenants	6
Performance of Borrower and Bank/Association	9
IV. INSTITUTIONAL DEVELOPMENT	10
V. ECONOMIC RE-EVALUATION	10
VI. CONCLUSION	10
ANNEX A:	
Table 1: Related Bank Loans	12
Table 2: Project Timetable	13
Table 3: Loan/Credit Disbursements	14
Table 4: Project Implementation	15
Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs	16
Table 6: Project Financing	17
Table 7: Direct Benefits	18
Table 8: Economic Rate of Return	19
Table 9: Status and Impact of Studies Financed Under Project	20
Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	21
ANNEX B:	
Borrower's Submission Concerning Completion of the Third Highway Project	22

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2.9 million of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division, Southern Africa Department, of the Africa Regional Office and is based, inter alia, on the Staff Appraisal Report, Reappraisal Report, Loan/Credit Agreements, supervision reports, correspondence between the Bank and the Borrower, and internal Bank memoranda.

This PCR was read by the Operations Evaluation Department (OED). The draft was sent to the Borrower on September 24, 1990, for comments by November 12, 1990, but none were received.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

BASIC DATA SHEET

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
Total Project Cost (US\$ million)	26.70	23.09
Overrun/Underrun (US\$ million)		(3.61)
Ln./Cr. Amount (US\$ million) ^{1/}	- 22.50	
Disbursed		19.593
Cancelled		2.907
Repaid		0
Outstanding		19.593
Date Physical Components Completed	12/31/82	Not Completed
Proportion completed by original completion date (%)		Under 10
Economic Rate of Return (%)	44	Negative

CUMULATIVE ESTIMATED AND ACTUAL DISBURSEMENTS

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
(i) Appraisal	1.0	19.0	21.0	22.5						
(ii) Actual	0.0	0.0	0.0	0.6	0.8	0.9	7.1	10.1	19.2	19.6
(iii) As % of (i)	0.0	0.0	0.0	2.0	4.0	4.0	32.0	45.0	85.0	87.0

<u>Item</u>	<u>OTHER PROJECT DATA</u>	
	<u>Appraisal Estimate</u>	<u>Actual</u>
First Mention in Files		1/72
Negotiations		1/78
Board Approval		5/11/78
Loan/Credit Agreement Date		6/27/78
Effective Date	9/28/78	11/26/79
Closing Date	6/30/83	6/30/86
Borrower		Government of Zambia
Executing Agency		Ministry of Works and Supply
Fiscal Year of Borrower		January-December
Follow-up Project		None

^{1/} The Loan and Credit each accounted for US\$11.25 million at appraisal.

Mission Data

Stage of Project Cycle	Month/Year	No. of Persons	Days in Field	Specialization Represented	Perform. Rating Status	Types of Problems
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper.	-	-
Post-Appraisal	6/77	2	10	Asst. Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	5	"	2	M
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	2	M,F
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	F,M
"	6/85	1	7	"	2	M,T
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

Objective

1. The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improvement of both the primary and secondary roads, implementation of a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

2. Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

3. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

4. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

5. For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

1.02 Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

1.03 The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

1.04 Major transport improvements are very costly, and large development programs in the sector tend to cause insufficient funding of maintenance activities. In fact during the 1980s, budget allocations for road maintenance in Zambia frequently fell far short of needs while construction of costly new roads of doubtful economic viability went forward. As a result of this shortfall in maintenance funding, the general

condition of the road network has deteriorated sharply with far reaching economic consequences in terms of high costs of transport and relatively slow speed of transport.

1.05 The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

1.06 Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government is not yet fully committed to adequate road maintenance.

1.07 The information required for this report was obtained largely from the Staff Appraisal Report, supervision reports, consultants and Government progress reports and other materials in the Bank's files. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL

Origin of the Project and Project Preparation

2.01 In 1972, about four years after the Second Highway Project had been approved (see Table 1), the Third Highway Project was identified. Over a period of five years, the details of the project were defined and the preparation completed (see Table 2). Project preparation was accomplished by the Government largely through its Mechanical Services Branch.

Appraisal of the Project

2.02 A partial appraisal of the project was carried out in March 1977, but the appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) and consequently a second appraisal months later was required; the appraisal was thus completed in June 1977.

2.03 The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or alternative roads agreed between the Government and the Bank Group (see Map); and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

2.04 The total project costs were estimated during the appraisal mission at US\$ 26.70 million, excluding taxes and duties but including physical and price contingencies (see Table 5). The foreign exchange component was estimated at US\$ 22.5 million or 84% of total cost.

Credit Negotiations and Subsequent Processing

2.05 Negotiations were held in January 1978 in Washington. No significant disagreements arose in these meetings. The loan and credit were signed on June 27, 1978. More than 18 months passed from Board approval until the Loan/Credit became effective, on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specific date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

III. PROJECT IMPLEMENTATION AND COST

3.01 A feature of the project design that caused a major delay in project implementation was the requirement that Government fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought. Otherwise, the number of consultants planned for the project should have been substantially reduced.

3.02 Poor organization of the main Governmental entities carrying out the project did not bode well for expeditious implementation. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

3.03 In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

Physical Implementation of the Main Component

3.04 Implementation was extremely slow as indicated by the actual rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment (see Table 11).

3.05 After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads

targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

3.06 In July 1979, when the project was reappraised, the new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

Implementation of Miscellaneous Components

3.07 Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employ a firm for recruitment as repeatedly recommended by Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

3.08 Two studies financed under the project were completed satisfactorily although they were delayed in starting (see Table 9). The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

3.09 In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

3.10 The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

Project Costs

3.11 The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate (see Table 5). As indicated elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

Disbursements

3.12 The slow pace of the project implementation indicated above resulted in a slow rate of disbursements (see Table 3). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit (see Table 6). All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

Loan/Credit Covenants

3.13 Compliance with loan/credit covenants was not fully satisfactory. The following summary indicates the status of covenants:

Reference To Credit Agreement	Loan/Credit Covenant	Compliance and Status
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis. Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-5 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

Performance of Borrower and Bank/Association

3.14 Borrower Performance. As noted, the Government of Zambia was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

3.15 The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent that construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake the construction but Government disagreed.

3.16 Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report (see Annex B).

3.17 Bank Performance. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities.

3.18 Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

IV. INSTITUTIONAL DEVELOPMENT

4.01 The component of the project designed to strengthen MSD, one of the key institutions affecting the road sector, had little impact. While the study undertaken was of good quality, the consultants recommendations were largely ignored. Also, the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists but the impact in terms of human resource development was minimal.

4.02 One of the objectives of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

V. ECONOMIC RE-EVALUATION

5.01 The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated (see Table 7); therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative (see Table 8). Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

VI. CONCLUSION

6.01 The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

6.02 The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and

rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined. The most recent Roads Department budget reflects continued low funding for this purpose.

6.03 One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. The Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose; a better alternative might have been to include the essential recurrent expenses for the project as project costs with Government commitment to finance them.

6.04 The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

6.05 Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

6.06 The foregoing review indicates that much more dialogue is needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

Table 1: RELATED BANK LOANS

Loan Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles) and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over-run. No project in the sector has followed the Third Highway Project.
No Credits				

Table 2: PROJECT TIMETABLE

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	06/30/83 06/30/84 06/30/85	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	12/ /83 06/ /84 06/ /86	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

Table 3: LOAN/CREDIT DISBURSEMENTS

Bank Fiscal Year	<u>Disbursements (US\$'000)</u>		Actual as % of total Loan/Credit
	Appraisal Estimate	Actual	
1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

Table 4: PROJECT IMPLEMENTATION

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
Indicator 1 Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
Indicator 2 Kilometers of gravel roads subject to resealing/regraveling	750 km	375 km	N/A
Indicator 3 Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contingencies)	US\$11.93 million (including contingencies)	US\$19.86
Indicator 4 Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).
Indicator 5 Number of regravelling and heavy maintenance units established:			
A) Regraveling	4	2	4 to 7
B) Heavy	9	2	1 to 3 (In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
Indicator 6 A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
Indicator 7 Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs
(US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
A. Road Maintenance Equipment									
(i) Procurement of New Equipment	1.11	12.30	13.41	1.14	11.61	12.75	0.72	10.68	11.40
(ii) Rehab. of Existing Equipment	0.22	0.61	0.83	0.16	0.61	0.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equip.	0.15	0.97	1.12	0.12	0.98	1.10	0.36	2.53	2.89
B. Workshop Equipment Tools & Training Aids									
(i) Workshop Equipment & Tools	0.15	1.42	1.57	0.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	0.01	0.13	0.14	0.01	0.13	0.14	0.01	0.09	0.10
C. Consultant Services									
(i) MSD Reorganization Study & Preparation of Bid Documents	0.06	0.23	0.29	0.03	0.344 ^{0.37}		0.02	0.17	0.19
(ii) Road Feasibility Study	0.24	0.84	1.08	0.12	0.87	0.99	0.17	0.37	0.54
D. Pilot Rural Road Maintenance Program	0.73	0.65	1.38	0.69	0.62	1.31	0.00	0.00	0.00
E. Rehabilitation of Paved Road	-	-	-	1.56	0.91	2.47	0.00	0.00	0.00
F. Technical Assistance	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/8/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

Table 6: Project Financing

<u>Source</u>	<u>Planned Loan/Credit Agreement</u>	<u>Revised 1/ (US\$'000)</u>	<u>Final</u>	<u>Comments</u>
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
Total	26,700 =====	26,700 =====	23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

Table 7: Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u> Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of the most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of the highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u> Number of Technical Assistance people installed	29	During Project Implementation: 12-15 for 4 to 5 years	None	None

Table 8: Economic Rate of Return

	Appraisal Estimate	Actual at Final Development
Economic Rate of Return	44%*	Probably negative

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

Table 9: Status and Impact of Studies Financed Under Project

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped, not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed road was not justified was accepted by the Bank but not the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a mis-allocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.

Borrower's Submission Concerning Completion
of the Third Highway Project

- 1 As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administration factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector returned, without the Borrower's PCR.
- 2 In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.
- 3 Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".
- 4 As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".
- 5 The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".
- 6 With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.
- 7 Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

OFFICE MEMORANDUM

DATE: December 4, 1990

TO: Mr. Yves Rovani, DGO

FROM: H. Eberhard Köpp, Director, OED

EXTENSION: 31700

SUBJECT: ZAMBIA - Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

OED has reviewed this Report. It was prepared by the Africa Regional Office and sent to the Borrower on September 24, 1990 for comments by November 12, 1990. No comments were received. The attached final version of the Report is now being released to the Executive Directors and the President.

Attachment

cc: Mr. Louis Y. Pouliquen, INUDR
Mr. Stephen M. Denning, AF6DR

6/14/90

OPERATIONS EVALUATION DEPARTMENT

PROJECT INFORMATION FORM FOR ANNUAL REVIEW 199
(to be completed for each project evaluated)*

Date: 11/13/90

Completed by: JAN DEWILL

1. Project Name: THIRD HIGHWAY PROJECT
LOAN 1566-2A + CREDIT 798-2A

2. Country: ZAMBIA

3. Sector: TRANSPORT

4. Subsector: HIGHWAYS

5. Poverty Alleviation/Rural Development Project: Yes ☐ No ☐

6. PCR review ☒ PPAR revision** ☐

7. Was this project included in a previous Annual Review?

If yes, in what year? NO

8. Bank Loan/Credit (US\$ millions)

	<u>Loan</u>	<u>Credit</u>	<u>Total</u>
Approved:	<u>11.25</u>	<u>11.25</u>	<u>22.50</u>
Cancelled:	<u>2.91</u>	<u>-</u>	<u>2.91</u>
Disbursed:	<u>8.34</u>	<u>11.25</u>	<u>19.59</u>

* For each project at PCR review and at Audit if audit is done subsequently.

** Revisions at audit can be inserted by overwriting in a different color and box so indicated.

9. Total Project Cost (US\$ millions)Appraisal Estimate: 26.70Actual: 23.0910. Key Project Dates (month/year, when available)Appraisal: 6/77Board Approval: 5/78Loan/Credit Signing: 6/78

	<u>Estimated in</u> <u>Loan/Credit Agreement</u>	<u>Actual</u>
Effectiveness:	<u>9/77 1/78</u>	<u>11/79</u>
Completion:	<u>6/83</u>	<u>6/86</u>
Closing:	<u>6/83</u>	<u>6/86</u>

** If physical components are not yet complete, please note.
If the project contained several components with different
completion dates, enter the last actual completion date.

11. Bank Processing and Supervision Performance

	<u>Deficient</u>	<u>Adequate</u>
Identification	☐	☒
Preparation	☐	☒
Appraisal	☒	☐
Supervision	☐	☒

Number of Supervision Missions: 13

PER. PARA 3.17
"THE BANK WAS
RIGHT IN ITS
ASSESSMENT OF THE
PRIORITY NEED
FOR [THIS] PROJECT
... BUT WRONG IN
ITS ASSESSMENT
THAT GOVERNMENT
SHARED THIS
CONVICTION --"

12. Project Resultsa. Rates of Return (%)EconomicFinancial

Estimated at Appraisal:

44—

Re-Estimated at Completion:

PROBABLY—NEGATIVE (PCA, ANNEX A, TABLE 8)

RERR based on what percentage of total investment?

85%If re-estimated rate of return is not available,
indicate reason:Project Not Implemented: Inadequate Data: Other (specify): b. Achievement of Objectives

Describe project objectives at appraisal (as defined in SAR).

— IMPROVE ROAD MAINTENANCE— IMPROVE SELECTION OF ROADS TO BE
CONSTRUCTED (FEAS. STUDY)

To what extent did the project achieve its appraisal objectives?

NOT TO ANY WORKWORTHY EXTENT

Describe any significant changes in project objectives following appraisal.

NONE

To what extent did the project achieve its revised objectives?

—

Categorize the extent of achievement of objectives in the following areas:

	<u>Substantial</u>	<u>Partial</u>	<u>Negligible</u>	<u>N/A</u>
Physical Investment:	☐	☐	☒	☐
Sector or Macro Policies:	☐	☐	☒	☐
Institutional Development:	☐	☐	☒	☐
Environmental:	☐	☐	☒	☐

c. Factors Affecting Results

Note principal factors resulting in significant changes in the following (or identify relevant paragraphs):

Project Costs:

Project Scope: LITTLE MAINTENANCE WAS DONE
SEE NOTE AT END OF THIS PAGE

Completion Time: T.A. SHOULD HAVE BEEN
ARRANGED THROUGH CONSULTING FIRM
INSTEAD GOVT. RECRUITED INDIVIDUALS
Economic Rate of Return:

SEE NOTE TO ITEM 11.
GOVT. DID NOT SHARE BANK'S
VIEWS AND DID NOT ALLOCATE
ENOUGH FUNDS

Note other factors, internal to the project (preparation, management, etc.) or external to the project (macroeconomic difficulties, civil disorders, weather, etc.) which significantly affected project outcome (Note relevant para. numbers).

Lack (or timeliness) of local (budgetary) funding during implementation was:

☒ a major problem ☐ a minor problem ☐ not a problem

d. Overall Assessment

Considering all of the original (or revised) objectives, and actual (or expected) achievements (economic & social benefits, institutional development, policy impact, technology transfer, sustainability), give your own assessment of the overall success (or likely success) of the project:

<u>Highly Satisfactory</u>	Project achieved or exceeded all its major (original or revised) objectives, and achieved substantial results in almost all respects.	☐
<u>Satisfactory</u>	Project achieved most of its (original or revised) objectives and had satisfactory results with no major shortcomings	☐

<u>Unsatisfactory</u>	Project failed to achieve many of its (original or revised) objectives and had major shortcomings	☐
<u>Very Unsatisfactory</u>	Project failed to achieve most of its (original or revised) objectives, and had no foreseeable worthwhile results.	☒

Note: An ERR of 10% or more for a major portion of the total investment, or other significant benefits if the ERR was less than 10%, is necessary to meet the minimal requirements for a "Satisfactory" project.

e. Sustainability

To what extent is the project likely to maintain an acceptable level of net benefits throughout its economic life?

☐

likely

☒

unlikely

☐

marginal

☐

uncertain

(PCR - "Not Promising")

f. Outstanding Project

Do you nominate this project for consideration as an outstanding project for highlighting in the Annual Review (i.e., outstandingly satisfactory in outcome or achievement)?

☐

Yes

☒

No

ROUTING SLIP		DATE: 6/11	
NAME		ROOM NO.	
Velma			
APPROPRIATE DISPOSITION		NOTE AND RETURN	
APPROVAL		NOTE AND SEND ON	
CLEARANCE		PER OUR CONVERSATION	
COMMENT		PER YOUR REQUEST	
FOR ACTION		PREPARE REPLY	
INFORMATION		RECOMMENDATION	
INITIAL		SIGNATURE	
NOTE AND FILE		URGENT	
REMARKS:			
Relates to log # 1490.012			
FROM: JH		ROOM NO.:	EXTENSION:

OFFICE MEMORANDUM

JUN. 8 1990

Recd
June 12, 90

DATE: June 6, 1990

TO: Mr. Ram Kumar Chopra, Director, OED

THROUGH: Mr. Harold W. Messenger, Acting Director, AF6

FROM: Mr. Jeffrey Racki, Acting Chief, AF6IN

EXTENSION: 33374

SUBJECT: ZAMBIA : Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

1. I am pleased to forward to you the final version of the above report.
2. A report for this project in the "new style" was previously submitted to you on February 27, 1990. Because that submission did not include, as Part II, a Government-prepared completion report, it was suggested that we restructure the report in the "old style" for your consideration. The attached report responds to this suggestion.
3. The report in its earlier form was cleared by Country Operations (Mr. Karuga, AF6CO), Legal (Mr. Gruss, LEGAF), and Disbursements (Mrs. Reedy, LOAAF). Comments were received from the Acting Projects Adviser, Mr. Stern, and from Mr. Kathuria, who was the mission leader/project officer for the appraisal mission and for the first couple of years of project implementation. Their comments were taken into account in the report. In its present form, the report is essentially unchanged from the preceding "new style" version.
4. On several occasions since 1987, we have requested the Government of Zambia to submit a completion report but so far with no result. We suggest that OED make an independent decision as to whether to invite comments from the Government on the attached report.

Attachment

Cleared with and cc: Messrs. Karuga, Gruss; Mrs. Reedy

cc: Messrs. Ducksoo Lee (CODDR), Pouliquen (INUDR), Al Habsy (LEGAF),
Wyss (AFTDR), Doyen (AFTIN), Sandstrom, Singh (AF6DR),
Messenger (AF6CO), Sam (AF6IN), Stern (AF6AG),
Kathuria (AF2IN), Khan (IBRDLUS), Africa Information Center

KClare/sa

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

June 6, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA) PROJECT COMPLETION REPORT

TABLE OF CONTENTS

PREFACE	i
BASIC DATA SHEET	ii
HIGHLIGHTS	v
I. INTRODUCTION	1
II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL	2
Origin of the Project and Project Preparation	2
Appraisal of the Project	2
Credit Negotiations and Subsequent Processing	3
III. PROJECT IMPLEMENTATION AND COST	4
Physical Implementation of the Main Component	4
Implementation of Miscellaneous Components	5
Project Costs	6
Disbursements	6
Loan/Credit Covenants	6
Performance of Borrower and Bank/Association	9
IV. INSTITUTIONAL DEVELOPMENT	10
V. ECONOMIC RE-EVALUATION	10
VI. CONCLUSION	10
ANNEX A:	
Table 1: Related Bank Loans	12
Table 2: Project Timetable	13
Table 3: Loan/Credit Disbursements	14
Table 4: Project Implementation	15
Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs	16
Table 6: Project Financing	17
Table 7: Direct Benefits	18
Table 8: Economic Rate of Return	19
Table 9: Status and Impact of Studies Financed Under Project	20
Table 10: Staff Inputs for Project	21
Table 11: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	22
ANNEX B:	
Borrower's Submission Concerning Completion of the Third Highway Project	23

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2,907,242.52 of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division of the Southern Africa Department. The Borrower did not prepare a PCR for the project although such a report was required under the terms of the Loan and Credit Agreements.

Preparation of this PCR was started subsequent to the Bank's final project supervision mission of February 1987, and is based, inter alia, on the Staff Appraisal Report; Reappraisal Report; Loan/Credit Agreements; supervision reports; correspondence between the Bank and the Borrower; and internal Bank memoranda.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

BASIC DATA SHEET

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
Total Project Cost (US\$ million)	26.70	23.09
Overrun/Underrun (US\$ million)		(3.61)
Credit Amount (US\$ million)	22.50	
Disbursed		19.593
Cancelled		2.907
Repaid		0
Outstanding		19.593
Date Physical Components Completed 12/31/82		Not Completed
Proportion completed by original completion date (%)		Under 10
Economic Rate of Return (%)	44	Negative

CUMULATIVE ESTIMATED AND ACTUAL DISBURSEMENTS

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
(i) Appraisal	1.0	19.0	21.0	22.5						
(ii) Actual	0.0	0.0	0.0	0.6	0.8	0.9	7.1	10.1	19.2	19.6
(iii) As % of (i)	0.0	0.0	0.0	2.0	4.0	4.0	32.0	45.0	85.0	87.0

OTHER PROJECT DATA

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
First Mention in Files		1/72
Negotiations		1/78
Board Approval		5/11/78
Loan/Credit Agreement Date		6/27/78
Effective Date	9/28/78	11/26/79
Closing Date	6/30/83	6/30/86
Borrower		Government of Zambia
Executing Agency		Ministry of Works and Supply
Fiscal Year of Borrower		January-December
Follow-up Project		None

Mission Data

<u>Stage of Project Cycle</u>	<u>Month/ Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
" "	12/80	1	5	" "	2	M
" "	9/81	1	6	" "	2	M
" "	11/82	1	5	" "	3	M,F
" "	4/83	2	17	Hg. En/Equip. Sp	3	M,F
" "	8/83	1	11	High. Engrn.	3	M,F
" "	3/84	1	12	" "	2	F,M
" "	6/84	1	7	" "	2	F,M
" "	10/84	1	7	" "	2	F,M
" "	3/85	1	12	" "	2	M,T
" "	6/85	1	7	" "	2	
" "	2/86	1	14	" "	2	
" "	2/87	1	7	" "	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

COUNTRY EXCHANGE DATA

Name of Currency (Abbreviation) Kwacha (ZK)

Year:	Approved Year Average	US\$ 1 = ZK 0.80
	Intervening Years Average	US\$ 1 = ZK 1.47
	Completion Year Average	US\$ 1 = ZK 8.22

LIST OF ABBREVIATIONS

FY	-	Fiscal Year
MSB	-	Mechanical Services Branch
MSD	-	Mechanical Services Department
MWS	-	Ministry of Works and Supply
RD	-	Roads Department

GOVERNMENT OF ZAMBIA

FISCAL YEAR
January - December

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

HIGHLIGHTS

Objective

1. The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improvement of both the primary and secondary roads, implementation of a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

2. Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

3. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

4. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

5. For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA
THIRD HIGHWAY PROJECT
LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

1.02 Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

1.03 The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

1.04 Major transport improvements are very costly, and large development programs in the sector tend to cause insufficient funding of maintenance activities. In fact during the 1980s, budget allocations for road maintenance in Zambia frequently fell far short of needs while construction of costly new roads of doubtful economic viability went forward. As a result of this shortfall in maintenance funding, the general

condition of the road network has deteriorated sharply with far reaching economic consequences in terms of high costs of transport and relatively slow speed of transport.

1.05 The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

1.06 Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government is not yet fully committed to adequate road maintenance.

1.07 The information required for this report was obtained largely from the Staff Appraisal Report, supervision reports, consultants and Government progress reports and other materials in the Bank's files. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL

Origin of the Project and Project Preparation

2.01 In 1972, about four years after the Second Highway Project had been approved (see Table 1), the Third Highway Project was identified. Over a period of five years, the details of the project were defined and the preparation completed (see Table 2). Project preparation was accomplished by the Government largely through its Mechanical Services Branch.

Appraisal of the Project

2.02 A partial appraisal of the project was carried out in March 1977, but the appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) and consequently a second appraisal months later was required; the appraisal was thus completed in June 1977.

2.03 The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or alternative roads agreed between the Government and the Bank Group (see Map); and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

2.04 The total project costs were estimated during the appraisal mission at US\$ 26.70 million, excluding taxes and duties but including physical and price contingencies (see Table 5). The foreign exchange component was estimated at US\$ 22.5 million or 84% of total cost.

Credit Negotiations and Subsequent Processing

2.05 Negotiations were held in January 1978 in Washington. No significant disagreements arose in these meetings. The loan and credit were signed on June 27, 1978. More than 18 months passed from Board approval until the Loan/Credit became effective, on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specific date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

III. PROJECT IMPLEMENTATION AND COST

3.01 A feature of the project design that caused a major delay in project implementation was the requirement that Government fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought. Otherwise, the number of consultants planned for the project should have been substantially reduced.

3.02 Poor organization of the main Governmental entities carrying out the project did not bode well for expeditious implementation. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

3.03 In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

Physical Implementation of the Main Component

3.04 Implementation was extremely slow as indicated by the actual rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment (see Table 11).

3.05 After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads

targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

3.06 In July 1979, when the project was reappraised, the new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

Implementation of Miscellaneous Components

3.07 Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employ a firm for recruitment as repeatedly recommended by Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

3.08 Two studies financed under the project were completed satisfactorily although they were delayed in starting (see Table 9). The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

3.09 In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

3.10 The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

Project Costs

3.11 The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate (see Table 5). As indicated elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

Disbursements

3.12 The slow pace of the project implementation indicated above resulted in a slow rate of disbursements (see Table 3). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit (see Table 6). All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

Loan/Credit Covenants

3.13 Compliance with loan/credit covenants was not fully satisfactory. The following summary indicates the status of covenants:

Reference To Credit Agreement	Loan/Credit Covenant	Compliance and Status
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis. Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-5 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

Performance of Borrower and Bank/Association

3.14 Borrower Performance. As noted, the Government of Zambia was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

3.15 The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent that construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake the construction but Government disagreed.

3.16 Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report (see Annex B).

3.17 Bank Performance. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities.

3.18 Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

IV. INSTITUTIONAL DEVELOPMENT

4.01 The component of the project designed to strengthen MSD, one of the key institutions affecting the road sector, had little impact. While the study undertaken was of good quality, the consultants recommendations were largely ignored. Also, the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists but the impact in terms of human resource development was minimal.

4.02 One of the objectives of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

V. ECONOMIC RE-EVALUATION

5.01 The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated (see Table 7); therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative (see Table 8). Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

VI. CONCLUSION

6.01 The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

6.02 The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and

rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined. The most recent Roads Department budget reflects continued low funding for this purpose.

6.03 One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. The Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose; a better alternative might have been to include the essential recurrent expenses for the project as project costs with Government commitment to finance them.

6.04 The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

6.05 Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

6.06 The foregoing review indicates that much more dialogue is needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

Table 1: RELATED BANK LOANS

Loan Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles) and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over-run. No project in the sector has followed the Third Highway Project.
No Credits				

Table 2: PROJECT TIMETABLE

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	06/30/83 06/30/84 06/30/85	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	12/ /83 06/ /84 06/ /86	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

Table 3: LOAN/CREDIT DISBURSEMENTS

Bank Fiscal Year	Disbursements (US\$'000)		Actual as % of total Loan/Credit
	Appraisal Estimate	Actual	
1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

Table 4: PROJECT IMPLEMENTATION

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
<u>Indicator 1</u> Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
<u>Indicator 2</u> Kilometers of gravel roads subject to resealing/regraveling	750 km	375 km	N/A
<u>Indicator 3</u> Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contingencies)	US\$11.93 million (including contingencies)	US\$19.86
<u>Indicator 4</u> Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).
<u>Indicator 5</u> Number of regravelling and heavy maintenance units established:			
A) Regraveling	4	2	4 to 7
B) Heavy	9	2	1 to 3 (In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
<u>Indicator 6</u> A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
<u>Indicator 7</u> Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs
(US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
A. Road Maintenance Equipment									
(i) Procurement of New Equipment	1.11	12.30	13.41	1.14	11.61	12.75	0.72	10.68	11.40
(ii) Rehab. of Existing Equipment	0.22	0.61	0.83	0.16	0.61	0.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equip.	0.15	0.97	1.12	0.12	0.98	1.10	0.36	2.53	2.89
B. Workshop Equipment Tools & Training Aids									
(i) Workshop Equipment & Tools	0.15	1.42	1.57	0.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	0.01	0.13	0.14	0.01	0.13	0.14	0.01	0.09	0.10
C. Consultant Services									
(i) MSD Reorganization Study & Preparation of Bid Documents	0.06	0.23	0.29	0.03	0.344 ¹ 0.37		0.02	0.17	0.19
(ii) Road Feasibility Study	0.24	0.84	1.08	0.12	0.87	0.99	0.17	0.37	0.54
D. Pilot Rural Road Maintenance Program	0.73	0.65	1.38	0.69	0.62	1.31	0.00	0.00	0.00
E. Rehabilitation of Paved Road	-	-	-	1.56	0.91	2.47	0.00	0.00	0.00
F. Technical Assistance	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/6/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

Table 6: Project Financing

<u>Source</u>	<u>Planned Loan/Credit Agreement</u>	<u>Revised 1/ (US\$'000)</u>	<u>Final</u>	<u>Comments</u>
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
Total	26,700 =====	26,700 =====	23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

Table 7: Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u> Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of the most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of the highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u> Number of Technical Assistance people installed	29	During Project Implementation: 12-15 for 4 to 5 years	None	None

Table 8: Economic Rate of Return

	Appraisal Estimate	Actual at Final Development
Economic Rate of Return	44%*	Probably negative

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

Table 9: Status and Impact of Studies Financed Under Project

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped, not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed road was not justified was accepted by the Bank but not the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a mis-allocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

Table 10: Staff Inputs for Project
(Staff Weeks)

<u>Stage of Project Cycle</u>	<u>Planned</u>		<u>Revised</u>		<u>Final</u>	
	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>
Through Appraisal					132	
Appraisal Through Board Approval					0	
Board Approval Through Effectiveness					30	
Supervision					149	
Total					311	

Table 11: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.

Borrower's Submission Concerning Completion
of the Third Highway Project

1 As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administration factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector returned, without the Borrower's PCR.

2 In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.

3 Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".

4 As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".

5 The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".

6 With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.

7 Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

FISCAL YEAR	81	82	83	84	85	86	87	TOTAL
LENDING (LENP, LENA, LENN)	92.6 1/	-	-	-	-	-	-	92.6
SUPERVISION	-	9.7	14.8	16.3	9.4	8.7	4.5	62.9
	92.6	9.7	14.8	16.3	9.4	8.7	4.5	155.5

1/ Separate data for preappraisal, appraisal and negotiations is not available.
Lending process for this project started before TRS data were being entered in the MIS.

AF6IN
November 20, 1990

FOR THE ATTENTION OF ENERGY JAMES

TRANSMISSION CONFIRMATION REPORT

No.=000794

DATE/TIME	NOV 19, 1990 4:56PM
DURATION	47s
TRANSMITTER (FROM)	WB-OEDD1 202 477 7658
RECEIVER (TO)	WB AF6 473-5456 35456
PAGES XMITTED	02
PAGES ERRORED	
RESULT	OK
COMM. MODE	G3
RESOLUTION	NORMAL

2005503836

WORLD BANK
Washington, D.C. 20433
OPERATIONS EVALUATION DEPARTMENT
AGRICULTURE, INFRASTRUCTURE AND HUMAN RESOURCES DIVISION (OEDD1)

FACSIMILE TRANSMITTAL FORM

DATE: November 19, 1990
NUMBER OF PAGES: 2
FROM: Energy James, OEDD1
TEL.: (202) 473-1756
ROOM NO.: T-9-057
OEDD1 FAX NO.: (202) 676-0555

TO: COMPANY/ORGANIZATION: AF6IN
CITY AND COUNTRY :
FOR ATTENTION OF : Ms. H. Hunter

FACSIMILE 473-5456
TELEFAX NO.:

SUBJECT: Staff Week

Hi Hulda, here is a Sample table of Staff Input for Zambia project.

linugy.

MISSION DATA					
Item	Month/Year	No. of Persons	Mission Composition /a	Staff Weeks	Date of Report
Identification Preparation	12/77	4		0.0	--
				8.0	03/15/78
Appraisal	07/78	3		9.0	05/02/79
Post-Appraisal Subtotal	11/78	3	FA,EC,FA	6.0	--
				23.0	
Supervision	11/79	2	EN,FA	2.0	12/12/79
Supervision	02/81	3	EN,TS,FS	3.0	03/26/81
Supervision	03/82	3	EN,TS,FS	3.0	04/27/82
Supervision	04/83	3	EN,TS,FS	3.0	04/04/83
Supervision	03/84	2	EN,TS	3.0	04/13/84
Supervision	03/85	3	EN,UP,TS	4.5	04/22/85
Supervision	11/85	2	EN,EC	0.5	12/11/85
Supervision	03/86	1	FS	1.0	04/04/86
Supervision	04/86	1	TS	1.0	05/05/86
Supervision	04/87	1	FS	1.5	
Supervision	11/87	1	EC	0.3	12/10/87
Supervision	07/88	1	EC	0.3	08/04/88
Supervision	12/88	1	EC	0.1	01/23/89
Subtotal				23.2	
Total				46.2	

NOTES:

The appraisal team was assisted by two additional staff who were in the field on separate TORs for varying periods.

/a EN = Engineer
FA = Financial analyst
TS = Tourism specialist
UP = Urban planner
EC = Economist
FS = Forestry specialist

STAFF INPUT (Staff Weeks)														
Fiscal Year	78	79	80	81	82	83	84	85	86	87	88	89	90	Total
Preappraisal	43.8	--	--	--	--	--	--	--	--	--	--	--	--	43.8
Appraisal	0.3	62.1	--	--	--	--	--	--	--	--	--	--	--	62.4
Negotiations	--	10.2	--	--	--	--	--	--	--	--	--	--	--	10.2
Supervision	--	1.5	4.7	8.8	8.1	5.2	7.3	9.8	9.6	5.2	3.1	7.0	0.9	71.2
Other	--	--	--	--	--	--	--	--	--	--	--	3.3	7.3	10.6
Total	44.1	73.8	4.7	8.8	8.1	5.2	7.3	9.8	9.6	5.2	3.1	10.3	8.2	198.2

AF1IN
June 28, 1990

THE WORLD BANK / IFC
MESSAGES

DATE _____

TIME _____

TO _____

FROM _____

DEPT./OFFICE _____

PHONE _____

EXTENSION _____

☐

CALLED

☐

CALL BACK

☐

CAME TO SEE YOU

☐

WILL CALL AGAIN

☐

RETURNED YOUR CALL

☐

REQUESTS APPOINTMENT

☐

URGENT

REMARKS _____

RECEIVED BY _____

ORIGINAL

OFFICE MEMORANDUM

DATE: February 27, 1990

TO: Mr. Ram Kumar Chopra, Director, OED

THROUGH: Mr. Sven Sandstrom, Director, AF6 *SE*FROM: Isaac K. Sam, Chief, AF6IN *Jan*

EXTENSION: 35063

SUBJECT: ZAMBIA : Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

1. I am pleased to forward to you the final version of the above report.
2. The report has been cleared by Country Operations (Mr. Karuga, AF6CO), Legal (Mr. Gruss, LEGAF), and Disbursements (Mrs. Reedy, LOAAF). Comments were received from the Acting Projects Adviser, Mr. Stern, and Mr. Kathuria, who was the mission leader/project officer for the appraisal mission and during the first couple of years of project implementation. Their comments have been incorporated in the report.
3. This PCR is clearly one of the backlog. However, we prepared it in the new style with Parts I and III drafted by the Bank. We have on several occasions since 1987, the last time on a mission to Zambia in November 1989, requested the Government to submit its completion report, which should have been prepared in the "old style," but so far without result. In lieu of the Government's completion report or Part II, we have extracted some information from the Roads Department's annual reports and included it in the PCR under Part II. We suggest that OED make an independent decision on whether to invite comments from the Government.

Cleared with and cc: Messrs. Karuga, Gruss; Mrs. Reedy

cc: Messrs. Ducksoo Lee (CODDR), Pouliquen (INUDR), Al Habsy (LEGAF), Wyss (AFTDR), Doyen (AFTIN), Singh (AF6DR), Messenger (AF6CO), Stern (AF6AG), Kathuria (AF2IN), Khan (IBRDLUS)

PJensen/mof

DATE RECEIVED IN OED: 3/5/90OED CODE NUMBER: 1490.012

PROJECT COMPLETION REPORT
ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

February 27, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

Table of Contents

	<u>Page No.</u>
<u>Preface</u>	i
<u>Evaluation Summary</u>	ii
 <u>PART I: PROJECT REVIEW FROM THE BANK'S PERSPECTIVE</u>	
A. Project Identity	1
B. Background	1
C. Project Objectives and Description.....	2
Project Objectives	2
Project Description	2
D. Project Design and Organization	3
E. Project Implementation	4
Loan Effectiveness and Project Start-up	4
Implementation Schedule	4
Procurement	5
Project Costs	5
Disbursements	6
Loan Allocation	6
F. Project Results	6
Project Objectives	6
Physical Results	6
Impact of Project	7
G. Project Sustainability	7
H. Bank Performance	7
I. Borrower Performance	8
J. Project Relationship	8
K. Consulting Services	9
L. Project Documentation and Data	9
 <u>PART II: PROJECT REVIEW FROM THE BORROWER'S PERSPECTIVE</u>	
	10
 <u>PART III: STATISTICAL INFORMATION</u>	
1. Related Bank Loans and/or Credits	12
2. Project Timetable	13
3. Loan/Credit Disbursements	14
4. Project Implementation	15
5. Project Costs and Financing	17
A. Project Costs	17
B. Project Financing	18

6.	Project Results	19
	A. Direct Benefits	19
	B. Economic Impact	20
	C. Financial Impact	21
	D. Studies	22
7.	Status of Covenants	23
8.	Use of Bank Resources	25
	A. Staff Inputs	25
	B. Missions	26
9.	Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	27
MAP	IBRD-14252-R1	28

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798/ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2,907,242.52 of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division of the Southern Africa Department (Preface, Evaluation Summary, Parts I and III); the Borrower did not prepare any part of this PCR, although its contribution was promised for December 1988.

Preparation of this PCR was started subsequent to the Bank's final supervision mission of the project in February 1987, and is based, inter alia, on the Staff Appraisal Report; Reappraisal Report; Loan/Credit Agreements; supervision reports; correspondence between the Bank and the Borrower; and internal Bank memoranda.

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

Objective

The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improving both the primary and secondary roads, undertaking a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor due to inadequacy of operating budget. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PART I: PROJECT REVIEW FROM THE BANK'S PERSPECTIVE

A. Project Identity

- Project Name: Third Highway Project
- Loan Number: 1566-ZA
- Credit Number: 798-ZA
- RVP Unit: Africa
- Country: Zambia
- Sector: Transport
- Sub-sector: Highways

B. Project Background

1. The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

2. Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

3. The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in

the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

4. The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

5. Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government was not fully committed to adequate road maintenance.

C. Project Objectives and Description

6. Project Objectives. The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network.

7. Project Description. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or such roads as may be agreed between the Government and the Bank Group; and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness (para. 13) and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

D. Project Design and Organization

8. The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

9. One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. Table 6 of the Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose.

10. Another feature of the project design that caused a major delay in project implementation was the requirement that Government had to fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought.

11. Poor coordination of the main entities carrying out the project did not bode well for implementation. The March 1977 appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) of the Defense Division of the President's Office; consequently, a second appraisal mission three months later was required. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

12. In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

E. Project Implementation

13. Loan Effectiveness and Project Start-up. More than 18 months passed from Board approval until the Loan/Credit became effective on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specified date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

14. Implementation Schedule. Implementation was extremely slow as indicated by the actual rate of disbursements (see para. 21). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment.

15. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employing a firm for recruitment as repeatedly recommended by

Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

16. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

17. In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

18. In July 1979, when the project was reappraised, a new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

19. Procurement. After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

20. Project Costs. The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate. As indicated

elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

21. Disbursements. The slow pace of project implementation indicated above resulted in a slow rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled).

22. Loan Allocation. The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit. All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

F. Project Results

23. Project Objectives. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined or able to do so. The most recent Roads Department budget reflects continued low funding for this purpose.

24. A secondary objective of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

25. The component of the project designed to strengthen MSD, one of the key institutions affecting the roads sector, had little impact. While the study undertaken was of good quality, the consultants' recommendations were largely ignored. Although the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists, its impact in terms of human resource development was minimal.

26. Physical Results. The amount of road maintenance equipment and spare parts purchased totalled US\$19.86 million, considerably higher than

the US\$11.93 million estimated at reappraisal. This positive outcome contrasts with rather poor results in terms of roads actually maintained. Some 50 km of bitumen surfaced roads were to be rehabilitated but none of this work was accomplished. The kilometers of bitumen roads subject to periodic maintenance and kilometers of gravel roads subject to regravelling fell far short of objectives. Only small numbers of the planned regravelling and heavy maintenance units were established. The pilot rural roads maintenance program was not implemented.

27. Impact of Project. The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

28. The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated; therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative. Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

G. Project Sustainability

29. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, as indicated in paras. 23 to 25, is not promising.

H. Bank Performance

30. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance

but it was wrong in its assessment that Government shared this conviction of sector priorities.

31. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

I. Borrower Performance

32. As noted, Government was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance (see Table 9 in Part III for comparisons of road maintenance expenditure targets and budgeted amounts) on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

33. The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake construction but Government disagreed.

34. Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report.

J. Project Relationship

35. The foregoing review indicates that much more dialogue and agreement are needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2)

the importance of road feasibility studies as a basis for planning extensions of the road network.

K. Consulting Services

36. The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

L. Project Documentation and Data

37. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

PART II: PROJECT COMPLETION REPORT FROM THE BORROWER'S PERSPECTIVE

38. As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administrative factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector has returned, sans Borrower's PCR.

39. In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.

40. Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".

41. As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".

42. The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".

43. With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.

44. Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance targets could not be achieved due to meager fund allocations. So the physical accomplishments of various [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

PART III: STATISTICAL INFORMATION

1. Related Bank Loans and/or Credits

Loan/Credit Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles) and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over- run. No project in the sector has followed the Third Highway Project.

2. Project Timetable

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	(06/30/83) (06/30/84) (06/30/85)	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	(12/ /83) (06/ /84) (06/ /86)	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

3. Loan/Credit Disbursements

Bank Fiscal Year	Disbursements (US\$'000)		
	Appraisal Estimate	Actual	Actual as % of total Loan/Credit
1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

4. Project Implementation

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
<u>Indicator 1</u>			
Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
<u>Indicator 2</u>			
Kilometers of gravel roads subject to resealing/ regravelling	750 km	375 km	N/A
<u>Indicator 3</u>			
Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contin- gencies)	US\$11.93 million (including contin- gencies)	US\$19.86
<u>Indicator 4</u>			
Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
<u>Indicator 5</u>			
Number of regravelling and heavy maintenance units established:			
A) Regravelling	4	2	4 to 7
B) Heavy	9	2	1 to 3
			(In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
<u>Indicator 6</u>			
A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
<u>Indicator 7</u>			
Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

5. Project Cost and Financing

A. Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs (US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
<u>A. Road Maintenance Equipment</u>									
(i) Procurement of New Equipment	1.11	12.3	13.41	1.14	11.61	12.75	0.72	10.68	11.4
(ii) Rehabilitation of Existing Equipment	.22	.61	.83	.16	.61	.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equipment	.15	.97	1.12	.12	.98	1.10	0.36	2.53	2.89
Sub Total									
<u>B. Workshop Equipment Tools & Training Aids</u>									
(i) Workshop Equipment & Tools	.15	1.42	1.57	.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	.01	.13	.14	.01	.13	.14	0.01	0.09	0.10
Sub Total									
<u>C. Consultant Services</u>									
(i) MSD Reorganization Study & Preparation of Bid Documents	.06	.23	.29	.03	.34	.37	0.02	0.17	0.19
(ii) Road Feasibility Study	.24	.84	1.08	.12	.87	.99	0.17	0.37	0.54
Sub Total									
<u>D. Pilot Rural Road Maintenance Program</u>	.73	.65	1.38	.69	.62	1.31	0	0	0
<u>E. Rehabilitation of Paved Road</u>	-	-	-	1.56	.91	2.47	0	0	0
<u>F. Technical Assistance</u>	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09
	=====	=====	=====	=====	=====	=====	=====	=====	=====

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/6/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

B. Project Financing

<u>Source</u> -----	<u>Planned</u> <u>Loan/Credit</u> <u>Agreement</u>	<u>Revised 1/</u> ----- (US\$'000) -----	<u>Final</u>	<u>Comments</u>
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
Total	26,700 =====	26,700 =====	23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

6. Project Results

A. Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u>				
Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u>				
Number of Technical Assistance people installed	29	During Project Implementation: 12-15 for 4 to 5 years	None	None

B. Economic Impact

	Appraisal Estimate	Actual at Final Development
--	-----------------------	--------------------------------

Economic Rate of Return	44%*	Probably negative
-------------------------	------	-------------------

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

C. Financial Impact

	Appraisal Estimate	Actual
--	-----------------------	--------

Financial Rate of Return (Not relevant)

D. Studies

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped; not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed was not justified was accepted by the Bank but not by the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a misallocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

7. Status of Covenants

<u>Reference To Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis. Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-5 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

8. Use of Bank Resources

A. Staff Inputs
(Staff Weeks)

<u>Stage of Project Cycle</u>	<u>Planned</u>		<u>Revised</u>		<u>Final</u>	
	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>
Through Appraisal					132	
Appraisal Through Board Approval					0	
Board Approval Through Effectiveness					30	
Supervision					149	
Total					311	

B. Missions

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	5	"	3	M,F
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	2	F,M
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	M,T
"	6/85	1	7	"	2	
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

9. Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

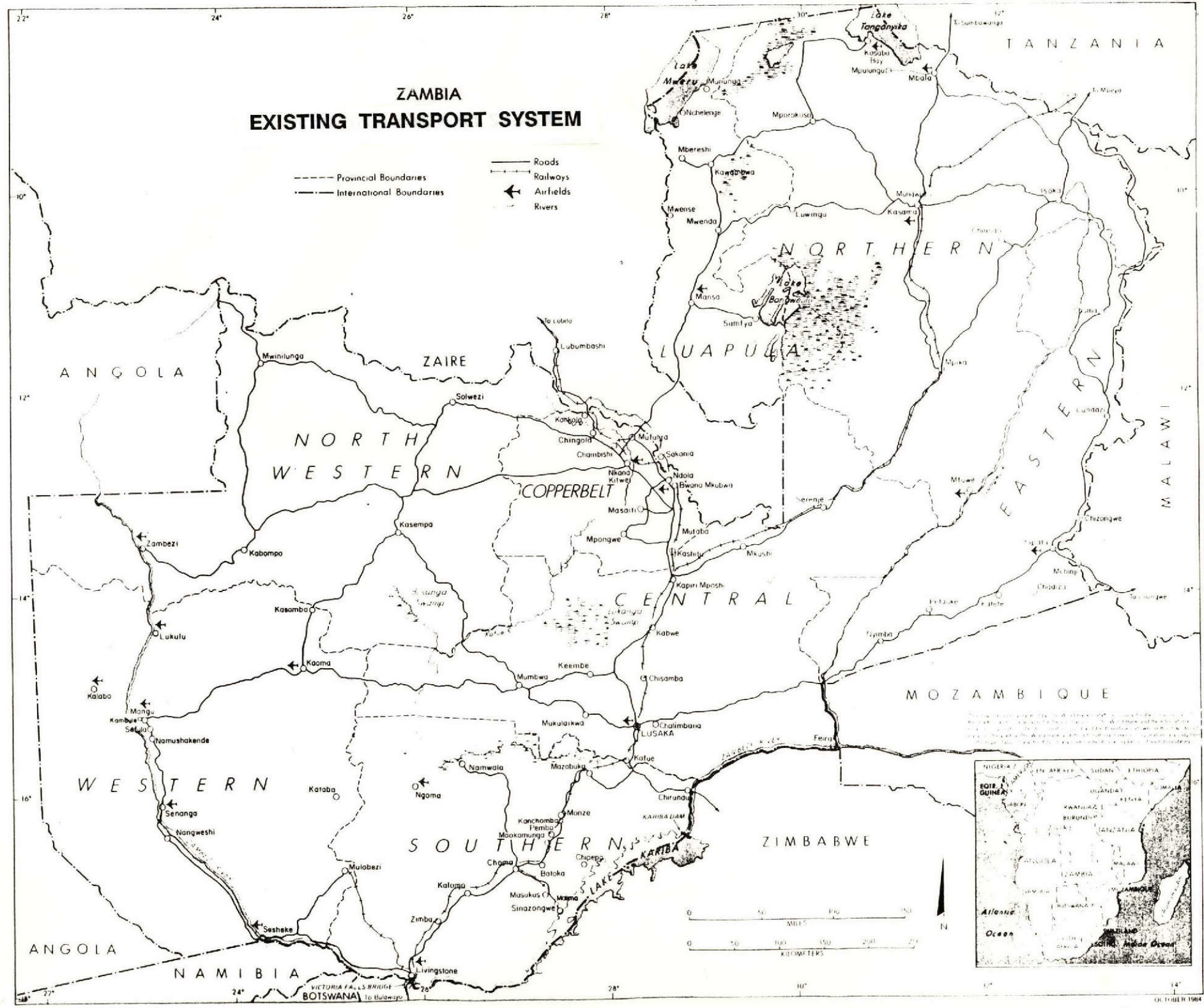
Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.

ZAMBIA EXISTING TRANSPORT SYSTEM

- Provincial Boundaries
- International Boundaries
- Roads
- Railways
- ✈ Airfields
- Rivers



THE WORLD BANK/INTERNATIONAL FINANCE CORPORATION
OFFICE MEMORANDUM

DATE: February 27, 1990

TO: Mr. Ram Kumar Chopra, Director, OED

THROUGH: Mr. Sven Sandstrom, Director, AF6 *SS*

FROM: Isaac K. Sam, Chief, AF6IN

EXTENSION: 35063

SUBJECT: ZAMBIA : Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

1. I am pleased to forward to you the final version of the above report.
2. The report has been cleared by Country Operations (Mr. Karuga, AF6CO), Legal (Mr. Gruss, LEGAF), and Disbursements (Mrs. Reedy, LOAAF). Comments were received from the Acting Projects Adviser, Mr. Stern, and Mr. Kathuria, who was the mission leader/project officer for the appraisal mission and during the first couple of years of project implementation. Their comments have been incorporated in the report.
3. This PCR is clearly one of the backlog. However, we prepared it in the new style with Parts I and III drafted by the Bank. We have on several occasions since 1987, the last time on a mission to Zambia in November 1989, requested the Government to submit its completion report, which should have been prepared in the "old style," but so far without result. In lieu of the Government's completion report or Part II, we have extracted some information from the Roads Department's annual reports and included it in the PCR under Part II. We suggest that OED make an independent decision on whether to invite comments from the Government.

Cleared with and cc: Messrs. Karuga, Gruss; Mrs. Reedy

cc: Messrs. Ducksoo Lee (CODDR), Pouliquen (INUDR), Al Habsy (LEGAF),
Wyss (AFTDR), Doyen (AFTIN), Singh (AF6DR), Messenger
(AF6CO), Stern (AF6AG), Kathuria (AF2IN), Khan (IBRDLUS)

PJensen/mof

As Received from
Region
3/6/90
DATE RECEIVED IN OED: 3/5/90
OED CODE NUMBER: 1490.012

PROJECT COMPLETION REPORT
ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

February 27, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

Table of Contents

	<u>Page No.</u>
<u>Preface</u>	1
<u>Evaluation Summary</u>	11
 <u>PART I: PROJECT REVIEW FROM THE BANK'S PERSPECTIVE</u>	
A. Project Identity	1
B. Background	1
C. Project Objectives and Description.....	2
Project Objectives	2
Project Description	2
D. Project Design and Organization	3
E. Project Implementation	4
Loan Effectiveness and Project Start-up	4
Implementation Schedule	4
Procurement	5
Project Costs	5
Disbursements	6
Loan Allocation	6
F. Project Results	6
Project Objectives	6
Physical Results	6
Impact of Project	7
G. Project Sustainability	7
H. Bank Performance	7
I. Borrower Performance	8
J. Project Relationship	8
K. Consulting Services	9
L. Project Documentation and Data	9
 <u>PART II: PROJECT REVIEW FROM THE BORROWER'S PERSPECTIVE</u>	
	10
 <u>PART III: STATISTICAL INFORMATION</u>	
1. Related Bank Loans and/or Credits	12
2. Project Timetable	13
3. Loan/Credit Disbursements	14
4. Project Implementation	15
5. Project Costs and Financing	17
A. Project Costs	17
B. Project Financing	18

6.	Project Results	19
	A. Direct Benefits	19
	B. Economic Impact	20
	C. Financial Impact	21
	D. Studies	22
7.	Status of Covenants	23
8.	Use of Bank Resources	25
	A. Staff Inputs	25
	B. Missions	26
9.	Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	27
MAP	IBRD-14252-R1	28

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798/ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2,907,242.52 of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division of the Southern Africa Department (Preface, Evaluation Summary, Parts I and III); the Borrower did not prepare any part of this PCR, although its contribution was promised for December 1988.

Preparation of this PCR was started subsequent to the Bank's final supervision mission of the project in February 1987, and is based, inter alia, on the Staff Appraisal Report; Reappraisal Report; Loan/Credit Agreements; supervision reports; correspondence between the Bank and the Borrower; and internal Bank memoranda.

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

Objective

The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improving both the primary and secondary roads, undertaking a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor due to inadequacy of operating budget. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PART I: PROJECT REVIEW FROM THE BANK'S PERSPECTIVE

A. Project Identity

- Project Name: Third Highway Project
- Loan Number: 1566-ZA
- Credit Number: 798-ZA
- RVP Unit: Africa
- Country: Zambia
- Sector: Transport
- Sub-sector: Highways

B. Project Background

1. The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

2. Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

3. The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in

the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

4. The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

5. Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government was not fully committed to adequate road maintenance.

C. Project Objectives and Description

6. Project Objectives. The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network.

7. Project Description. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or such roads as may be agreed between the Government and the Bank Group; and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness (para. 13) and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

D. Project Design and Organization

8. The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

9. One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. Table 6 of the Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose.

10. Another feature of the project design that caused a major delay in project implementation was the requirement that Government had to fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought.

11. Poor coordination of the main entities carrying out the project did not bode well for implementation. The March 1977 appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) of the Defense Division of the President's Office; consequently, a second appraisal mission three months later was required. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

12. In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

E. Project Implementation

13. Loan Effectiveness and Project Start-up. More than 18 months passed from Board approval until the Loan/Credit became effective on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specified date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

14. Implementation Schedule. Implementation was extremely slow as indicated by the actual rate of disbursements (see para. 21). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment.

15. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employing a firm for recruitment as repeatedly recommended by

Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

16. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

17. In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

18. In July 1979, when the project was reappraised, a new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

19. Procurement. After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

20. Project Costs. The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate. As indicated

elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

21. Disbursements. The slow pace of project implementation indicated above resulted in a slow rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled).

22. Loan Allocation. The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit. All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

F. Project Results

23. Project Objectives. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined or able to do so. The most recent Roads Department budget reflects continued low funding for this purpose.

24. A secondary objective of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

25. The component of the project designed to strengthen MSD, one of the key institutions affecting the roads sector, had little impact. While the study undertaken was of good quality, the consultants' recommendations were largely ignored. Although the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists, its impact in terms of human resource development was minimal.

26. Physical Results. The amount of road maintenance equipment and spare parts purchased totalled US\$19.86 million, considerably higher than

the US\$11.93 million estimated at reappraisal. This positive outcome contrasts with rather poor results in terms of roads actually maintained. Some 50 km of bitumen surfaced roads were to be rehabilitated but none of this work was accomplished. The kilometers of bitumen roads subject to periodic maintenance and kilometers of gravel roads subject to regravelling fell far short of objectives. Only small numbers of the planned regravelling and heavy maintenance units were established. The pilot rural roads maintenance program was not implemented.

27. Impact of Project. The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

28. The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated; therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative. Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

G. Project Sustainability

29. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, as indicated in paras. 23 to 25, is not promising.

H. Bank Performance

30. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance

but it was wrong in its assessment that Government shared this conviction of sector priorities.

31. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

I. Borrower Performance

32. As noted, Government was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance (see Table 9 in Part III for comparisons of road maintenance expenditure targets and budgeted amounts) on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

33. The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake construction but Government disagreed.

34. Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report.

J. Project Relationship

35. The foregoing review indicates that much more dialogue and agreement are needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2)

the importance of road feasibility studies as a basis for planning extensions of the road network.

K. Consulting Services

36. The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

L. Project Documentation and Data

37. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

PART II: PROJECT COMPLETION REPORT FROM THE BORROWER'S PERSPECTIVE

38. As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administrative factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector has returned, sans Borrower's PCR.

39. In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.

40. Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".

41. As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".

42. The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".

43. With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.

44. Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance targets could not be achieved due to meager fund allocations. So the physical accomplishments of various [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

PART III: STATISTICAL INFORMATION

1. Related Bank Loans and/or Credits

Loan/Credit Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles) and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over- run. No project in the sector has followed the Third Highway Project.

2. Project Timetable

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	(06/30/83) (06/30/84) (06/30/85)	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	(12/ /83) (06/ /84) (06/ /86)	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

3. Loan/Credit Disbursements

Bank Fiscal Year	Disbursements (US\$'000)		
	Appraisal Estimate	Actual	Actual as % of total Loan/Credit

1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

4. Project Implementation

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
<u>Indicator 1</u> Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
<u>Indicator 2</u> Kilometers of gravel roads subject to resealing/ regravelling	750 km	375 km	N/A
<u>Indicator 3</u> Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contin- gencies)	US\$11.93 million (including contin- gencies)	US\$19.86
<u>Indicator 4</u> Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
<u>Indicator 5</u>			
Number of regravelling and heavy maintenance units established:			
A) Regravelling	4	2	4 to 7
B) Heavy	9	2	1 to 3
			(In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
<u>Indicator 6</u>			
A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
<u>Indicator 7</u>			
Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

5. Project Cost and Financing

A. Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs (US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
<u>A. Road Maintenance Equipment</u>									
(i) Procurement of New Equipment	1.11	12.3	13.41	1.14	11.61	12.75	0.72	10.68	11.4
(ii) Rehabilitation of Existing Equipment	.22	.61	.83	.16	.61	.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equipment	.15	.97	1.12	.12	.98	1.10	0.36	2.53	2.89
Sub Total									
<u>B. Workshop Equipment Tools & Training Aids</u>									
(i) Workshop Equipment & Tools	.15	1.42	1.57	.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	.01	.13	.14	.01	.13	.14	0.01	0.09	0.10
Sub Total									
<u>C. Consultant Services</u>									
(i) MSD Reorganization Study & Preparation of Bid Documents	.06	.23	.29	.03	.34	.37	0.02	0.17	0.19
(ii) Road Feasibility Study	.24	.84	1.08	.12	.87	.99	0.17	0.37	0.54
Sub Total									
<u>D. Pilot Rural Road Maintenance Program</u>	.73	.65	1.38	.69	.62	1.31	0	0	0
<u>E. Rehabilitation of Paved Road</u>	-	-	-	1.56	.91	2.47	0	0	0
<u>F. Technical Assistance</u>	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09
	=====	=====	=====	=====	=====	=====	=====	=====	=====

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/6/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

B. Project Financing

<u>Source</u>	<u>Planned Loan/Credit Agreement</u>	<u>Revised 1/ (US\$'000)</u>	<u>Final</u>	<u>Comments</u>
-----	-----	-----	-----	-----
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
Total	26,700 =====	26,700 =====	23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

6. Project Results

A. Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u>				
Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u>				
Number of Technical Assistance people installed	29	During Project Implementation: 12-15 for 4 to 5 years	None	None

B. Economic Impact

	Appraisal Estimate	Actual at Final Development
Economic Rate of Return	44%*	Probably negative

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

C. Financial Impact

	Appraisal Estimate	Actual
--	-----------------------	--------

Financial Rate of Return (Not relevant)

D. Studies

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped; not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed was not justified was accepted by the Bank but not by the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a misallocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

7. Status of Covenants

<u>Reference To Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis. Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-5 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

8. Use of Bank Resources

A. Staff Inputs
(Staff Weeks)

<u>Stage of Project Cycle</u>	<u>Planned</u>		<u>Revised</u>		<u>Final</u>	
	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>
Through Appraisal					132	
Appraisal Through Board Approval					0	
Board Approval Through Effectiveness					30	
Supervision					149	
Total					311	

B. Missions

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	5	"	3	M,F
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	2	F,M
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	M,T
"	6/85	1	7	"	2	
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

9. Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

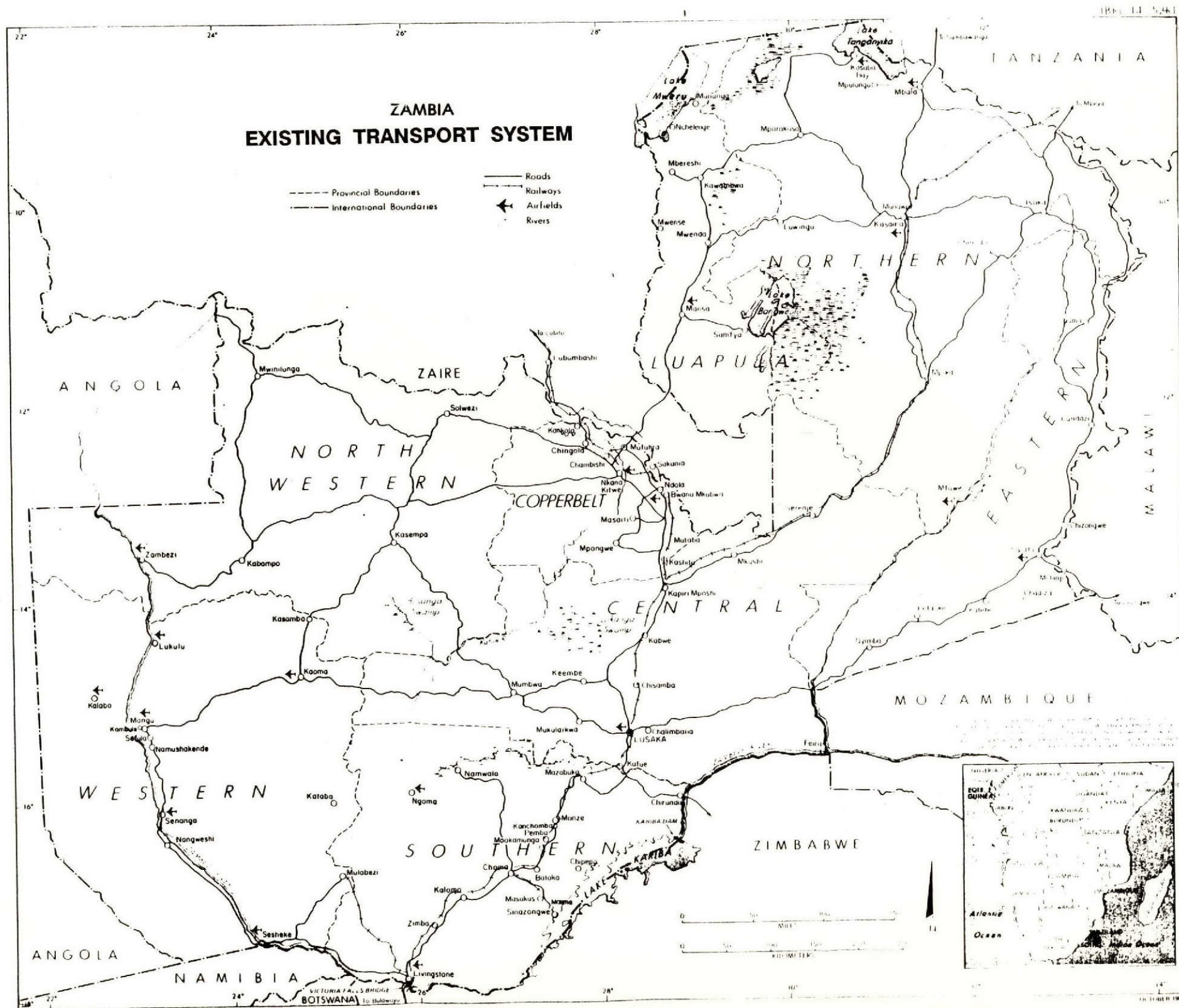
Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	----- K Million -----		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.



zam

Table 10: Staff Inputs for Project
(Staff Weeks)

<u>Stage of</u> <u>Project Cycle</u>	<u>Planned</u>		<u>Revised</u>		<u>Final</u>	
	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>	<u>HQ</u>	<u>Field</u>
Through Appraisal					132	
Appraisal Through Board Approval					0	
Board Approval Through Effectiveness					30	
Supervision					149	
Total					311	

Mission Data

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	6	"	3	M,F
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	2	F,M
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	F,M
"	6/85	1	7	"	2	M,T
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

STAFF INPUT
(Staff weeks)

<u>FY</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>	<u>86</u>	<u>87</u>	<u>88</u>	<u>89</u>	<u>Total</u>
Preappraisal	-	-	-	-	-	-	-	-	-	-	-	132
Appraisal	-	-	-	-	-	-	-	-	-	-	-	0
Negotiation	-	-	-	-	-	-	-	-	-	-	-	30
Supervision	-	-	-	-	-	-	-	-	-	-	-	149
TOTAL	-	-	-	-	-	-	-	-	-	-	-	311

22/11/89

(ready to be used in final for Zambia Roads II project for de Weille)

STAFF INPUT
(Staff weeks)

<u>FY</u>	<u>72</u>	<u>73</u>	<u>74</u>	<u>75</u>	<u>76</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>80</u>	<u>81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>85</u>	<u>86</u>	<u>87</u>	<u>88</u>	<u>Total</u>
Preappraisal	3.4	.1	4.6	6.9	4.8	13.0	-	-	-	-	-	-	-	-	-	-	-	32.8
Appraisal	-	-	-	-	-	32.7	30.5	-	-	-	-	-	-	-	.2	-	-	63.4
Negotiation	-	-	-	-	-	-	13.6	-	-	-	-	-	-	-	-	-	-	13.6
Supervision	-	-	-	-	-	-	4.2	11.4	25.0	6.0	10.1	15.0	17.4	9.2	8.5	5.5	-	112.2
Other	-	-	-	-	-	-	.8	-	-	-	-	-	-	-	-	-	-	.8
TOTAL	3.4	.1	4.6	6.9	4.8	45.6	49.1	11.4	25.0	6.0	10.1	15.0	17.4	9.2	8.7	5.5	-	222.7

OPERATIONS EVALUATION DEPARTMENT
PCR REVIEW/AUDIT PROCESS /1

CONTROL SHEET

Project: ZAMBIA: Third Highway Project
Loan/Credit No: Ln. 1566-ZA & Cr. 798-ZA
PCR Format (circle one): Old-Style / New-Style
Evaluating Officer: Jan de Weille
Approved by (Div. Chief or designate): G. Donaldson

Date: Nov. 13, 1990

Date:

Date
(mo/dy/yr)

A. Timetable

- PCR logged in by Division
- If incomplete, PCR returned to Region
- If PCR is unlogged

3/5/1990

3/20/90

In case evaluating officer requests
Region to revise draft PCR: /2 Per telephone by
Division Chief

- Note to Regional task manager
- Follow-up memo from Division Chief,
OED, to Sector Division Chief,
Region, if revision delayed
- Satisfactorily revised PCR received
from Region

6/6/90

B. If PCR Returned to Region for Revision

Nature of revision requested (circle one): minor major

Degree of hassle involved (circle one): none minor major

/1 In the case of a PPAR which does not include the PCR complete section E only.

/2 Please attach copy of note to regional task manager and follow-up memos if any.

cc to
H. Sionis

C. Complete for Old-style PCRs

	<u>YES</u>	<u>NO</u>
Covenant requiring Borrower to prepare PCR /3	<u>X</u>	<u> </u>
PCR prepared by		
I. <u>Borrower</u>		
- Borrower staff or agencies	<u> </u>	<u>X</u>
- FAO/CP or consultants /4	<u> </u>	<u>X</u>
II. <u>Bank</u>		
- Bank staff	<u>X</u>	<u> </u>
- Some input from Borrower	<u> </u>	<u>X</u>
- Inadequate/incomplete Borrower PCR	<u> </u>	<u>X</u>
Use of Borrower PCR in final document /5		
- As final PCR	<u> </u>	<u> </u>
- With overview	<u> </u>	<u> </u>
- An Annex to Bank PCR	<u> </u>	<u> </u>
- On file, Bank prepared its own PCR	<u> </u>	<u> </u>

D. Complete for New-style PCRs

Did Borrower complete Part II of the PCR?	<u> </u>	<u> </u>
If yes,		
- Part II agrees with Parts I and III	<u> </u>	<u> </u>
- Part II disagrees with Parts I and III	<u> </u>	<u> </u>

E. OED Staff and Consultants Input

	<u>Days</u>
Staff	<u>5</u>
Consultants	<u> </u>
<u>Total</u>	<u>5</u>

Attachment(s): (See footnote 1, page 1)

-
- /3 Please remember that a standard clause has been included in general conditions since January 1, 1985 (Article IX).
 /4 The PCR is clearly identifiable as a consultancy firm product.
 /5 Applies to item I.

6/14/90

OPERATIONS EVALUATION DEPARTMENT

PROJECT INFORMATION FORM FOR ANNUAL REVIEW 199
(to be completed for each project evaluated)*

Date: 11/13/90

Completed by: JAN DEWILLIG

1. Project Name: THIRD HIGHWAY PROJECT
LOAN 1566-2A + CREDIT 798-2A

2. Country: ZAMBIA

3. Sector: TRANSPORT

4. Subsector: HIHWAYS

5. Poverty Alleviation/Rural Development Project: Yes ☐ No ☐

6. PCR review ☒ PPAR revision** ☐

7. Was this project included in a previous Annual Review?

If yes, in what year? NO

8. Bank Loan/Credit (US\$ millions)

	<u>Loan</u>	<u>Credit</u>	<u>Total</u>
Approved:	<u>11.25</u>	<u>11.25</u>	<u>22.50</u>
Cancelled:	<u>2.91</u>	<u>-</u>	<u>2.91</u>
Disbursed:	<u>8.34</u>	<u>11.25</u>	<u>19.59</u>

* For each project at PCR review and at Audit if audit is done subsequently.

** Revisions at audit can be inserted by overwriting in a different color and box so indicated.

9. Total Project Cost (US\$ millions)Appraisal Estimate: 26.70Actual: 23.0910. Key Project Dates (month/year, when available)Appraisal: 6/77Board Approval: 5/78Loan/Credit Signing: 6/78

	Estimated in Loan/Credit Agreement	Actual
Effectiveness:	<u>9/78/70</u>	<u>11/79</u>
Completion:	<u>6/83</u>	<u>6/86</u>
Closing:	<u>6/83</u>	<u>6/86</u>

** If physical components are not yet complete, please note.
If the project contained several components with different
completion dates, enter the last actual completion date.

11. Bank Processing and Supervision Performance

	<u>Deficient</u>	<u>Adequate</u>
Identification	☐	☒
Preparation	☐	☒
Appraisal	☒	☐
Supervision	☐	☒

Number of Supervision Missions: 13

PCR. PARA 3.17
"THE BANK WAS
RIGHT IN ITS
ASSESSMENT OF THE
PRIORITY NEED
FOR [THIS] PROJECT
... BUT WRONG IN
ITS ASSESSMENT
THAT GOVERNMENT
SHARED THIS
CONVICTION ---"

12. Project Resultsa. Rates of Return (%)EconomicFinancial

Estimated at Appraisal:

44—

Re-Estimated at Completion:

PROBABLY—NEGATIVE (PCR, ANNEX A, TABLE 8)

RERR based on what percentage of total investment?

85%If re-estimated rate of return is not available,
indicate reason:

Project Not Implemented: _____

Inadequate Data: _____

Other (specify): _____

b. Achievement of Objectives

Describe project objectives at appraisal (as defined in SAR).

— IMPROVE ROAD MAINTENANCE— IMPROVE SELECTION OF ROADS TO BE
CONSTRUCTED (FEAS. STUDY)

To what extent did the project achieve its appraisal objectives?

NOT TO ANY WORKWHILE EXTENT

Describe any significant changes in project objectives following appraisal.

NONE

To what extent did the project achieve its revised objectives?

Categorize the extent of achievement of objectives in the following areas:

	<u>Substantial</u>	<u>Partial</u>	<u>Negligible</u>	<u>N/A</u>
Physical Investment:	☐	☐	☒	☐
Sector or Macro Policies:	☐	☐	☒	☐
Institutional Development:	☐	☐	☒	☐
Environmental:	☐	☐	☒	☐

c. Factors Affecting Results

Note principal factors resulting in significant changes in the following (or identify relevant paragraphs):

Project Costs:

Project Scope: *LITTLE MAINTENANCE WAS DONE
SEE NOTE AT END OF THIS PAGE*

Completion Time: *T.A. SHOULD HAVE BEEN
ARRANGED THROUGH CONSULTING FIRM
INSTEAD GOVT. RECRUITED INDIVIDUALS*

Economic Rate of Return:

*SEE NOTE TO ITEM II.
GOVT. DID NOT SHARE BANK'S
VIEWS AND DID NOT ALLOCATE
ENOUGH FUNDS*

Note other factors, internal to the project (preparation, management, etc.) or external to the project (macroeconomic difficulties, civil disorders, weather, etc.) which significantly affected project outcome (Note relevant para. numbers).

Lack (or timeliness) of local (budgetary) funding during implementation was:



a major problem



a minor problem



not a problem

d. Overall Assessment

Considering all of the original (or revised) objectives, and actual (or expected) achievements (economic & social benefits, institutional development, policy impact, technology transfer, sustainability), give your own assessment of the overall success (or likely success) of the project:

Highly Satisfactory

Project achieved or exceeded all its major (original or revised) objectives, and achieved substantial results in almost all respects.



Satisfactory

Project achieved most of its (original or revised) objectives and had satisfactory results with no major shortcomings



Unsatisfactory

Project failed to achieve many of its (original or revised) objectives and had major shortcomings



Very Unsatisfactory

Project failed to achieve most of its (original or revised) objectives, and had no foreseeable worthwhile results.



Note: An ERR of 10% or more for a major portion of the total investment, or other significant benefits if the ERR was less than 10%, is necessary to meet the minimal requirements for a "Satisfactory" project.

e. Sustainability

To what extent is the project likely to maintain an acceptable level of net benefits throughout its economic life?

☐ likely☐ marginal☒ unlikely☐ uncertain

(PCR - "NOT PROMISING")

f. Outstanding Project

Do you nominate this project for consideration as an outstanding project for highlighting in the Annual Review (i.e., outstandingly satisfactory in outcome or achievement)?

☐ Yes☒ No

OFFICE MEMORANDUM

DATE: December 4, 1990

TO: Mr. Yves Rovani, DGO

FROM: H. Eberhard Köpp, Director, OED

EXTENSION: 31700

SUBJECT: ZAMBIA - Third Highway Project (Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

OED has reviewed this Report. It was prepared by the Africa Regional Office and sent to the Borrower on September 24, 1990 for comments by November 12, 1990. No comments were received. The attached final version of the Report is now being released to the Executive Directors and the President.

Attachment

cc: Mr. Louis Y. Pouliquen, INUDR
Mr. Stephen M. Denning, AF6DR

JdeWeille:ej
GDonaldson

OPERATIONS EVALUATION DEPARTMENT

NOTE OF RECORD

REVIEW OF
PROJECT COMPLETION REPORT

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

1. Recommendation

It is recommended that the PCR for this project be released to the Executive Directors and the President.

2. Origin and Quality of the PCR

This is an old-style PCR, prepared by Bank staff. It is of very good quality, frank and to the point, and conforms well with the old (1977) guidelines.

3. Overall Project Assessment and Main Issues

This project aimed at improving the maintenance of the Zambian road network as a first priority and secondly, to limit new road construction to what is really needed. However, the Government disagreed and the Bank did not appreciate this at appraisal and negotiations.

As a result the Government dragged its feet at making funds available for maintenance and implemented road construction which the feasibility study undertaken under the project recommended against. As the PCR concluded: the Bank was right on what was needed to be done but wrong in believing that the Government agreed. The rate of return of the project is probably negative (PCR) and the project is judged unsatisfactory

The project illustrates again that signatures on loan agreements do not necessarily reflect consensus on the project proposed for implementation. But it is this consensus which is an essential ingredient for project success.

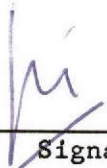
4. Recommendation for Follow-up

I do not propose any follow-up on this project.

5. The PIF has been completed (attached).

Prepared by:

Jan de Weille



Signature

November 14, 1990

Date

Reviewed by:

Hon-Chan Chai



Signature

November 26, 1990

Date

OPERATIONS EVALUATION DEPARTMENT

NOTE OF RECORD

REVIEW OF
PROJECT COMPLETION REPORT

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

1. Recommendation

It is recommended that the PCR for this project be released to the Executive Directors and the President.

2. Origin and Quality of the PCR

This is an old-style PCR, prepared by Bank staff. It is of very good quality, frank and to the point, and conforms well with the old (1977) guidelines.

3. Overall Project Assessment and Main Issues

This project aimed at improving the maintenance of the Zambian road network as a first priority and secondly, to limit new road construction to what is really needed. However, the Government disagreed and the Bank did not appreciate this at appraisal and negotiations.

As a result the Government dragged its feet at making funds available for maintenance and implemented road construction which the feasibility study undertaken under the project recommended against. As the PCR concluded: the Bank was right on what was needed to be done but wrong in believing that the Government agreed. The rate of return of the project is probably negative (PCR) and the project is judged unsatisfactory

The project illustrates again that signatures on loan agreements do not necessarily reflect consensus on the project proposed for implementation. But it is this consensus which is an essential ingredient for project success.

4. Recommendation for Follow-up

I do not propose any follow-up on this project.

5. The PIF has been completed (attached).

Prepared by:

Jan de Weille



Signature

November 14, 1990
Date

Reviewed by:

Hon-Chan Chai



Signature

November 26, 1990
Date

6/14/90

OPERATIONS EVALUATION DEPARTMENT

PROJECT INFORMATION FORM FOR ANNUAL REVIEW 199
(to be completed for each project evaluated)*

Date: 11/13/90

Completed by: JAN DENWILLIG

1. Project Name: THIRD HIGHWAY PROJECT
LOAN 1566-2A + CREDIT 798-2A
2. Country: ZAMBIA
3. Sector: TRANSPORT
4. Subsector: HIJHWAYS
5. Poverty Alleviation/Rural Development Project: Yes ☐ No ☐
6. PCR review ☒ PPAR revision** ☐
7. Was this project included in a previous Annual Review?
If yes, in what year? NO
8. Bank Loan/Credit (US\$ millions)

	<u>Loan</u>	<u>Credit</u>	<u>Total</u>
Approved:	<u>11.25</u>	<u>11.25</u>	<u>22.50</u>
Cancelled:	<u>2.91</u>	<u>-</u>	<u>2.91</u>
Disbursed:	<u>8.34</u>	<u>11.25</u>	<u>19.59</u>

* For each project at PCR review and at Audit if audit is done subsequently.

** Revisions at audit can be inserted by overwriting in a different color and box so indicated.

9. Total Project Cost (US\$ millions)Appraisal Estimate: 26.70Actual: 23.0910. Key Project Dates (month/year, when available)Appraisal: 6/77Board Approval: 5/78Loan/Credit Signing: 6/78

	Estimated in Loan/Credit Agreement	Actual
Effectiveness:	<u>9/77 1/78</u>	<u>11/79</u>
Completion:	<u>6/83</u>	<u>6/86</u>
Closing:	<u>6/83</u>	<u>6/86</u>

** If physical components are not yet complete, please note.
If the project contained several components with different
completion dates, enter the last actual completion date.

11. Bank Processing and Supervision Performance

	Deficient	Adequate
Identification	☐	☒
Preparation	☐	☒
Appraisal	☒	☐
Supervision	☐	☒

Number of Supervision Missions: 13

PER. PARA 3.17
"THE BANK WAS
RIGHT IN ITS
ASSESSMENT OF THE
PRIORITY NEEDED
FOR [THIS] PROJECT
... BUT WRONG IN
ITS ASSESSMENT
THAT GOVERNMENT
SHARED THIS
CONVICTION --"

12. Project Resultsa. Rates of Return (%)EconomicFinancial

Estimated at Appraisal:

44—

Re-Estimated at Completion:

PROBABLY—NEGATIVE IRR, ANNEX A, TABLE 8)

RERR based on what percentage of total investment?

85%If re-estimated rate of return is not available,
indicate reason:Project Not Implemented: Inadequate Data: Other (specify): b. Achievement of Objectives

Describe project objectives at appraisal (as defined in SAR).

— IMPROVE ROAD MAINTENANCE— IMPROVE SELECTION OF ROADS TO BE
CONSTRUCTED (FEAS. STUDY)

To what extent did the project achieve its appraisal objectives?

NOT TO ANY WORKWORTHY EXTENT

Describe any significant changes in project objectives following appraisal.

NONE

To what extent did the project achieve its revised objectives?

Categorize the extent of achievement of objectives in the following areas:

	<u>Substantial</u>	<u>Partial</u>	<u>Negligible</u>	<u>N/A</u>
Physical Investment:	☐	☐	☒	☐
Sector or Macro Policies:	☐	☐	☒	☐
Institutional Development:	☐	☐	☒	☐
Environmental:	☐	☐	☒	☐

c. Factors Affecting Results

Note principal factors resulting in significant changes in the following (or identify relevant paragraphs):

Project Costs:

Project Scope: LITTLE MAINTENANCE WAS DONE
SEE NOTE AT END OF THIS PAGE

Completion Time: T.A. SHOULD HAVE BEEN
ARRANGED THROUGH CONSULTING FIRM
INSTEAD GOVT. RECRUITED INDIVIDUALS
Economic Rate of Return:

SEE NOTE TO ITEM 11.
GOVT. DID NOT SHARE BANK'S
VIEWS AND DID NOT ALLOCATE
ENOUGH FUNDS

Note other factors, internal to the project (preparation, management, etc.) or external to the project (macroeconomic difficulties, civil disorders, weather, etc.) which significantly affected project outcome (Note relevant para. numbers).

Lack (or timeliness) of local (budgetary) funding during implementation was:

☒ a major problem ☐ a minor problem ☐ not a problem

d. Overall Assessment

Considering all of the original (or revised) objectives, and actual (or expected) achievements (economic & social benefits, institutional development, policy impact, technology transfer, sustainability), give your own assessment of the overall success (or likely success) of the project:

<u>Highly Satisfactory</u>	Project achieved or exceeded all its major (original or revised) objectives, and achieved substantial results in almost all respects.	☐
<u>Satisfactory</u>	Project achieved most of its (original or revised) objectives and had satisfactory results with no major shortcomings	☐

<u>Unsatisfactory</u>	Project failed to achieve many of its (original or revised) objectives and had major shortcomings	☐
<u>Very Unsatisfactory</u>	Project failed to achieve most of its (original or revised) objectives, and had no foreseeable worthwhile results.	☒

Note: An ERR of 10% or more for a major portion of the total investment, or other significant benefits if the ERR was less than 10%, is necessary to meet the minimal requirements for a "Satisfactory" project.

e. Sustainability

To what extent is the project likely to maintain an acceptable level of net benefits throughout its economic life?

☐

likely

☒

unlikely

☐

marginal

☐

uncertain

(PCR - "Not Promising")

f. Outstanding Project

Do you nominate this project for consideration as an outstanding project for highlighting in the Annual Review (i.e., outstandingly satisfactory in outcome or achievement)?

☐

Yes

☒

No

OFFICE MEMORANDUM

DATE: November 28, 1990

TO: Mr. Isaac Sam, Chief, AF6IN

FROM: Graham Donaldson, Chief, OEDD1

EXTENSION: 31730

SUBJECT: ZAMBIA - Third Highway Project (Ln. 1566-ZA/Cr.798-ZA)
Project Competition Report

1. This PCR has been reviewed in OED (copy attached). The project will not be subject to an audit at this stage but may be in the future.

2. Based on OED's review the performance of this project has been rated as:

Overall Assessment: Very Unsatisfactory

Sustainability: Unlikely

Institutional Impact: Negligible

Unless you advise us otherwise within 30 days, we will assume you agree with this rating, and it will be shown as such for the purpose of the Annual Review of Evaluation Results.

Attachment

cc: (w/o attachment): Mr. S. Denning, AF6DR
Mr. P. Jensen, AF6IN

OFFICE MEMORANDUM

DATE: November 28, 1990

TO: Mr. Isaac Sam, Chief, AF6IN

FROM: Graham Donaldson, Chief, OEDD1

EXTENSION: 31730

SUBJECT: ZAMBIA - Third Highway Project (Ln. 1566-ZA/Cr.798-ZA)
Project Competition Report

1. This PCR has been reviewed in OED (copy attached). The project will not be subject to an audit at this stage but may be in the future.
2. Based on OED's review the performance of this project has been rated as:

Overall Assessment:	Very Unsatisfactory
Sustainability:	Unlikely
Institutional Impact:	Negligible

Unless you advise us otherwise within 30 days, we will assume you agree with this rating, and it will be shown as such for the purpose of the Annual Review of Evaluation Results.

Attachment

cc: (w/o attachment): Mr. S. Denning, AF6DR
Mr. P. Jensen, AF6IN

JdeWeille:ej

OFFICE MEMORANDUM

DATE: January 18, 1991

TO: Mr. Sarshar Khan, Resident Representative, Zambia

FROM: Graham Donaldson, Chief, OEDD1

EXTENSION: (202)473-1730

SUBJECT: ZAMBIA - Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

Kindly distribute the enclosed copies of the above report and cover letters to the officials concerned. I have included an additional copy of the report for your information.

Attachments

JdW/cg

The World Bank

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

(202) 477-1234
Cable Address: INTBAFRAD
Cable Address: INDEVAS

January 18, 1991

Mr. Lennard Nkhata
Senior Permanent Secretary
Ministry of Finance
P.O. Box 50062, Ridgeway
Lusaka, Zambia

Dear Mr. Nkhata:

Re: Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

On September 24, 1990, we forwarded to you a copy of the draft Project Completion Report on the above project.

The final version of the report has now been distributed to the Bank's Board of Executive Directors and it is my pleasure to send you a copy for your information.

Sincerely,

Graham Donaldson, Chief
Agriculture, Infrastructure,
and Human Resources Division
Operations Evaluation Department

Attachment

JdW/cg

The World Bank

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

(202) 477-1234
Cable Address: INTBAFRAD
Cable Address: INDEVAS

January 18, 1991

Mr. T.I. Mazaba
Permanent Secretary
Ministry of Works and Supply
Lusaka, Zambia

Dear Mr. Mazaba:

Re: Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

On September 24, 1990, we forwarded to you a copy of the draft Project Completion Report on the above project.

The final version of the report has now been distributed to the Bank's Board of Executive Directors and it is my pleasure to send you a copy for your information.

Sincerely,

Graham Donaldson, Chief
Agriculture, Infrastructure,
and Human Resources Division
Operations Evaluation Department

Attachment

The World Bank

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
INTERNATIONAL DEVELOPMENT ASSOCIATION

1818 H Street, N.W.
Washington, D.C. 20433
U.S.A.

(202) 477-1234
Cable Address: INTBAFRAD
Cable Address: INDEVAS

January 18, 1991

Mr. T. Ngoma
Director of Roads
Ministry of Works and Supply
Lusaka, Zambia

Dear Mr. Ngoma:

Re: Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)
Project Completion Report

On September 24, 1990, we forwarded to you a copy of the draft Project Completion Report on the above project.

The final version of the report has now been distributed to the Bank's Board of Executive Directors and it is my pleasure to send you a copy for your information.

Sincerely,

Graham Donaldson, Chief
Agriculture, Infrastructure,
and Human Resources Division
Operations Evaluation Department

Attachment

ROUTING SLIP		DATE: Nov. 28 90	
NAME		ROOM NO.	
Mr. H. Eberhard Kopp			
APPROPRIATE DISPOSITION		NOTE AND RETURN	
☒ APPROVAL		NOTE AND SEND ON	
☐ CLEARANCE		PER OUR CONVERSATION	
☐ COMMENT		PER YOUR REQUEST	
☐ FOR ACTION		PREPARE REPLY	
☐ INFORMATION		RECOMMENDATION	
☐ INITIAL		SIGNATURE	
☐ NOTE AND FILE		URGENT	
REMARKS:			
ZAMBIA - Third Highway Proj. (Ln. 1566-ZA/Cr. 798-ZA) PCR There are no controversial issues.			
FROM: G. Donaldson		ROOM NO.: EXTENSION: 31730	

THE WORLD BANK/IFC/MIGA PRINTING REQUEST

Read instructions on reverse

This form must be typed

(Leave This Space Blank)

2753-P

90 DEC -6 PM 2:39

Title (or Description) of Item to be Printed PCR: Zambia Third Highway Project (Ln. 1566-ZA/Cr. 798-ZA)	Report/Form No. 9187	Report/Revision Date 12/14/90
---	-------------------------	----------------------------------

Select One ☒ Report ☐ Form ☐ Letterhead ☐ Complimentary Slip ☐ Other (specify) _____	No. of Pages 33	Quantity 655	Job ☒ New ☐ Rerun	Classification (for reports only) official	Date and Time Required 12/14/90 9:00 am
Requested By Jan de Weille	Ext. 31688	Room No. T9067	Dept./Div. Acronyms OED D1	Dept./Div. Nos. 175/10	

SPECIFICATIONS

SIZE: ☒ 8-1/2x11 ☐ 8-1/2x14 ☐ 11X17 ☐ Other _____	TEXT: Color of Paper White	No. of Pages 33	Print ☐ 1 side ☒ 2 sides
COVER: Color of Paper White	Print ☒ 1 side ☐ 2 sides		
COVER HEADING: ☒ World Bank ☐ IFC ☐ MIGA Masthead _____			
CONSTRUCTION: ☒ Assemble ☐ Saddle-stitch ☐ Perfect Bind ☐ Staple upper left corner ☐ Staple two on side ☐ Pad			
☐ Fold ☐ Carbonless	Finished Size _____	No. of Holes to be Punched: on top _____ on side _____	
No. of Parts _____			

MAPS - Requesting departments are responsible for clearing all new, revised or previously printed maps with the Cartography Section, GSDPG. The Print Shop requires clearance before any map is printed or released from shelf stock.

Map Cleared By	Date	List ALL MAPS (by IBRD No.) in this space	Charts (by no.) in this space

PRINTING APPROVAL - Printing requests for reports and discussion papers must be cleared by the Internal Documents Unit, JB3-180.

Approval Initials and Date

AK 12/16/90

Order of Assembly/Additional Instructions

- Covering memo - (on WB letterhead, Office of DG. official use, DGO fac.)
- Title Page (White hard cover doct. of WB, official use)
- Abbreviation Page (TO BACK UP TITLE PAGE)
- Table of contents (OFFICIAL USE/CAVEAT-NO BACK UP)
- Preface - (NO BACK UP)
- Basic Data Sheet - N(NO BACK UP)
- Evaluation Summary - (NO BACK UP)
- Text - pp. 1-11
- Annexes - pp. 12-23

Delivery Instructions			
85	copies to	Distribution	in room no. D114
25	copies to	Documentation Center	in room no. JB3180
545	copies to	Secretaries	in room no. D1100
	copies to		in room no.

Signature	Date 12/4/90
-----------	-----------------

FOR PRINT SHOP USE ONLY

PRESS: ☐ Chief ☐ T-51 ☐ GTO ☐ Davidson	Text Signatures _____	Special Instructions
☐ Xerox ☐ Blue Lines ☐ WEBCOM ☐ Harris	Press for Cover _____	
COVERS: ☐ CI ☐ CII ☐ CIII ☐ CIV	COVER INKS: ☐ Black ☐ Other _____	
BINDERY: ☐ Macey ☐ Saddle ☐ Perfect	COVER STOCK: _____	
No. of Pages to Tip _____	Pads. No. of Sheets per Pad _____	

WHITE, YELLOW & PINK - Read Instructions on Reverse

14 (11-89)

OPEN
FILE

THE WORLD BANK
PRINTING REQUEST
Read instructions on reverse

This form must be typed

Title (or Description) of item to be printed
PCN: Zambia Third Highway Project
(Ln. 1588-2A/Cr. 798-2A)
Report Form No. 1588
Report/Revision Date 12/14/90

INSTRUCTIONS

This form must be typed.

Select One
☐ Report ☐ Form ☐ Letterhead ☐ Complimentary Slip ☐ Other (specify)

What clearances do I need?

For Reports and Discussion Papers

This request MUST be cleared by the Internal Documents Unit, JB3-180.

For Maps

To ensure that all maps included in Bank reports and publications are current and to avoid portraying politically embarrassing situations, maps must FIRST be cleared by the Cartography Section, GSDPG, before any printing request is made. This applies to all maps (or map negatives) older than six weeks--new, revised, previously printed or in the Print Shop shelf stock; or maps which were prepared by Cartography--whether they have appeared in non-Bank publications, or have been produced utilizing PC graphics or mapping software packages. Request for clearances should be made to Cartography at least two weeks before the map is to be bound in a report to allow for any necessary changes and for the completion of the map printing cycle. For more details, refer to Administrative Manual Statement 7.10, Annex B, or the reverse side of Form 1548 "Request for Cartographic Services."

What do I do once I have completed this form?

For Reports, Discussion Papers, Other Documents

Hand carry all copies of this form to the Print Shop, GSDPG.
The pink copy will be stamped with the date and hour received at the Print Shop and returned to you.

For Forms

Submit White and Yellow copies of this form to the Forms Unit, ITFIS, together with a blank copy of the form to be printed. Keep the pink copy for your records.

For Stationery (e.g. letterheads, envelopes, complimentary slips)

Submit White and Yellow copies of this form to the Material Services Section, GSDMM, with a copy of the item to be printed or a marked up sample of what you want. Keep the pink copy for your records.

COVERS: ☐ CI ☐ CII ☐ CIII ☐ CIV	COVER INKS: ☐ Black ☐ Other
BINDERY: ☐ Macey ☐ Saddle ☐ Perfect	COVER STOCK: _____
No. of Pages to Tip: _____	Page No. of Sheets per Pad: _____

THE WORLD BANK/IFC DISTRIBUTION OF REPORTS

REPORT TITLE PCR: Zambia Third Highway Project (Loan 1566-ZA0Cr. 798-ZA)				REPORT NO. 9187	
REPORT DATE 12/14/90		FORM PREPARED BY Helen Watkins			EXT. 31708
REMARKS				COLOR OF COVER ☐ Gray/Buff ☒ White ☐ Other _____	
DISTRIBUTION TO STAFF BELOW DEPARTMENT DIRECTOR LEVEL Do not duplicate distribution made by Secretary's Dept. to Department Directors and above.					
NAME	ROOM NO.	NO. OF COPIES	NAME	ROOM NO.	NO. OF COPIES
Helen Watkins	T9102	30			
EMENA Information	H10 140	1			
OED Library	T9080	4			
Africa Information	J8001	25			
FOR PRINT SHOP USE ONLY					
Distributed by				Date	

THE WORLD BANK/IFC
DISTRIBUTION OF REPORTS

REPORT TITLE PCR: Zambia Third Highway Project (Loan 1566-ZA0Cr. 798-ZA)			REPORT NO. 9187		
REPORT DATE 12/14/90		FORM PREPARED BY Helen Watkins		EXT. 31708	
REMARKS			COLOR OF COVER ☐ Gray/Buf ☒ White ☐ Other _____		
DISTRIBUTION TO STAFF BELOW DEPARTMENT DIRECTOR LEVEL Do not duplicate distribution made by Secretary's Dept. to Department Directors and above.					
NAME	ROOM NO.	NO. OF COPIES	NAME	ROOM NO.	NO. OF COPIES
Helen Watkins	T9102	30			
EMENA Information	H10 140	1			
OED Library	T9080	4			
Africa Information	J8001	25			
FOR PRINT SHOP USE ONLY					
Distributed by				Date	

OPERATIONS EVALUATION DEPARTMENT

NOTE OF RECORD

REVIEW OF
PROJECT COMPLETION REPORT

ZAMBIA
THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

1. Recommendation

It is recommended that the PCR for this project be released to the Executive Directors and the President.

2. Origin and Quality of the PCR

This is an old-style PCR, prepared by Bank staff. It is of very good quality, frank and to the point, and conforms well with the old (1977) guidelines.

3. Overall Project Assessment and Main Issues

This project aimed at improving the maintenance of the Zambian road network as a first priority and secondly, to limit new road construction to what is really needed. However, the Government disagreed and the Bank did not appreciate this at appraisal and negotiations.

As a result the Government dragged its feet at making funds available for maintenance and implemented road construction which the feasibility study undertaken under the project recommended against. As the PCR concluded: the Bank was right on what was needed to be done but wrong in believing that the Government agreed. The rate of return of the project is probably negative (PCR) and the project is judged unsatisfactory

The project illustrates again that signatures on loan agreements do not necessarily reflect consensus on the project proposed for implementation. But it is this consensus which is an essential ingredient for project success.

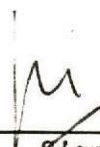
4. Recommendation for Follow-up

I do not propose any follow-up on this project.

5. The PIF has been completed (attached).

Prepared by:

Jan de Weille



Signature

November 14, 1990
Date

Reviewed by:

Hon-Chan Chai



Signature

November 26, 1990
Date

ROUTING SLIP		DATE: 12/4/90	
NAME		ROOM NO.	
Mr. Graham Donaldson, Chief,		OEDD1	
	APPROPRIATE DISPOSITION	NOTE AND RETURN	
	APPROVAL	NOTE AND SEND ON	
	CLEARANCE	PER OUR CONVERSATION	
	COMMENT	PER YOUR REQUEST	
	FOR ACTION	PREPARE REPLY	
	INFORMATION	RECOMMENDATION	
	INITIAL	SIGNATURE	
	NOTE AND FILE	URGENT	
REMARKS: Re: Project Completion Report on Zambia Third Highway Project <u>(Loan 1566-ZA/Cr. 798-ZA)</u> Approval to print. <i>OK</i> <i>6/22 12/15</i>			
FROM: J. De Weille <i>W</i>		ROOM NO.:	EXTENSION:

Office of Director-General
Operations Evaluation

DECLASSIFIED

JUN 20 2025

WBG ARCHIVES

December 14, 1990

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: Project Completion Report on Zambia Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)

Attached, for information, is a copy of a report entitled "Project Completion Report on Zambia Third Highway Project (Loan 1566-ZA/Credit 789-ZA)" prepared by the Africa Regional Office. No audit of this project has been made by the Operations Evaluation Department at this time.

Attachment

DECLASSIFIED

JUN 20 2025

WBG ARCHIVES

PROJECT COMPLETION REPORT

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

December 14, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

CURRENCY EXCHANGE DATA

Name of Currency (Abbreviation) Kwacha (ZK)

Year:	Approved Year Average	US\$ 1	=	ZK 0.80
	Intervening Years Average	US\$ 1	=	ZK 1.47
	Completion Year Average	US\$ 1	=	ZK 8.22

LIST OF ABBREVIATIONS

FY	-	Fiscal Year
MSB	-	Mechanical Services Branch
MSD	-	Mechanical Services Department
MWS	-	Ministry of Works and Supply
RD	-	Roads Department

FISCAL YEAR OF BORROWER

January - December

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

TABLE OF CONTENTS

PREFACE	i
BASIC DATA SHEET	iii
EVALUATION SUMMARY	v
I. INTRODUCTION	1
II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL	2
Origin of the Project and Project Preparation	2
Appraisal of the Project	2
Credit Negotiations and Subsequent Processing	3
III. PROJECT IMPLEMENTATION AND COST	4
Physical Implementation of the Main Component	4
Implementation of Miscellaneous Components	5
Project Costs	6
Disbursements	6
Loan/Credit Covenants	6
Performance of Borrower and Bank/Association	9
IV. INSTITUTIONAL DEVELOPMENT	10
V. ECONOMIC RE-EVALUATION	10
VI. CONCLUSION	10
ANNEX A:	
Table 1: Related Bank Loans	12
Table 2: Project Timetable	13
Table 3: Loan/Credit Disbursements	14
Table 4: Project Implementation	15
Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs	16
Table 6: Project Financing	17
Table 7: Direct Benefits	18
Table 8: Economic Rate of Return	19
Table 9: Status and Impact of Studies Financed Under Project	20
Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	21
ANNEX B:	
Borrower's Submission Concerning Completion of the Third Highway Project	22

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2.9 million of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division, Southern Africa Department, of the Africa Regional Office and is based, inter alia, on the Staff Appraisal Report, Reappraisal Report, Loan/Credit Agreements, supervision reports, correspondence between the Bank and the Borrower, and internal Bank memoranda.

This PCR was read by the Operations Evaluation Department (OED). The draft was sent to the Borrower on September 24, 1990, for comments by November 12, 1990, but none were received.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

BASIC DATA SHEET

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
Total Project Cost (US\$ million)	26.70	23.09
Overrun/Underrun (US\$ million)		(3.61)
Ln./Cr. Amount (US\$ million) ^{1/}	- 22.50	
Disbursed		19.593
Cancelled		2.907
Repaid		0
Outstanding		19.593
Date Physical Components Completed 12/31/82		Not Completed
Proportion completed by original completion date (%)		
Economic Rate of Return (%)	44	Under 10 Negative

CUMULATIVE ESTIMATED AND ACTUAL DISBURSEMENTS

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
(i) Appraisal	1.0	19.0	21.0	22.5						
(ii) Actual	0.0	0.0	0.0	0.6	0.8	0.9	7.1	10.1	19.2	19.6
(iii) As % of (i)	0.0	0.0	0.0	2.0	4.0	4.0	32.0	45.0	85.0	87.0

<u>Item</u>	<u>OTHER PROJECT DATA</u>	
	<u>Appraisal Estimate</u>	<u>Actual</u>
First Mention in Files		1/72
Negotiations		1/78
Board Approval		5/11/78
Loan/Credit Agreement Date		6/27/78
Effective Date	9/28/78	11/26/79
Closing Date	6/30/83	6/30/86
Borrower		Government of Zambia
Executing Agency		Ministry of Works and Supply
Fiscal Year of Borrower		January-December
Follow-up Project		None

^{1/} The Loan and Credit each accounted for US\$11.25 million at appraisal.

Mission Data

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3			
Identification	6/74	2	6	High. Engrn.	-	-
Preparation	2/76	1	7	Econ.; Trans. Sp.	-	-
Preparation	9/76	1	14	Economist	-	-
				High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	5	"	2	M
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	3	M,F
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	F,M
"	6/85	1	7	"	2	M,T
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

Objective

1. The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improvement of both the primary and secondary roads, implementation of a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

2. Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

3. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

4. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

5. For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

1.02 Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

1.03 The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

1.04 Major transport improvements are very costly, and large development programs in the sector tend to cause insufficient funding of maintenance activities. In fact during the 1980s, budget allocations for road maintenance in Zambia frequently fell far short of needs while construction of costly new roads of doubtful economic viability went forward. As a result of this shortfall in maintenance funding, the general

condition of the road network has deteriorated sharply with far reaching economic consequences in terms of high costs of transport and relatively slow speed of transport.

1.05 The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

1.06 Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government is not yet fully committed to adequate road maintenance.

1.07 The information required for this report was obtained largely from the Staff Appraisal Report, supervision reports, consultants and Government progress reports and other materials in the Bank's files. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL

Origin of the Project and Project Preparation

2.01 In 1972, about four years after the Second Highway Project had been approved (see Table 1), the Third Highway Project was identified. Over a period of five years, the details of the project were defined and the preparation completed (see Table 2). Project preparation was accomplished by the Government largely through its Mechanical Services Branch.

Appraisal of the Project

2.02 A partial appraisal of the project was carried out in March 1977, but the appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) and consequently a second appraisal months later was required; the appraisal was thus completed in June 1977.

2.03 The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or alternative roads agreed between the Government and the Bank Group (see Map); and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

2.04 The total project costs were estimated during the appraisal mission at US\$ 26.70 million, excluding taxes and duties but including physical and price contingencies (see Table 5). The foreign exchange component was estimated at US\$ 22.5 million or 84% of total cost.

Credit Negotiations and Subsequent Processing

2.05 Negotiations were held in January 1978 in Washington. No significant disagreements arose in these meetings. The loan and credit were signed on June 27, 1978. More than 18 months passed from Board approval until the Loan/Credit became effective, on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specific date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

III. PROJECT IMPLEMENTATION AND COST

3.01 A feature of the project design that caused a major delay in project implementation was the requirement that Government fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought. Otherwise, the number of consultants planned for the project should have been substantially reduced.

3.02 Poor organization of the main Governmental entities carrying out the project did not bode well for expeditious implementation. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

3.03 In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

Physical Implementation of the Main Component

3.04 Implementation was extremely slow as indicated by the actual rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment (see Table 11).

3.05 After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads

targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

3.06 In July 1979, when the project was reappraised, the new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

Implementation of Miscellaneous Components

3.07 Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employ a firm for recruitment as repeatedly recommended by Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

3.08 Two studies financed under the project were completed satisfactorily although they were delayed in starting (see Table 9). The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

3.09 In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

3.10 The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

Project Costs

3.11 The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate (see Table 5). As indicated elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

Disbursements

3.12 The slow pace of the project implementation indicated above resulted in a slow rate of disbursements (see Table 3). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit (see Table 6). All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

Loan/Credit Covenants

3.13 Compliance with loan/credit covenants was not fully satisfactory. The following summary indicates the status of covenants:

<u>Reference To Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis. Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-6 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

Performance of Borrower and Bank/Association

3.14 Borrower Performance. As noted, the Government of Zambia was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

3.15 The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent that construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake the construction but Government disagreed.

3.16 Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report (see Annex B).

3.17 Bank Performance. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities.

3.18 Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

IV. INSTITUTIONAL DEVELOPMENT

4.01 The component of the project designed to strengthen MSD, one of the key institutions affecting the road sector, had little impact. While the study undertaken was of good quality, the consultants recommendations were largely ignored. Also, the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists but the impact in terms of human resource development was minimal.

4.02 One of the objectives of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

V. ECONOMIC RE-EVALUATION

5.01 The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated (see Table 7); therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative (see Table 8). Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

VI. CONCLUSION

6.01 The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

6.02 The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and

rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined. The most recent Roads Department budget reflects continued low funding for this purpose.

6.03 One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. The Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose; a better alternative might have been to include the essential recurrent expenses for the project as project costs with Government commitment to finance them.

6.04 The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

6.05 Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

6.06 The foregoing review indicates that much more dialogue is needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

Table 1: RELATED BANK LOANS

Loan Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles), and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over-run. No project in the sector has followed the Third Highway Project.
No Credits				

Table 2: PROJECT TIMETABLE

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	06/30/83 06/30/84 06/30/85	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	12/ /83 06/ /84 06/ /86	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

Table 3: LOAN/CREDIT DISBURSEMENTS

Bank Fiscal Year	Disbursements (US\$'000)		Actual as % of total Loan/Credit
	Appraisal Estimate	Actual	
1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

Table 4: PROJECT IMPLEMENTATION

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
Indicator 1 Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
Indicator 2 Kilometers of gravel roads subject to resealing/regraveling	750 km	375 km	N/A
Indicator 3 Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contingencies)	US\$11.93 million (including contingencies)	US\$19.88
Indicator 4 Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).
Indicator 5 Number of regravelling and heavy maintenance units established:			
A) Regravelling	4	2	4 to 7
B) Heavy	9	2	1 to 3 (In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
Indicator 6 A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
Indicator 7 Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs
(US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
A. Road Maintenance Equipment									
(i) Procurement of New Equipment	1.11	12.30	13.41	1.14	11.81	12.75	0.72	10.68	11.40
(ii) Rehab. of Existing Equipment	0.22	0.61	0.83	0.16	0.61	0.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equip.	0.15	0.97	1.12	0.12	0.98	1.10	0.38	2.53	2.89
B. Workshop Equipment Tools & Training Aids									
(i) Workshop Equipment & Tools	0.15	1.42	1.57	0.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	0.01	0.13	0.14	0.01	0.13	0.14	0.01	0.09	0.10
C. Consultant Services									
(i) MSD Reorganization Study & Preparation of Bid Documents	0.06	0.23	0.29	0.03	0.344'0.37		0.02	0.17	0.19
(ii) Road Feasibility Study	0.24	0.84	1.08	0.12	0.87	0.99	0.17	0.37	0.54
D. Pilot Rural Road Maintenance Program	0.73	0.65	1.38	0.69	0.62	1.31	0.00	0.00	0.00
E. Rehabilitation of Paved Road	-	-	-	1.56	0.91	2.47	0.00	0.00	0.00
F. Technical Assistance	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/6/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

Table 6: Project Financing

<u>Source</u>	<u>Planned Loan/Credit Agreement</u>	<u>Revised 1/ (US\$'000)</u>	<u>Final</u>	<u>Comments</u>
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
 Total	 26,700 =====	 26,700 =====	 23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

Table 7: Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u> Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of the most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of the highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u> Number of Technical Assistance people installed	29	During Project Implementation: 12-15 for 4 to 5 years	None	None

Table 8: Economic Rate of Return

	Appraisal Estimate	Actual at Final Development
Economic Rate of Return	44%*	Probably negative

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

Table 9: Status and Impact of Studies Financed Under Project

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped, not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed road was not justified was accepted by the Bank but not the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a mis-allocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.

Borrower's Submission Concerning Completion
of the Third Highway Project

- 1 As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administration factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector returned, without the Borrower's PCR.
- 2 In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.
- 3 Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".
- 4 As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".
- 5 The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".
- 6 With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.
- 7 Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

TRANSMISSION CONFIRMATION REPORT

No.=000634

Zambia Res.
9-011-260-1-
225749

DATE/TIME	OCT 4, 1990 2:46PM
DURATION	47s
TRANSMITTER (FROM)	WB-OEDD1 202 477 7658
RECEIVER (TO)	----- 215749
PAGES XMITTED	01
PAGES ERRORED	
RESULT	OK
COMM. MODE	G3
RESOLUTION	NORMAL

200550.3836

WORLD BANK
Washington, D.C. 20433
OPERATIONS EVALUATION DEPARTMENT
AGRICULTURE, INFRASTRUCTURE AND HUMAN RESOURCES DIVISION (OEDD1)

FACSIMILE TRANSMITTAL FORM

DATE: October 4, 1990

NUMBER OF PAGES: 1

FROM: Graham Donaldson, Chief, OEDD1

TEL.: (202) 473-2893

ROOM NO.: H-6-045

OEDD1 FAX NO.: (202) 477-7658

TO: COMPANY/ORGANIZATION: INTBAFRAD
CITY AND COUNTRY : Lusaka, Zambia
FOR ATTENTION OF : Mr. S. Khan

FACSIMILE 9-011-260-1-225749

TELEFAX NO.:

SUBJECT: ZAMBIA: Third Highway Project (Ln. 1566/Cr. 798-ZA)
Project Completion Report

As requested per your telex of October 2, I have listed below the names and addresses of the persons to whom the above report was sent.

1. Mr. T. Ngoma
Director of Roads
Ministry of Works and Supply
Lusaka, Zambia
2. Mr. T. I. Mazaba
Permanent Secretary
Ministry of Works and Supply
Lusaka, Zambia
3. Mr. Lennard Nkhata
Senior Permanent Secretary
Ministry of Finance
P. O. Box 50062, Ridgeway
Lusaka, Zambia

TRANSMISSION AUTHORIZED BY: Graham Donaldson, Chief, OEDD1

WORLD BANK TMSS

ZCZC DERP0762 RCA809 WWB1036

QX OEDD1

.TCP FCA

* OEDD1 *

ZCZCLUS344

OEDDI

.IBRD LUS

FROM INTBAFRAD LUSAKA OCTOBER 2, 1990

FOR MR. GRAHAM DONALDSON, CHIEF, OEDDI,

RE. ZAMBIA THIRD HIGHWAY PROJECT PROJECT COMPLETION REPORT

REURMEMO OF SEPTEMBER 24, 1990 REGARDING THE ABOVE NAMED REPORT, THE MEMO HAD NOT LISTED THE ADDRESSEES. SINCE THE REPORTS HAD ALREADY BEEN DELIVERED BY THE TIME I READ THE MEMO, PLEASE TELEX NAMES OF THE ADDRESSEES SO THAT WE CAN REMIND THEM TO RESPOND BY NOVEMBER 12, 1990

REGARDS

SARSHAR KHAN

=10030542

NNNN

WORLD BANK TMSS

DISCONNECTED

Energy:

9/24/20

Pl. paper

① letter to Zania
— NO 3.4 —
see attached names

② memo to Rep Rep
— NO 3.5 —

③ memo to Rep co-
— NO 3.3 —
(without para 3)

fd

THE WORLD BANK
Headquarters: Washington, D.C. 20433 U.S.A.

Tel. No. (202) 477-1234 // Fax Tel. No. (202) 477-6391 // Telex No. RCA 248423

FACSIMILE COVER SHEET AND MESSAGE

DATE	September 18, 1990	NO. OF PAGES (incl. this sheet)	1	MESSAGE NO.
TO Name	Mr. J. de Welle, OEDD1	No.		477-7658
Company/ Organization				City & Country
FROM Name	Preben Jensen			Fax Tel. No. 473-5456
Dept/Div. Name	AF6IN			Dept/Div No. 232-40
Room No.	J11-041			Telephone No. 473-4393
SUBJECT/ REFERENCE	Zambia - Third Highway Project Completion Report			

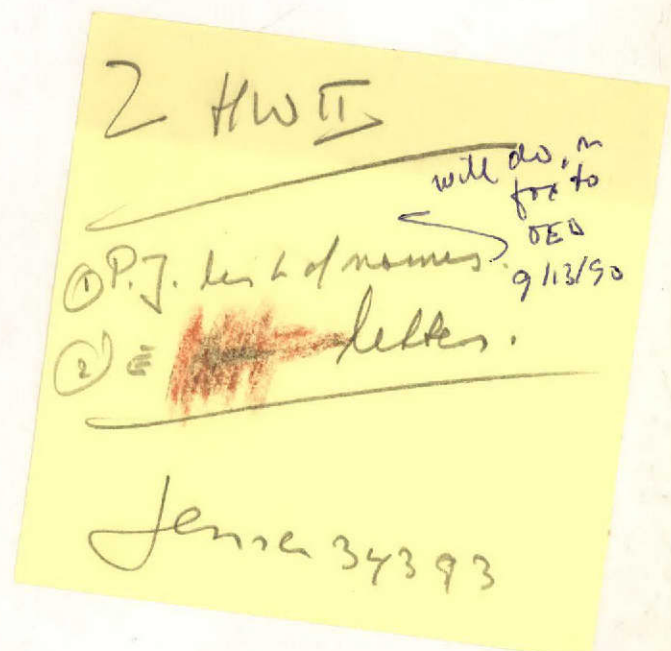
MESSAGE

Further to our telephone conversation of September 13, 1990, please include the following Government officials in your distribution of the report:

Mr. T. Ngoma
Director of Roads
Ministry of Works and Supply
Lusaka, Zambia

Mr. T.I. Mazaba
Permanent Secretary
Ministry of Works and Supply
Lusaka, Zambia

Mr. Lennard Nkhata
Senior Permanent Secretary
Ministry of Finance
P.O. Box 50062, Ridgeway
Lusaka, Zambia



Transmission authorized by Preben Jensen

If you experience any problem in receiving this transmission, inform the sender at the telephone or fax number listed above.

International Bank for Reconstruction and Development

FOR OFFICIAL USE ONLY

DECLASSIFIED

JUN 20 2025

WBG ARCHIVES

SecM90-1610

FROM: The Deputy Secretary

December 26, 1990

PROJECT COMPLETION REPORT

Zambia: Third Highway Project

(Loan 1566-ZA/Credit 798-ZA)

Attached is a copy of a memorandum from Mr. Rovani with its accompanying report entitled "Project Completion Report: Zambia - Third Highway Project (Loan 1566-ZA/Credit 798-ZA)" dated December 14, 1990 (Report No. 9187) prepared by the Africa Regional Office.

Distribution:

Executive Directors and Alternates
President
Senior Vice Presidents
Senior Management Council
Vice Presidents, IFC and MIGA
Directors and Department Heads, Bank

Document of
The World Bank

FOR OFFICIAL USE ONLY

DECLASSIFIED

JUN 20 2025

Report No. 9187

WBG ARCHIVES

PROJECT COMPLETION REPORT

ZAMBIA

**THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)**

DECEMBER 14, 1990

Infrastructure Operations Division
Southern Africa Department
Africa Regional Office

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EXCHANGE DATA

Name of Currency (Abbreviation) Kwacha (ZK)

Year:	Approved Year Average	US\$ 1 = ZK 0.80
	Intervening Years Average	US\$ 1 = ZK 1.47
	Completion Year Average	US\$ 1 = ZK 8.22

LIST OF ABBREVIATIONS

FY	-	Fiscal Year
MSB	-	Mechanical Services Branch
MSD	-	Mechanical Services Department
MWS	-	Ministry of Works and Supply
RD	-	Roads Department

FISCAL YEAR OF BORROWER

January - December

DECLASSIFIED

JUN 20 2025

WBG ARCHIVES

Office of Director-General
Operations Evaluation

December 14, 1990

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: Project Completion Report on Zambia Third Highway Project
(Loan 1566-ZA/Credit 798-ZA)

Attached, for information, is a copy of a report entitled "Project Completion Report on Zambia Third Highway Project (Loan 1566-ZA/Credit 789-ZA)" prepared by the Africa Regional Office. No audit of this project has been made by the Operations Evaluation Department at this time.

Attachment

A handwritten signature in dark ink, appearing to be 'A. May' or similar, written in a cursive style.

DECLASSIFIED

JUN 20 2025

WBG ARCHIVES

ZAMBIATHIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORTTABLE OF CONTENTS

PREFACE	1
BASIC DATA SHEET	111
EVALUATION SUMMARY	v
I. INTRODUCTION	1
II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL	2
Origin of the Project and Project Preparation	2
Appraisal of the Project	2
Credit Negotiations and Subsequent Processing	3
III. PROJECT IMPLEMENTATION AND COST	4
Physical Implementation of the Main Component	4
Implementation of Miscellaneous Components	5
Project Costs	6
Disbursements	6
Loan/Credit Covenants	6
Performance of Borrower and Bank/Association	9
IV. INSTITUTIONAL DEVELOPMENT	10
V. ECONOMIC RE-EVALUATION	10
VI. CONCLUSION	10
ANNEX A:	
Table 1: Related Bank Loans	12
Table 2: Project Timetable	13
Table 3: Loan/Credit Disbursements	14
Table 4: Project Implementation	15
Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs	16
Table 6: Project Financing	17
Table 7: Direct Benefits	18
Table 8: Economic Rate of Return	19
Table 9: Status and Impact of Studies Financed Under Project	20
Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts	21
ANNEX B:	
Borrower's Submission Concerning Completion of the Third Highway Project	22

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

PREFACE

This is the Project Completion Report (PCR) for the Third Highway Project in Zambia, for which Loan 1566-ZA in the amount of US\$11.25 million and Credit 798-ZA in the amount of US\$11.25 million were approved on May 11, 1978. The loan and credit were closed on June 30, 1986, three years behind schedule. The credit was fully disbursed. A total of US\$2.9 million of the loan was cancelled.

The PCR was prepared by the Infrastructure Operations Division, Southern Africa Department, of the Africa Regional Office and is based, inter alia, on the Staff Appraisal Report, Reappraisal Report, Loan/Credit Agreements, supervision reports, correspondence between the Bank and the Borrower, and internal Bank memoranda.

This PCR was read by the Operations Evaluation Department (OED). The draft was sent to the Borrower on September 24, 1990, for comments by November 12, 1990, but none were received.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)
PROJECT COMPLETION REPORT

BASIC DATA SHEET

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
Total Project Cost (US\$ million)	26.70	23.09
Overrun/Underrun (US\$ million)		(3.61)
Ln./Cr. Amount (US\$ million) ^{1/}	- 22.50	
Disbursed		19.593
Cancelled		2.907
Repaid		0
Outstanding		19.593
Date Physical Components Completed 12/31/82		Not Completed
Proportion completed by original completion date (%)		Under 10
Economic Rate of Return (%)	44	Negative

CUMULATIVE ESTIMATED AND ACTUAL DISBURSEMENTS

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>
(i) Appraisal	1.0	19.0	21.0	22.5						
(ii) Actual	0.0	0.0	0.0	0.6	0.8	0.9	7.1	10.1	19.2	19.6
(iii) As % of (i)	0.0	0.0	0.0	2.0	4.0	4.0	32.0	45.0	85.0	87.0

OTHER PROJECT DATA

<u>Item</u>	<u>Appraisal Estimate</u>	<u>Actual</u>
First Mention in Files		1/72
Negotiations		1/78
Board Approval		5/11/78
Loan/Credit Agreement Date		6/27/78
Effective Date	9/28/78	11/26/79
Closing Date	6/30/83	6/30/86
Borrower		Government of Zambia
Executing Agency		Ministry of Works and Supply
Fiscal Year of Borrower		January-December
Follow-up Project		None

^{1/} The Loan and Credit each accounted for US\$11.25 million at appraisal.

Mission Data

<u>Stage of Project Cycle</u>	<u>Month/Year</u>	<u>No. of Persons</u>	<u>Days in Field</u>	<u>Specialization Represented</u>	<u>Perform. Rating Status</u>	<u>Types of Problems</u>
<u>Through Appraisal</u>						
Identification	1/72	1	3	High. Engrn.	-	-
Identification	6/74	2	6	Econ.; Trans. Sp.	-	-
Preparation	2/76	1	7	Economist	-	-
Preparation	9/76	1	14	High. Engrn.	-	-
<u>Appraisal Through Board Approval</u>						
Appraisal	3/77	3	20	High. Engrn.; Econ.; Oper. Asst.	-	-
Post-Appraisal	6/77	2	10	Hg. Eng.; Econ.	-	-
<u>Board Approval Through Effectiveness</u>						
Review	11/78	1	9	High. Engrn.	1	-
Re-Appraisal	7/79	2	15	Econ.; High. Eng.	-	-
<u>Supervision</u>						
Full Supervision	3/80	2	11	High. Engrn.	2	M
"	12/80	1	5	"	2	M
"	9/81	1	6	"	2	M
"	11/82	1	6	"	3	M,F
"	4/83	2	17	Hg. En/Equip. Sp	3	M,F
"	8/83	1	11	High. Engrn.	3	M,F
"	3/84	1	12	"	2	F,M
"	6/84	1	7	"	2	F,M
"	10/84	1	7	"	2	F,M
"	3/85	1	12	"	2	M,T
"	6/85	1	7	"	2	
"	2/86	1	14	"	2	
"	2/87	1	7	"	2	

Note: A number of other missions (6) of very limited scope were conducted to review certain aspects of the project. Generally these were of brief duration representing perhaps 14 days in the field.

ZAMBIA

THIRD HIGHWAY PROJECT (LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

EVALUATION SUMMARY

Objective

1. The principal objectives of the Third Highway Project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. Specifically, the project aimed at improvement of both the primary and secondary roads, implementation of a pilot rural road maintenance program, preparation of a feasibility study and, where justified, detailed engineering of selected roads, provision of technical assistance to the Roads Department and to other organizational entities and rehabilitation of 50 km of high-priority paved roads.

Implementation Experience

2. Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements (approved May 11, 1978) led to delay in effectiveness and to the reappraisal of the project in July 1979 to reconsider these conditions and other factors. The Loan/Credit became effective on November 26, 1979. Implementation was extremely slow, the principal cause being the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and to order equipment. Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Two studies financed under the project were completed satisfactorily although they were delayed in starting. The pilot rural road maintenance component was dropped before initiation as it was considered by Government to be a low priority item. The rehabilitation of 50 km of high priority paved roads was long delayed and never implemented. After extensive delays, a substantial amount of road maintenance equipment was purchased and large quantities of spare parts for rehabilitating existing equipment were procured and used in equipment rehabilitation; unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor. The actual cost of the project was US\$23.09 million, less than the US\$26.70 million appraisal estimate but the project was not fully implemented. Disbursements were slow because of slow project implementation; not until FY87 was more than half of the US\$23 million total amount actually disbursed, and final disbursements did not occur until FY88, after which the remaining US\$2.9 million balance of the loan was cancelled.

Results

3. The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project therefore has not been realized. A secondary objective of the project to plan for future extension of the road network was also not realized; a road feasibility study concluded that the proposed road would not be justified but the Government nevertheless undertook the design and construction of the road. The project component designed to strengthen the Mechanical Services Branch, a key institution affecting the roads sector, had little impact as the study recommendations were largely ignored.

Sustainability

4. Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

Findings and Lessons Learned

5. For several years, prior to project appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities. Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfalls in local funds. While Government defended its low allocations for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicates a different set of priorities. The foregoing review indicates that much more dialogue is needed between lenders and Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new construction until the backlog of maintenance has been eliminated and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT LOAN 1566-ZA/CREDIT 798-ZA)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 The Third Highway Project, aimed largely at improving the capacity for road maintenance works, was identified in 1972 and appraised in mid-1977. Financing was negotiated in January 1978 and approved by the Board in May 1978. A US\$11.25 million Bank loan and US\$11.25 million IDA credit were made available for the project which was estimated at appraisal to cost US\$26.7 million. The Loan/Credit did not become effective until November 1979 and implementation was slow. The final closing date was June 30, 1986, three years later than the original closing date of June 30, 1983; the final disbursements were made in August 1987 after which a portion of the loan was cancelled. While the project resulted in a significantly augmented road maintenance capability, the amount of road maintenance performed was minimal because of insufficient Government budgets for those works and deteriorating macroeconomic environment.

1.02 Transport sector development in Zambia is aimed at two primary objectives, the first being to facilitate the movement of mineral products, particularly copper, from the mining/processing areas to external markets. Accordingly, substantial investments have been made by Government in rail transport facilities along the central corridor from Livingstone in the south via Lusaka to Kitwe and Ndola in the north. Government has also made major investments in external transport considered vital to the trade of this landlocked country. Since copper mining and export of minerals dominate the Zambian economy both internal and external transport services will continue to receive priority attention in the country's general development.

1.03 The second major objective in the transport sector is to facilitate agricultural production and rural development mainly in the central corridor but increasingly extending beyond that area. Recognizing that the mining industry will experience a continuing general decline in the years ahead, the Government is taking steps to develop the agricultural sector gradually to become, eventually, the engine of growth in the Zambian economy. The country's economic outlook thus depends in large part on agricultural expansion and rural development which in turn depends to some extent on the improvement of transport.

1.04 Major transport improvements are very costly, and large development programs in the sector tend to cause insufficient funding of maintenance activities. In fact during the 1980s, budget allocations for road maintenance in Zambia frequently fell far short of needs while construction of costly new roads of doubtful economic viability went forward. As a result of this shortfall in maintenance funding, the general

condition of the road network has deteriorated sharply with far reaching economic consequences in terms of high costs of transport and relatively slow speed of transport.

1.05 The dominant policy concern of the Zambian Government in the transport field is to assure that copper, so vital to the economy, moves expeditiously to external markets. Government seeks to maintain control of external transport in various ways based on its ownership interest and influence over Zambia Railways, the Tanzanian-Zambian Railway (TAZARA), an oil pipeline linking a petroleum refinery in Ndola to the port of Dar es Salaam, and one large international trucking company. Private domestic road haulage, particularly over short distances, is generally allowed with limited regulation.

1.06 Recognizing in the late 1970s that the road network had deteriorated badly as a result of neglect of adequate maintenance, the Government sought, through the Third Highway Project, to overcome this adverse trend. The project seemed to reflect a new intent on the part of Government to reverse a policy of severely restricting the resources available for road maintenance; subsequent events, however, showed that the Government is not yet fully committed to adequate road maintenance.

1.07 The information required for this report was obtained largely from the Staff Appraisal Report, supervision reports, consultants and Government progress reports and other materials in the Bank's files. The principal deficiency concerning the data required to prepare this Project Completion Report (PCR) was the lack of a PCR prepared by Government. Annual statistics on the kilometers of roads actually maintained, by category of maintenance, were not available; such data would have provided a better basis for assessing performance of the Roads Department.

II. PROJECT IDENTIFICATION, PREPARATION AND APPRAISAL

Origin of the Project and Project Preparation

2.01 In 1972, about four years after the Second Highway Project had been approved (see Table 1), the Third Highway Project was identified. Over a period of five years, the details of the project were defined and the preparation completed (see Table 2). Project preparation was accomplished by the Government largely through its Mechanical Services Branch.

Appraisal of the Project

2.02 A partial appraisal of the project was carried out in March 1977, but the appraisal mission was unable to gain access to the Mechanical Services Branch (MSB) and consequently a second appraisal months later was required; the appraisal was thus completed in June 1977.

2.03 The objectives of the project were to improve the maintenance of the rapidly deteriorating road network and to plan for future extension of the network. The components of the project, as appraised in 1977, were as follows:

- a) a program to improve maintenance of the primary and secondary road network;
- b) a pilot rural road maintenance program;
- c) a feasibility study and, if justified, detailed engineering of the Mansa-Kawambwa-Nchelenge road (240km) or alternative roads agreed between the Government and the Bank Group (see Map); and
- d) technical assistance to the Roads Department, Mechanical Services Branch and the Ministry of Local Government and Housing for operations and training.

Failure of the Government to meet certain conditions of effectiveness in the loan and credit agreements led to delay in effectiveness and reappraisal to reconsider these conditions and other factors. The number of regravelling units to be equipped was reduced from 4 to 2, the number of heavy maintenance units was reduced from 9 to 2 and the periodic maintenance was reduced to cover about 375 km instead of the 750 km in the original project design. An additional component of the project added at reappraisal in 1979 was the following:

- e) rehabilitation of 50 km of high-priority paved roads.

2.04 The total project costs were estimated during the appraisal mission at US\$ 26.70 million, excluding taxes and duties but including physical and price contingencies (see Table 5). The foreign exchange component was estimated at US\$ 22.5 million or 84% of total cost.

Credit Negotiations and Subsequent Processing

2.05 Negotiations were held in January 1978 in Washington. No significant disagreements arose in these meetings. The loan and credit were signed on June 27, 1978. More than 18 months passed from Board approval until the Loan/Credit became effective, on November 26, 1979, because compliance with two covenants was long delayed. A covenant in the Development Credit Agreement that certain staff be appointed by a specific date was the initial cause of delay. An equally serious problem was the covenant requiring the Government to budget specified amounts for road maintenance. The project was reappraised in July 1979, easing the staffing requirements and lowering the required budget levels; in November 1979, the 1980 budget allocation and assurances regarding future budgets were such that the Bank Group deemed compliance sufficient for the Bank to declare the Loan/Credit effective. These assurances were not subsequently borne out, however, as the actual allocations in most years were much lower than stipulated in the covenant.

III. PROJECT IMPLEMENTATION AND COST

3.01 A feature of the project design that caused a major delay in project implementation was the requirement that Government fill four senior staff positions and appoint 29 technical assistance specialists by September 28, 1978. Since the Government would not employ a firm to recruit technical assistance staff, it proceeded with the time-consuming task of recruiting individuals. Undoubtedly, the planned staff additions would have been very useful had the project been implemented as designed but it was unreasonable to expect the Government to recruit so many individuals within the time allowed (4 months). In retrospect, the covenant was not well-designed. It should have required the borrower to employ a suitable firm to recruit the large number of personnel sought. Otherwise, the number of consultants planned for the project should have been substantially reduced.

3.02 Poor organization of the main Governmental entities carrying out the project did not bode well for expeditious implementation. Cooperation between MSB (transferred in May 1979 from Defense to Ministry of Works and Supply as the Mechanical Services Department (MSD)) and the Roads Department, the agency for which most of the repair work was undertaken, was unsatisfactory.

3.03 In April 1982, the Bank suggested to the borrower that the project be reappraised with a view to redesigning the project. The Borrower, recognizing its limited financial resources, agreed in July 1982 that the project should be reappraised. Delays were experienced, however, in securing consultants to undertake the necessary preparation. In the meantime, under the 1983 budget, the Government allocated recurrent funds for road maintenance that were in line with the requirements of the Loan/Credit Agreement, and therefore the project implementation proceeded without reappraisal at that time.

Physical Implementation of the Main Component

3.04 Implementation was extremely slow as indicated by the actual rate of disbursements. At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. The principal cause of this delay was the shortage of budgetary allocations for road maintenance and the excessive time taken to prepare equipment specifications and order equipment (see Table 11).

3.05 After long delays, a substantial amount of road maintenance equipment was purchased (US\$11.4 million); also large quantities of spare parts for rehabilitating existing equipment were procured (US\$2.9 million) and used in equipment rehabilitation (US\$5.6 million). Unfortunately, the utilization of the new and rehabilitated equipment in road maintenance was poor and consequently the primary objectives of the project were not realized. While statistics are lacking, indications are that only a small fraction of the 2,000 km of paved roads targeted in the project were resealed; likewise only a small proportion of the 375 km of gravel roads

targeted in the reappraisal were subject to periodic maintenance while routine maintenance of all roads was far below the appropriate level. The fact is that during the period of project implementation the backlog of road maintenance increased rather than declined.

3.06 In July 1979, when the project was reappraised, the new component was added to the project, that is, the rehabilitation of 50 km of high priority paved roads. By March 1985, no work had been undertaken but Government then requested that the Bank approve an increase to US\$4.0 million for the allocation of Loan/Credit funds for this component. Following Bank concurrence, certain works were tendered and the Ministry of Works and Supply recommended award of contract to the lowest bidder; the Bank had no objection but agreement on the award within the Government was delayed so long that it became impossible to finance the works under the project. Consequently, no expenditures were made for the project component.

Implementation of Miscellaneous Components

3.07 Throughout the period of project implementation, the recruitment of a large number of technical assistance staff fell far short of the schedule for filling key staff positions. Government sought individuals, rather than employ a firm for recruitment as repeatedly recommended by Bank staff. Since some of the technical assistance staff were required to implement equipment procurement under the project, equipment procurement was also delayed. The latter problem did not, however, inhibit the operations of road maintenance units significantly because Government budgets did not provide sufficient funds for operating these units with the existing equipment.

3.08 Two studies financed under the project were completed satisfactorily although they were delayed in starting (see Table 9). The recommendations of the MSD organization study, unfortunately, were never implemented even though the report was accepted by the Government. The feasibility study of the Mansa-Nchelenge road found the proposed improvement not economically justified; yet the Government shortly thereafter funded detailed engineering of the road and subsequently arranged for construction with bilateral financing; most of the road has been built.

3.09 In 1983, at Government's request and with Bank concurrence, the pilot rural road maintenance component was dropped as it was considered by Government to be a low priority item. No work had been initiated on this component.

3.10 The consulting firm (Norway) involved in the road feasibility study and the consultants (UK), which undertook the MSD organization study, both performed satisfactorily as did, in general, the various individuals participating in the technical assistance.

Project Costs

3.11 The actual cost of the project was US\$23.09 million, some 13% less than the US\$26.70 million appraisal estimate and 21% less than the US\$27.90 million reappraisal estimate (see Table 5). As indicated elsewhere in the report, however, the actual costs do not represent a full implementation of the project as either appraised or reappraised.

Disbursements

3.12 The slow pace of the project implementation indicated above resulted in a slow rate of disbursements (see Table 3). At the end of FY82, when all the Loan/Credit funds were scheduled to have been disbursed, the actual level disbursed was only 2% of the total amount of the Loan/Credit. Not until FY87 was more than half of the total amount disbursed and final disbursements did not occur until FY88 (about 13% was cancelled). The US\$22.5 million made available by the World Bank Group for the project was divided equally between the Bank and IDA, and priority for disbursement was given to the IDA credit (see Table 6). All of the credit was disbursed as was all except about US\$2.9 million of the Bank loan, the latter amount being cancelled.

Loan/Credit Covenants

3.13 Compliance with loan/credit covenants was not fully satisfactory. The following summary indicates the status of covenants:

Reference To Credit Agreement	Loan/Credit Covenant	Compliance and Status
Section 3.01 (b)	The Borrower shall (i) by December 31, 1980 prepare a plan of action, satisfactory to the Association, for the improvement of the efficiency of the Mechanical Services Department (MSD) and (ii) carry out such plan within nine months from the date of its preparation.	The consultants (PA International) submitted report on study of MSD to Government in August 1981. There has been only limited follow up. The Government is still considering whether MSD should be put on a commercial basis.
		Section 3.01 (b) For carrying out of the training component included in the project, the Borrower shall prepare programs satisfactory to the Association. Progress has been made. In 1982, 441, in 1983, 483 and in 1985, 415 technicians were trained.
Section 3.02 (b)	The Borrower shall by September 30, 1978, employ in the Roads Department (RD) additional staff with experience to fill existing vacancies of: (i) three senior executive engineers; and (ii) one chief materials officer.	The position of chief materials officer is still vacant and there are still several vacancies for executive engineers (including senior) in RD.
Section 3.03 (a)	The Borrower shall employ suitably qualified consultants, satisfactory to the Association, for assistance in reorganizing MSB and preparation of bidding documents and evaluation of bids for road maintenance and workshop equipment, etc.	Complied with.
Section 3.03 (b)	The Borrower shall by April 30, 1981 employ the following experts whose qualifications, experience and terms and conditions of employment shall be satisfactory to the Association: (i) in the RD three road maintenance engineers, one transport economist and two training experts. (ii) in the MSD ten mechanical engineers and ten mechanical supervisors (or such other number as shall be agreed by the Association); and two training experts; and (iii) in the PLGD, one rural road maintenance engineer.	Twelve to 15 TA experts were in position for 4-5 years, to a certain extent underemployed because of low activity level in RD and MSD.

<u>Reference to Credit Agreement</u>	<u>Loan/Credit Covenant</u>	<u>Compliance and Status</u>
Section 3.05 (b)	The Borrower shall maintain records and procedures adequate to record and monitor the progress of the project, to identify the goods and services financed out of the proceeds of the Credit, and to disclose their use in the project.	Some progress has been made.
Section 3.05 (c)	The Borrower shall prepare and furnish to the Association quarterly progress reports on the carrying out of the project.	Progress reports have generally not been prepared in a timely manner.
Section 4.02	The Borrower shall collect and record in accordance with appropriate statistical methods and procedures such technical, economic and financial information as shall be reasonably required for proper planning of maintenance, improvement and extensions of its road system.	Limited progress has been made in collecting information of traffic volumes and total expenditures in highway subsector.
Section 4.04	The Borrower shall cause the Primary and Secondary Road Network, and its maintenance equipment and related workshop facilities to be adequately maintained and repaired, and provide promptly funds required for the purpose.	The amounts allocated to RD for road maintenance have not been adequate.
Section 4.05	The Borrower shall take all such actions as shall be necessary to ensure that the dimensions, axle loads and weight limits of vehicles using country's roads shall not exceed legal limits.	Spot checks are made on some major roads using existing weighbridges.
Section 4.06	The borrower shall carry out the training of the road maintenance staff of the Rural Councils in the training school of the RD.	No action has been taken because the pilot rural road maintenance program was deleted.
Section 4.07	The Borrower shall by September 30, 1978 prepare a program satisfactory to the Association for the career development of local staff in the RD and carry out such program thereafter.	Program furnished in January 1979 was found to be inadequate. Revised program has never been submitted, but the quarterly reports contained a section on staff development and RD's efforts to hire local graduate engineers (with little success so far).

Performance of Borrower and Bank/Association

3.14 Borrower Performance. As noted, the Government of Zambia was not fully committed to the project; it did not share the Bank's conviction that better road maintenance warranted greater local funding than in previous years. While Government defended its low allocation for road maintenance on the basis of the deteriorating general financial condition of the country, the relatively generous allocations for new road construction clearly indicated a different set of Government priorities. The borrower even financed new road construction where either no feasibility study had been done or such a study was undertaken and the results proved negative.

3.15 The latter point is illustrated by the Mansa-Nchelenge road, the study of which was financed under the project. Despite a negative finding of the consultants, the road was built. Among a series of efforts to prevent that construction, the Bank staff in 1985 urged that an updated feasibility study be done before deciding to undertake the construction but Government disagreed.

3.16 Performance of the borrower was less than satisfactory concerning several other undertakings: (1) insufficient recruitment of technical assistance staff based on individual recruitment rather than engaging a firm; (2) largely ignored the recommendations of the MSD organization study; (3) hindered procurement in some cases by denying the use of letters of credit; (4) failed to submit some progress reports and delayed the submission of many of the reports; and (5) failed to prepare and submit a project completion report (see Annex B).

3.17 Bank Performance. For several years prior to appraisal, Bank staff sought, in cooperation with the Roads Department, to design a project with heavy emphasis on the strengthening of road maintenance, thus clearly aiming at the most urgent need in the highway subsector. In retrospect, the project should have been delayed until senior Government officials were convinced that this was the best highway project design. The Bank was right in its assessment of the priority need for a project focussed on road maintenance but it was wrong in its assessment that Government shared this conviction of sector priorities.

3.18 Throughout the period from Bank approval to the closing of the project, the central issue was the need for adequate budgetary allocations for road maintenance. The Bank demonstrated about the right degree of flexibility in coping with the frequent shortfall in local funds. At reappraisal, it lowered the local funds requirement and relaxed staffing requirements in the interest of enabling the Government to meet conditions of effectiveness. It pressed for greater funds allocations before extending the closing date. Bank performance in supervision generally was satisfactory.

IV. INSTITUTIONAL DEVELOPMENT

4.01 The component of the project designed to strengthen MSD, one of the key institutions affecting the road sector, had little impact. While the study undertaken was of good quality, the consultants recommendations were largely ignored. Also, the large element of technical assistance in the project, though not fully implemented, strengthened the MSD and Roads Department staff considerably during the assignments of these specialists but the impact in terms of human resource development was minimal.

4.02 One of the objectives of the project was to plan for future extension of the road network. Toward this end, a project component provided for a feasibility study of a possible 240 km road extension; the consultants found the proposed development unjustified. The Government nevertheless undertook the design and construction of the road. Thus, the project did not have a positive influence on road network planning.

V. ECONOMIC RE-EVALUATION

5.01 The 44% economic rate of return estimated at appraisal took into consideration projected project benefits in terms of savings in vehicle operating costs expected to be realized with improved maintenance of roads. To date, the extent of road maintenance works accomplished has been far less than anticipated (see Table 7); therefore, economic benefits have been minimal and the economic rate of return, assuming continued poor performance on road maintenance, is probably negative (see Table 8). Specific data required to measure these benefits are not available. If the Government in the future adequately maintains and utilizes the small amount of remaining equipment procured under the project, the otherwise adverse economic returns would, of course, be mitigated.

VI. CONCLUSION

6.01 The project was well conceived in that it focussed on the strengthening of road maintenance, the priority need in the highway subsector, and aimed at overcoming the major Roads Department weaknesses of equipment and staff. Unfortunately, there was no shared conceptual foundation for the project between the Government and the Bank as to the priority for highway maintenance. It became apparent that Government at all levels was not sufficiently committed to road maintenance vis-a-vis new construction.

6.02 The most positive result of the project was the augmentation of new and rehabilitated road maintenance equipment in the Roads Department inventory. Since, however, the resealing and regravelling units were frequently idle during the project implementation period, little was accomplished in terms of road maintenance works. The principal objective of the project, therefore, has not been realized. The new and

rehabilitated equipment could nevertheless serve Zambia's road maintenance well for several years, assuming the Government were to provide funds for the correlated resource requirements of fuel, lubricants, bitumen, manpower and other necessities to carry out road maintenance works. Unfortunately, there are no indications that the Government is so inclined. The most recent Roads Department budget reflects continued low funding for this purpose.

6.03 One aspect of the project design that caused problems was that the local cost component of project costs did not include all of the local costs essential to carry out the project. In particular, the costs of operating the road maintenance units (for which the project provided equipment) were not included as project costs. Instead, the funding of these costs was provided for in a covenant specifying minimum amounts of funds to be provided in the Government's annual budgets for road maintenance. The Staff Appraisal Report provided a detailed account of the recurrent costs involved in operating the road maintenance units and these costs formed the basis of the covenant. These specified budgetary amounts were not met in the early years following project approval and consequently a reappraisal was done and the requirements lowered significantly. Even following this easing of the requirements, the covenant was seldom met and this deficiency was the primary reason for the extremely long delays in project implementation. Clearly, the covenant did not accomplish its purpose; a better alternative might have been to include the essential recurrent expenses for the project as project costs with Government commitment to finance them.

6.04 The principal accomplishment of the project was to provide substantial equipment and spare parts for roads maintenance, a much-needed capability, but unfortunately the lack of correlated resource requirements have prevented much impact in terms of actual road maintenance works.

6.05 Road maintenance equipment has an estimated economic life of about 10 years and most of the new equipment purchased under the project was delivered between 1986 and 1987. The new equipment and some rehabilitated equipment will therefore be available for use for a number of years well into the 1990s, provided they are maintained in good condition. Potential net benefits from the project over the period to about 1996/97 will depend on Government's future road maintenance budgets which finance fuel and other necessities of the road maintenance units. The outlook for realizing such benefits, however, is not promising.

6.06 The foregoing review indicates that much more dialogue is needed between lenders and the Government concerning: (1) a strong commitment to maintaining the existing assets in roads by giving a much higher priority to highway maintenance and avoiding new road construction until the backlog of maintenance has been eliminated; and (2) the importance of road feasibility studies as a basis for planning extensions of the road network.

ZAMBIA

THIRD HIGHWAY PROJECT
(LOAN 1566-ZA/CREDIT 798-ZA)

Table 1: RELATED BANK LOANS

Loan Title	Purpose	Year of Approval	Status	Comments
Loan 469-ZA US\$17.5 million First Highway Project	Engineering, reconstruction and paving of sections of the Great East Road (25 miles) and Great North Road (122 miles)	1966	Completed in 1969	Completed on schedule below cost estimate.
Loan 563-ZA US\$10.7 million Second Highway Project	Reconstruction to two-lane paved standard of one section (235 miles) of the Great North Road and procurement of 3 weighbridges on that road.	1968	Completed	Completed on schedule with minor cost over-run. No project in the sector has followed the Third Highway Project.
No Credits				

Table 2: PROJECT TIMETABLE

<u>Item</u>	<u>Date Planned</u>	<u>Date Revised</u>	<u>Date Actual</u>
Identification			1/72
Preparation			6/74, 5/76, 10/76
Appraisal Mission <u>1/</u>			3/77, 6/77
Re-appraisal			7/79
Loan/Credit Negotiations			1/78
Board approval			05/11/78
Loan/Credit Signature <u>2/</u>			06/27/78
Loan/Credit Effectiveness	09/28/78	09/30/79	11/26/79
Loan/Credit Closing	06/30/83	06/30/83 06/30/84 06/30/85	06/30/86
Loan/Credit Completion <u>3/</u>	12/31/82	12/ /83 06/ /84 06/ /86	Not completed

1/ Two appraisal missions were undertaken.

2/ In addition, an amendment was signed on 10/2/80.

3/ An amount of US\$2,907,242.52 of the Loan was cancelled on 8/6/87.

Comments: A major issue prior to effectiveness and throughout implementation was the adequacy of Government budgets for road maintenance.

Table 3: LOAN/CREDIT DISBURSEMENTS

Bank Fiscal Year	Disbursements (US\$'000)		Actual as % of total Loan/Credit
	Appraisal Estimate	Actual	
1979	1,000		
1980	19,000		
1981	21,000		
1982	22,500	582	2
1983	0	780	4
1984	0	940	6
1985	0	7,083	31
1986	0	10,097	45
1987	0	19,210	85
1988	0	19,593*	87

Date of Final Disbursement 8/6/87

*US\$2,907,242.52 was cancelled on 8/6/87.

Table 4: PROJECT IMPLEMENTATION

Indicators	Appraisal Estimate	Reappraisal Estimate	Actual (or PCR Estimate)
Indicator 1 Kilometers of bitumen surfaced roads subject to periodic maintenance	2,000 km	2,000 km	N/A
Indicator 2 Kilometers of gravel roads subject to resealing/regraveling	750 km	375 km	N/A
Indicator 3 Amount of road maintenance equipment purchased (including spare parts)	US\$11.88 million (including contingencies)	US\$11.93 million (including contingencies)	US\$19.86
Indicator 4 Kilometers of bitumen surfaced roads rehabilitated	(not included at this stage)	50 km	0 km (Misprocurement arose and Government was unable to resolve the problem quickly enough to permit implementation).
Indicator 5 Number of regravelling and heavy maintenance units established:			
A) Regraveling	4	2	4 to 7
B) Heavy	9	2	1 to 3 (In addition to project-financed equipment, Japanese-financed equipment was also used to equip these units. The units were frequently idle).
Indicator 6 A. Amount of technical assistance, consultant services purchased	US\$6.88 million	US\$6.48 million	US\$2.10 million
B. Amount of workshop equipment, tools, training aids purchased	US\$1.71 million	US\$1.80 million	US\$0.40 million
Indicator 7 Kilometers of (Pilot) Rural Road Maintenance Program done	Roads in an area covering two Rural Councils	Roads in an area covering two Rural Councils	0 (Component was cancelled before being initiated)

Table 5: Project Cost Comparisons, Appraisal and Reappraisal Estimates and Actual Costs
(US\$ million)

Item	Appraisal Estimate 1/			Reappraisal Cost Estimate 2/			Actual Cost 3/		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
A. Road Maintenance Equipment									
(i) Procurement of New Equipment	1.11	12.36	13.41	1.14	11.61	12.75	0.72	10.68	11.40
(ii) Rehab. of Existing Equipment	0.22	0.61	0.83	0.16	0.61	0.77	0.50	5.07	5.57
(iii) Spare Parts for Existing Equip.	0.15	0.97	1.12	0.12	0.08	1.10	0.36	2.53	2.89
B. Workshop Equipment Tools & Training Aids									
(i) Workshop Equipment & Tools	0.15	1.42	1.57	0.14	1.52	1.66	0.10	0.20	0.30
(ii) Training Aids	0.01	0.13	0.14	0.01	0.13	0.14	0.01	0.09	0.10
C. Consultant Services									
(i) MSD Reorganization Study & Preparation of Bid Documents	0.06	0.23	0.29	0.03	0.344 ^{0.37}		0.02	0.17	0.19
(ii) Road Feasibility Study	0.24	0.04	1.08	0.12	0.87	0.99	0.17	0.37	0.54
D. Pilot Rural Road Maintenance Program	0.73	0.65	1.38	0.69	0.62	1.31	0.00	0.00	0.00
E. Rehabilitation of Paved Road	-	-	-	1.56	0.91	2.47	0.00	0.00	0.00
F. Technical Assistance	1.53	5.35	6.88	1.44	5.04	6.48	1.00	1.10	2.10
Total Project Costs	4.20	22.50	26.70	5.40	22.50	27.90	2.88	20.21	23.09

1/ Cost estimate in Staff Appraisal Report 4/17/78 with contingencies spread to individual items.

2/ Cost estimate in Issues Paper 8/9/79 with contingencies spread to individual items.

3/ Based on estimate of 2/87. At that time US\$ 3.9 million was uncommitted. On 8/6/87, about US\$ 2.9 million of the US\$11.25 million loan was cancelled. The US\$ 1.0 million additional funds committed between 2/87 and 8/87 were used for Road maintenance equipment procurement, largely new equipment. Accordingly, the 2/87 cost estimate has been adjusted by adding US\$ 1.0 to the foreign and total cost of the procurement of new equipment.

Table 6: Project Financing

<u>Source</u>	<u>Planned Loan/Credit Agreement</u>	<u>Revised 1/ (US\$'000)</u>	<u>Final</u>	<u>Comments</u>
<u>IBRD/IDA</u>				
Equipment, Tools, Training aids and spare parts	12,100	12,200	18,570	
Equipment, materials and other items for the pilot program	500	500	0	Component dropped in 1983
Consultants and exports services	5,000	5,000	1,640	
Rehabilitation of paved roads	-	800	0	Component dropped in 1985
Unallocated	4,900	4,000	0	
Domestic	4,200	4,200	2,880	
Total	26,700 =====	26,700 =====	23,090 =====	

1/ Amended Development Credit Agreement 10/2/80

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and IDA and disbursement priority was given to the IDA Credit. All of the credit was disbursed as was all but about US\$2.9 million of the loan, the latter amount being cancelled.

Table 7: Direct Benefits

Indicators	Appraisal Estimate	Results	Estimate at Closing Date	Estimated at Full Development
<u>Indicator 1</u> Traffic and Benefits	On the 2,000 km of roads (paved) 380 to 3,260 vpd (some of the most heavily trafficked roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
Traffic and Benefits	On the 750km of roads (gravel) 100 to 400 vpd (some of the highest trafficked gravel roads)	Savings in VOC quantified - N/A. Savings in cost of Bitumen overlay - N/A.	Benefits very small but not calculated	Benefits small but not calculated
<u>Indicator 2</u> Number of Technical Assistance people installed	29	During Project Implementation on: 12-15 for 4 to 5 years	None	None

Note: The US\$22.5 million made available by the World Bank Group was divided equally between the Bank and the Government of the Republic of the Congo. All of the credit was disbursed as was all but about US\$2.5 million of the loan, the latter amount being cancelled.

Table 8: Economic Rate of Return

	Appraisal Estimate	Actual at Final Development
Economic Rate of Return	44%*	Probably negative

*Underlying Assumption: Traffic on bitumen roads will increase over period 1978-88 at average annual rate of 7%.

Table 9: Status and Impact of Studies Financed Under Project

Study	Purpose as Defined at Appraisal	Status	Impact of Study
Pilot Rural Road Maintenance Program	To develop feasible program for maintaining rural roads at low cost.	Dropped, not initiated	None
Feasibility Study and Detailed Engineering Mansa-Kawambwa-Nchelenge (240 km)	To determine feasibility of road improvement and to undertake detailed engineering if project feasible.	Feasibility study found improvement economically unjustified. Government financed detailed engineering study. Road constructed with bilateral aid.	The study finding that the proposed road was not justified was accepted by the Bank but not the Government and the latter undertook design and construction of the road. Therefore, the study did not prevent a mis-allocation of scarce resources which were urgently needed for road maintenance.
Study of the Organization of the Mechanical Services Department	To recommend improvements in the organization.	Study completed in August 1981.	Minimal. Although the report was accepted by Government, virtually none of the study recommendations were implemented.

Table 10: Zambia Road Maintenance Expenditure Targets and Budgeted Amounts

A. Roads Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	15.7	9.0	9.1
1981	17.0	12.4	7.7
1982	14.7	13.5	9.1
1983	-	13.5	15.8
1984	-	-	19.0

B. Mechanical Services Department

Fiscal Year	Targets Established		Budgeted
	Original Agreement ^{1/}	Amending Agreement ^{2/}	
	K Million		
1980	2.2	1.6	n.a.
1981	3.0	2.5	0.4
1982	3.2	3.5	0.8
1983	-	4.9	1.2
1984	-	-	2.0

^{1/} Targets set in Loan/Credit Agreement 6/27/78.

^{2/} Targets set in Amendment of Loan/Credit Agreement 10/2/80.

Borrower's Submission Concerning Completion
of the Third Highway Project

1 As of January 30, 1990, the borrower had not submitted a PCR to the Bank. The latest written communication to the Bank on the subject was a letter from the Director of Roads dated November 23, 1988 stating that, "The text of the project completion report is still incomplete due to various administration factors. It will be sent during December 1988". Enclosed with the letter were two tables giving project expenditures, by category and by supplier in US dollars only. Also included with the letter was the Roads Department's Annual Report for the year 1986, issued in December, 1987. A December 1989 Bank mission to review the transport sector returned, without the Borrower's PCR.

2 In the absence of the Borrower's PCR, it may be useful to consider relevant excerpts from the Roads Department's Annual Report for the year 1986.

3 Concerning the critical issue of the roads budget, the report states, "The total authorized expenditures [for 1986]... was K104,815,402. [Of this total], K81,832,701 was allocated for capital projects while K22,982,701 was for recurrent expenditures. Of this [latter] amount, K12,975,701 was for personal emoluments, leaving a balance of K10,007,000 for various departmental charges including maintenance materials. So only 10.5 percent of the total authorized expenditure was for actual road maintenance which was again too low like in many past years".

4 As to project accomplishments, the report notes that, "The Department's vehicles and equipment strength improved through... project procurement of new vehicles and equipment, and spare parts for rehabilitation of existing vehicles and equipment. However, [road] maintenance activities slowed down since cost of materials such as bitumen, cement, fuel and lubricants had risen by three hundred percent whereas the financial provisions remained almost at the same level as [in] the previous year".

5 The administrative staff was said to be "satisfactorily filled" but "the establishment for professional engineers was very much under strength. Of thirty-one authorized posts of engineers, only fifteen were filled".

6 With regard to the Mansa-Nchelenge Road, for which the project financed a feasibility study (with negative results), the report states that, "Forty-eight kilometers were completed in 1986 and opened to traffic between Mwense and Musonda Falls. Work progressed very well, except for inadequate funding". Progress was also reported on four other "major capital projects" in road construction.

7 Assessing the overall impact of the Third Highway Project, the Annual Report concludes that, "The Third Highway Project... proved

effective to end of 1986. A variety of plant, equipment and vehicles were acquired and [the] rehabilitation of existing equipment [was] carried out under the ... project which closed in December 1986. But despite this improvement in the fleet of equipment, [road] maintenance works was again much lower than programmed. The consequence is that not much could be done to halt further deterioration of the bulk of the road network".

