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PROJECT COMPLETION REPORT

BOTSWANA

THIRD AND FOURTH ROAD PROJECTS

LOANS 1174 and 1408-BT

June 28, 1985

Eastern and Southern Africa Region
Transportation Division II

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ABBREVIATIONS AND ACRONYMS

CIDA	- Canadian International Development Agency
CTO	- Central Transport Organization
DANIDA	- Danish International Development Agency
DRMP	- District Road Maintenance Program
EDF	- European Development Fund
ILO	- International Labor Office
KfW	- Kreditanstalt fur Wiederaufbau (German Development Agency)
MFDP	- Ministry of Finance and Development Planning
MLGL	- Ministry of Local Government and Lands
MWC	- Ministry of Works and Communications
NORAD	- Norwegian Agency for Development
ODM	- British Overseas Development Ministry
RD	- Roads Department
RSA	- Republic of South Africa
SIDA	- Swedish International Development Agency
UNDP	- United Nations Development Program
USAID	- United States Agency for International Development
voc	- vehicle operating costs
vpd	- vehicles per day

CURRENCY

The Government of Botswana introduced their own national currency, the pula, in 1976. Formerly, the currency used in Botswana was the South African rand: therefore, all local costs in the appraisal of the Third Road Project are denoted in rand. In this report all costs expressed in local currency are given in pula except for the Third Road Project appraisal estimates which are given in rand. The pula was set at the same rate as the rand until 1977.

BOTSWANA

THIRD AND FOURTH ROAD PROJECTS

LOAN 1174 AND 1408-BT

PROJECT COMPLETION REPORT

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BOTSWANA

THIRD AND FOURTH ROAD PROJECTS

LOAN 1174 AND 1408-BT

PROJECT COMPLETION REPORT

Preface

This Project Completion Report (PCR) has been prepared for the Third and Fourth Road Projects in Botswana for which Loans 1174 and 1408-BT, in the amount of US\$5.8 and US\$20.0 million, were signed on November 21, 1975 and May 20, 1977 respectively. Loan 1174-BT was fully disbursed by February 1983, 32 months later than estimated at appraisal; US\$0.731 million of the loan funds were cancelled in February 1983. Disbursements of Loan 1408-BT were completed in November 1984, 41 months later than estimated at appraisal; US\$0.9 million of loan funds were cancelled in November 1983, as a consequence of the March 1983 amendment of the loan agreement and an unused loan balance of US\$1.5 million was cancelled in late 1984.

The PCR was prepared by EAPT2 and is based on Appraisal Reports Nos: 896-BT - dated October 16, 1975 - and 1389b-BT - dated March 23, 1977, supervision reports, legal documents, project correspondence files and consultant progress and other reports.

In accordance with the revised procedures for project performance audit reporting, this Project Completion Report was read by the Operations Evaluation Department (OED) but the project was not audited by OED staff. The draft completion report was sent to the Borrower for comments; however, none were received.

PROJECT COMPLETION REPORT BASIC DATA SHEET
BOTSWANA: THIRD HIGHWAY PROJECT (LOAN 1174-B1)

KEY PROJECT DATA			
Item		Appraisal Expectation	Actual Or Current Estimate
Total Project Cost (US\$ million)		7.78	6.6 ^{1/}
Underrun or Overrun (%)			85 **
Loan/Credit Amount (US\$ million)			5.8
Disbursed		-	5.1
Cancelled		-	0.7
Repaid to September 30, 1984		-	0.9
Outstanding as per September 30, 1984		-	4.2
Date Physical Components Completed		06/30/78	07/31/82
Proportion Completed by Above Date (%)		95 ^{2/}	100
Proportion of Time Underrun or Overrun (%)		-	30 ***
Economic Rate of Return (%)		17	12
Financial Performance		-	-
Institutional Performance		Good	Fair

OTHER PROJECT DATA			
Item	Original Plan	Revisions	Actual Or Esti- mated Actual
First Mention in Files or Timetable	-	-	05/16/73
Government's Application	-	-	10/23/74
Negotiations	/ 75	/ 76, 6/75	09/08/75
Board Approval	/ 75	/ 76, 8/75	11/04/75
Loan/Credit Agreement Date			11/21/75
Effective Date			01/12/76
Closing Date	12/31/78	12/31/79, 12/31/80, 03/31/82	08/31/82
Borrower		Republic of Botswana	
Executing Agency		Min. of Works & Communications	
Fiscal Year of Borrower		April 1 - March 31	
Follow-on Project Name		Fourth Road Project	
Loan/Credit Number		Loan 1408-B1	
Amount (US\$ million)		\$20 million	
Loan/Credit Agreement Date		May 20, 1977	

Accumulated Disbursements (US\$ million)								
FY	1976	1977	1978	1979	1980	1981	1982	1983
Appraisal	2.0	5.0	5.8	5.8	5.8	5.8	5.8	5.8
Actual	0	0.4	1.5	2.9	4.1	4.5	4.8	5.1 ^{3/}
Actual as % of Appraisal	0	8	26	50	71	78	83	88

1/ Includes US\$0.44 million of additional project components.

2/ For project, as originally defined.

3/ US\$0.7 million cancelled.

** = (79% of project, as originally defined).

*** = (for project, as originally defined).

MISSION DATA					
Item	Month/ Year	No. of Weeks	No. of Persons	Manweeks	Date of Report
Identification Preparation					05/73
Preappraisal		1	2	2	09/73
Appraisal		<u>2</u>	2	<u>4</u>	01/75
Total		<u>3</u>		<u>6</u>	
Supervision 1	06/76	1.0	1	1.0	07/76
Supervision 2	06/77	1.0	2	2.0	07/77
Supervision 3	10/77	0.5	1	0.5	01/78
Supervision 4	11/78	0.5	1	0.5	01/79
Supervision 5	03/79	1.0	1	1.0	04/79
Supervision 6	08/79	0.5	2	1.0	11/79
Supervision 7	06/80	0.5	1	0.5	07/80
Supervision 8	10/81	0.5	2	1.0	12/81
Supervision 9	02/82	0.5	1	0.5	04/82
Supervision 10	02/83	0.5	1	0.5	03/83
Total		<u>6.5</u> ===		<u>8.5</u> =	

COUNTRY EXCHANGE RATES	
Name of Currency (Abbreviation)	PULA (P)
Year:	
Appraisal Year Average (1975)	Exchange Rate: US\$1 = 0.87
Intervening Years Average (1976-82)	US\$1 = 0.87
Completion Year Average (1983)	US\$1 = 1.10

PROJECT COMPLETION REPORT BASIC DATA SHEET
BOTSWANA: FOURTH HIGHWAY PROJECT (LOAN 1408-BT)

KEY PROJECT DATA		
Item	Appraisal Expectation	Actual Or Current Estimate
Total Project Cost (US\$ million)	28.03	21.15
Underrun or Overrun (%)		75 **
Loan/Credit Amount (US\$ million)		20.0 1/
Disbursed	-	17.6
Cancelled (3/83	-	0.9
(11/84		1.5
Repaid to September 30, 1984		10.7 1/
Outstanding as per September 30, 1984	-	6.9
Date Physical Components Completed	06/30/81	06/30/84
Proportion Completed by Above Date (%)	100	78
Proportion of Time Underrun or Overrun (%)	-	22 ***
Economic Rate of Return (%)	15	21
Financial Performance	-	-
Institutional Performance	Good	Fair

1/ Includes US\$10.0 million Norwegian participation

OTHER PROJECT DATA			
Item	Original Plan	Revisions	Actual Or Estimated Actual
First Mention in Files or Timetable	-	-	10/23/74
Government's Application	-	-	
Negotiations	/ /	/ /	02/22/77
Board Approval	02/ /78	/ /	04/21/77
Loan/Credit Agreement Date			05/20/77
Effective Date			08/18/77
Closing Date	12/31/81	12/31/83	12/31/83
Borrower		Republic of Botswana	
Executing Agency		Min. of Works & Communications	
Fiscal Year of Borrower		April 1 - March 31	
Follow-on Project Name		Fifth Road Project	
Loan/Credit Number		Loan 1941-BT	
Amount (US\$ million)		\$17 million	
Loan/Credit Agreement Date		February 6, 1981	

Accumulated Disbursements (US\$ million)

FY	1978	1979	1980	1981	1982	1983	1984
Appraisal	4.9	10.4	16.2	20.0	20.0	20.0	20.0
Actual 1/	0.7	4.3	8.3	13.4	15.4	16.1	17.6 2/
Actual as % of Appraisal	14	41	51	67	77	81	88

1/ US\$24.06 million for project as originally defined, including components financed by other donors.

2/ Includes US\$10.0 million Norwegian grant.

3/ For project as originally defined.

4/ A total of US\$2.4 million cancelled

** = (86% of project as originally defined)

*** = (for project as originally defined)

MISSION DATA

Item	Month/ Year	No.of Weeks	No.of Persons	Man weeks	Date of Report
Identification	01/75	0.5	2	1.0	02/75
Preparation	06/76	0.2	1	0.2	07/76
Preappraisal	-	-	-	-	-
Appraisal	09/76	2.0	3	6.0	10/76
Total		<u>2.7</u>		<u>7.2</u>	
Supervision 1	06/77	0.5	2	1.0	07/77
Supervision 2	11/77	0.5	1	0.5	02/78
Supervision 3	11/78	1.0	1	1.0	01/79
Supervision 4	04/79	1.0	1	1.0	04/79
Supervision 5	04/79	1.0	1	1.0	05/79
Supervision 6	08/79	1.0	2	2.0	11/79
Supervision 7	06/80	0.5	1	0.5	08/80
Supervision 8	02/81	0.5	1	0.5	05/81
Supervision 9	10/81	0.5	2	1.0	12/81
Supervision 10	02/82	0.5	1	0.5	04/82
Supervision 11	10/82	1.0	2	2.0	11/82
Supervision 12	02/83	0.5	1	0.5	03/83
Supervision 13	12/83	0.5	1	0.5	01/84
Total		<u>9.0</u>		<u>12.0</u>	

COUNTRY EXCHANGE RATES

Name of Currency (Abbreviation)	PULA (P)
Year:	
Appraisal Year Average (1976)	Exchange Rate: US\$1 = 0.87
Intervening Years Average (1987-83)	US\$1 = 0.87
Completion Year Average (1984)	US\$1 = 1.18

BOTSWANA

THIRD AND FOURTH ROAD PROJECTS

LOAN 1174 AND 1408-BT

PROJECT COMPLETION REPORT

HIGHLIGHTS

(i) The Third and Fourth Road Projects in Botswana included the upgrading to bitumen standard of 150 km of the North-South road, as well as 50 km of other main roads. Original project components also included a road maintenance study and its implementation, development of a labor-intensive district road maintenance program, a feeder road study and extension of road training facilities. There were significant cost savings for both projects as a result of lower than estimated construction costs, changes in exchange rates, and USAID financing of the implementation of the road maintenance study (paras. 3.39 - 3.47). Cost savings were used to finance an additional 20 km of roads, two road feasibility studies, detailed engineering of several roads, increased technical assistance for DRMP, and additional road training facilities. Additional funds were also received from NORAD for equipment costs for the district road maintenance program.

(ii) Construction of the projects' major road components was completed to a satisfactory standard, although one road was completed fourteen months behind schedule because award of the contract for construction was delayed due to staff shortages in the Roads Department (para. 3.02). These staff shortages also resulted in a one year delay in letting the contract for the road maintenance study; a further six months delay in finalizing the report meant that the study was not completed until eighteen months after the appraisal estimate (para. 3.06). Staff shortages were foreseen during project preparation but appeared to have improved by appraisal. Subsequently, the staffing situation deteriorated again. Implementation of the study's findings were delayed because of the time required for arranging USAID financing of the road maintenance program and redesign of the pilot district road maintenance program by ILO experts called in after appraisal of the Third Project (paras. 3.08 and 3.23).

(iii) The following are the two projects' major points of interest:

- (a) appraisal construction costs were overestimated by more than 30% in both projects (paras. 3.40 and 3.45); this would not have occurred if final Bank approval of both projects had been withheld until after the opening of bids. Bids for construction of the Gaborone-Molelpolole roads were not called until 15 months after Board approval of the Project;

- (b) implementation of the Fourth Road Project was seriously affected by delays in completion of the road maintenance study financed under the Third Project (para. 2.08). Notional amounts were included in the Fourth project for implementation of the study's findings (both for road maintenance and extension of the district road maintenance program), but these amounts proved to be much lower than required. This indicates the problem of including components that are only at the identification stage in the projects. It would not have been possible to complete implementation of the two components were it not for bilateral assistance provided by USAID and NORAD (para. 3.46).
- (c) additional components were included in the Fourth Road Project throughout implementation of the project for a total cost of US\$3.6 million (paras. 3.28 - 3.35). There were also three other components included at appraisal that were only tentatively identified. Therefore, a substantial part of the project was not designed at the time of preparation/appraisal of the project and only evolved during the course of project implementation. The additional components included in the two projects included a miscellaneous collection of small items. Regarding the three components only tentatively identified at appraisal, it would have been better to have delayed them until the next project in view of their poor state of preparation (para. 6.04).
- (d) during the implementation of the projects there were occasional lapses in communication between the Bank and RD (para. 6.03). These could have been avoided by:
- having Aide Memoires drafted by Bank supervision missions and approved by RD before mission departure and
 - maintaining a higher level of Bank staff continuity; turnover of Bank staff dealing with the two projects was high.

BOTSWANA

THIRD AND FOURTH ROAD PROJECTS
(LOANS 1174 AND 1408-BT)

PROJECT COMPLETION REPORT

I. INTRODUCTION

1.01 At independence in 1966, Botswana had about 430 km of all-weather roads which mainly served the eastern corridor of the country - the area where 75% of the population lived. By 1975, the all-weather road network had expanded to about 1000 km and the length of bituminous-surfaced roads had increased from 26 to 150 km. The Bank Group had assisted with the development of the road network through two credits for the First and Second Road Projects (Cr. 63-BEC and Cr. 303-BT) and one loan for an infrastructure project with a road component^{1/}. By 1975, the Government was proceeding with an ambitious five-year road plan to construct or upgrade a further 1112 km of trunk and main roads, including improvement of the remaining 780 km of the North-South road to bituminous standard. The Third and Fourth Road projects included the upgrading to bituminous standard of 150 km of the North-South road, as well as 50 km of other main roads. External assistance for the North-South road was also forthcoming from the UK's Overseas Development Ministry (ODM), Germany's Kreditanstalt fur Wiederaufbau (KfW), the Danish International Development Agency (DANIDA), the Canadian International Development Agency (CIDA), the Norwegian Agency for Development (NORAD), and the US Agency for International Development (USAID).

1.02 The rapidly expanding road network had put considerable pressure on the Roads Department (RD) of the Ministry of Works and Communications (MWC) and Central Transport Organization (CTO). There was insufficient staff for the increasing workload and available staff were poorly trained. The CTO had insufficient maintenance equipment to hire out to RD particularly the Maintenance Department, and was not able to maintain the little equipment that there was. Therefore, the Third and Fourth Road Projects included components to improve road maintenance and the training of RD staff. Both projects also included components for developing a road maintenance capacity for the district roads, which were mainly earth/sand roads that received little, if any, maintenance. Improved district road maintenance was regarded as essential if Government policy to foster agricultural development was to be realized.

^{1/} Sashe Infrastructure Project (Ln. 776-BT), June 1971 and June 1974.

II. PROJECT PREPARATION, APPRAISAL AND APPROVAL

A. Third Road Project

Preparation

2.01 The Third Road Project was first discussed in early 1973, but at that time there was only US\$2.0 million available in the lending program for a road project. Nevertheless, the Bank decided to go ahead with preappraisal in November 1973 with a project to include the upgrading of the Gaborone-Molepolole road to paved standard. This 52 km two-lane earth and gravel road linked Molepolole, the administrative and commercial center of Kweneng District, with the capital, Gaborone. RD was carrying out the detailed engineering although no feasibility study had been carried out. However, the Bank mission estimated an economic rate of return for the road based on preliminary cost estimates and traffic counts obtained from the Planning Unit of MWC. Given that traffic ranged from 200-330 vehicles per day (vpd) for different sections of the road, the estimated economic rate of return appeared to be reasonable.

2.02 At the Bank's Annual Meetings in September 1973, the Botswana Government requested that upgrading of the Mahalapye-Serule section (150 km) of the North-South road also be included in the Third Project. The Government was giving high priority to this section since it was the last part of the Gaborone-Nata road for which financing was not yet available. The Government was also anxious to complete the road before the 1973 oil embargo on the Republic of South Africa (RSA) affected Botswana's oil supplies. The sense of urgency was such that the Government was prepared to finance the feasibility study and detailed engineering out of its own funds. However, including the Mahalapye-Serule Section in the project would have delayed project preparation and implementation because of the additional time required for the detailed engineering of the Mahalapye-Serule Section. Hence the Bank suggested to go ahead with the Third Road Project as originally discussed and to include the Mahalapye-Serule Section in the Fourth Project. The Government agreed to this approach, in particular as the urgency to upgrade the Mahalapye-Serule Section had diminished because the oil embargo had turned out to be less effective than anticipated.

Appraisal

2.03 The project as originally defined was appraised in January 1975 by which time the amount available for the project in the lending program had been increased to US\$8.0 million. During appraisal, the Government requested that maintenance equipment be financed under the project, but the appraisal mission insisted that a road maintenance study was first required to determine equipment and other needs. The appraisal mission was particularly concerned with the poor performance of the CIO, which was responsible for the allocation and maintenance of all plant and vehicles for central Government ministries and agencies, including RD's Maintenance Branch. Inadequate facilities, shortage of skilled staff and poor equipment management procedures resulted in a low 30% equipment availability rate, which seriously hampered road maintenance operations. The mission suggested that if another agency financed the National Transport Plan which was already included in the project, there would be sufficient funds to include a Road Maintenance Study in the project.

Shortly after the appraisal, Government found alternative financing for the Transport Plan and the maintenance study was included. No assistance for CTO was provided in the project, since CIDA had already agreed to provide technical assistance to CTO to review the organization and draw up an improvement program. However, a covenant was included in the Loan Agreement to ensure that an acceptable program to improve CTO was drawn up and that implementation of the program would be carried out (para. 4.02).

2.04 In 1973, the Government had proposed that the project include a component to develop a road maintenance capacity for the Central District. In theory, the districts had responsibility for district road maintenance, but in practice little maintenance was carried out because of the lack of equipment and funds and no trained staff. The appraisal mission studied the Government's proposals and concluded that different maintenance techniques should be tested, including labor and capital-intensive methods. Therefore, preparation of a pilot program to determine the most appropriate blend of equipment and labor was included in the Road Maintenance Study. The project also included financing of two maintenance units to implement the pilot program. The whole program was to be implemented by the Ministry of Local Government and Lands (MLGL), since it was responsible for district councils.

Negotiations and Board Approval

2.05 The loan was negotiated in September 1975 with no major issues. By the time of Board Presentation in November 1975, the project cost had dropped from US\$7.76 to US\$7.38 because of the devaluation of the Rand against the US dollar. The Bank's loan was correspondingly reduced from US\$6.0 to US\$5.8 million, representing 78% of total project costs and 92% of the foreign exchange component.

B. Fourth Road Project

Preparation

2.06 The Fourth Road Project quickly followed the Third Project, with only ten months between Board approval of the Third and appraisal of the Fourth. The feasibility study for the Mahalapye-Serule road, carried out by Sir Alexander Gibbs, had begun in 1974 when the Government was anxious to include the road in the Third Project (para. 2.02). The study was completed in July 1975 and found that the economic rate of return for the road was 19%. Detailed engineering, which was financed under the Third Road Project (para. 3.05), was substantially completed by September 1976.

Appraisal

2.07 During appraisal, the Government requested that the Bank also finance the upgrading of six km of road from Francistown to the industrial estate at Dumela. The appraisal mission suggested that the Government request KfW financing since the road could be considered as a continuation of the Francistown-Serule road which was being financed by KfW and was soon to go to tender. The Government and the appraisal mission finally agreed that if KfW financing was not forthcoming the Bank would finance the road, but only if the work was included as a variation order to the

Francistown-Serule contract. On the mission's return to Washington, this arrangement was rejected by the Bank on the grounds that KfW would have to conform to Bank procurement rules and, even if possible, might increase unit prices of the contract. KfW was therefore requested to finance the road, to which it agreed in November 1976.

2.08 Implementation of the recommendations of the Road Maintenance Study financed under the Third Project were to be included in the Fourth Project. However, by the time of appraisal of the Fourth Project in September 1976, the Maintenance Study had not even started (para. 3.06) so that notional amounts of US\$1.15 million were included in the project for both the implementation of the findings of the Road Maintenance Study and extension of the pilot District Roads Maintenance Program (DRMP). In addition, a notional amount of US\$0.23 million was included for preparation of a Fifth Road Project (although no road project was included in the lending program). A small amount was also included for the purchase of equipment for RD's Training School. By the time of the Decision Meeting in October 1976, the notional amount allocated for the preparation of a Fifth Road Project had been reallocated to the preparation of a feeder roads program, which was to form part of a larger Rural Development Program which was only at a very early identification stage.

2.09 Total project costs estimated at appraisal were US\$24.02 million, substantially higher than expected because of an increase in construction cost estimates. Therefore, the Bank increased the loan amount from US\$14.0 to US\$18.0 million to finance 75% of project costs. The poor performance of CIO was still a major issue because of the short time between the two projects and because the CIDA-financed team had only just begun to implement its program to reorganize CIO and improve operations. In view of the uncertainty, the Bank decided to make improved performance of CIO (including a satisfactory vehicle and equipment availability rate) a condition of disbursement for road maintenance equipment. Another important issue raised at the Decision Meeting was the serious shortage of professional staff within RD. The Government did not accept the Bank's suggestion that loan funds be used to "top up" expatriate salaries to make the positions more financially attractive and the Bank did not insist on this point, since by appraisal the staffing situation had somewhat improved with the arrival of more expatriate staff. The only other issue raised at the Decision Meeting was the marginal economic rate of return of 12% and low first year rate of return of 10% for the Mahalapye-Serule road. The drop in the rate of return was the result of the increase in construction cost estimates since the feasibility study and the downward revision of some benefits. However, by Board presentation in April 1977 the reestimated rate of return was 15% (despite a 9% increase in costs (para 2.10) over appraisal estimates) because the consultants had increased their estimates of vehicle operating costs (VOC). The extent to which the increase was justified is difficult to evaluate, given the subsequent different basis for estimating VOC (using the HDM).

Negotiations

2.10 By October 1976, cost estimates were again increased to reflect higher than expected unit prices of bids on the Francistown-Serule road, bringing total project costs to US\$26.35 million. Subsequently, the Bank agreed to the Government's request during negotiations to increase the loan amount from US\$18.0 to US\$20.0 million, covering 92% of foreign exchange

costs. The Government hoped to obtain bilateral financing for the pilot DRMP and sought assurances from the Bank that if this should occur, the DRMP funds could be reallocated to other categories to cover 100% of foreign costs. The Bank agreed to consider Government's request nearer the time. The Bank also agreed to Government's request to include an additional US\$45,000 for an additional classroom building for the RD Training School. The Government made strong representations during negotiations to substitute a study of feeder roads in the Tuli Block for the feeder road study already included in the project. (The Tuli Block is a farming and livestock area lying adjacent to the eastern border with South Africa.) However, the Bank was adamant that the funds allocated should be reserved for a study of feeder roads that would form part of a rural development program. Nevertheless, the Bank agreed to consider the Tuli Block study should there be cost savings from the supervision of construction contract, as anticipated by Government.

2.11 The Government delegation expressed strong reservations about the covenant requiring the Borrower to consult annually with the Bank on its proposed budgetary allocations for road maintenance. They were concerned that the covenant could lead to internal conflicts between MWC and the Ministry of Finance and Development Planning (MFDP) during the preparation of annual budgets, depending on the Bank's reaction to the level of the proposed budget. In order to alleviate some of the Delegation's concerns, the wording of the covenant was amended to avoid reference to "proposed" budgetary allocations (which gave a timing connotation) and instead required that budgetary estimates and expenditures for road maintenance be discussed annually with the Bank.

Board Approval and Changes in Project Financing

2.12 The loan was approved by the Board in April 1977. Shortly after, both OPEC and the Norwegian Government expressed interest in co-financing the project. OPEC was willing to provide US\$1.0 million and agreed to finance the supervision of construction contract on a parallel financing basis, after declining to finance part of the construction contract because of the possibility that the contractor would be South African. The Norwegian Government offered US\$10.0 million and agreed to Botswana's request to finance all of the local costs, net of taxes, amounting to US\$5.0 million. Problems arose with the disbursement arrangements since Norway wanted the Bank to administer the loan, including the financing of local costs. Eventually, an agreement was reached on the participation of Norway in the loan, with an annual amount to be deposited by the Norwegian Government in a special non-interest bearing account with the Bank of Norway in the name of the Bank. The Bank would then withdraw funds as needed for withdrawals by the Borrower from the loan account or to reimburse the Bank. The agreement between the Bank and the Norwegian Government was not finalised until May 1978 because of the delay in agreeing on disbursement procedures.

Project Objectives and Description

2.13 The objectives of both projects were to assist Government to develop the road network (particularly the completion of the improvement of the North-South road), plan and organize main and district road maintenance, strengthen RD, and enforce vehicle weight and dimensions legislation. The projects included the following components:

Third Road Project

- (i) upgrading to paved standard of the Gaborone-Molepolole road (52 km);
- (ii) consultant services for:
 - (a) supervision of construction of (i);
 - (b) detailed engineering of the Mahalapye-Serule road (150 km);
 - (c) a Road Maintenance Study;
- (iii) pilot District Roads Maintenance Program;
- (iv) strengthening of Roads Department:
 - (a) staff training;
 - (b) soils and materials laboratory equipment;
- (v) weighbridges and loadometers.

Fourth Road Project

- (i) upgrading to paved standard of the Mahalapye-Serule road (150 km);
- (ii) consultant services for:
 - (a) bid evaluation and supervision of construction of (i);
 - (b) preparation of a feeder roads program as part of a larger rural development program;
- (iii) implementation of findings of Road Maintenance Study;
- (iv) extension of pilot District Roads Maintenance Program to two additional districts;
- (v) construction of classroom building and equipment for Training School.

III. PROJECT IMPLEMENTATION AND COST

3.01 There were no special conditions or delays in effectiveness of either of the two projects. The date of effectiveness for the Third Project was January 12, 1976 and for the Fourth Project, August 18, 1977.

A. Implementation of the Third Road Project

Construction of Gaborone-Molepolole Road

3.02 Bids for the construction contract were called in December 1976, one year later than scheduled and 15 months after Board presentation. This delay was mainly the result of the shortage of staff in RD (para. 4.04), which resulted in delays in approval of the tender documents. Bids were opened in February 1977; a South African contractor was selected but the contract was not signed until July 1977, again because of staff shortages in RD. Actual construction began in July 1977, fourteen months behind schedule.

3.03 The contract was due to be completed by October 1978 but the road was not substantially completed until June 1979, eight months behind the contract schedule. Four months of this delay was due to an extension of the contract required because of greater than estimated earthworks and abnormal rainfall in 1978, as well as minor extensions because of the inadequate supply of water in Molepolole due to Government delay in moving an existing water line and work outside the original scope of the contract. The remaining four months overrun was the result of contractor delays. By May 1978, only 25% of work had been completed in 56% of the contract period: in June 1978, the Chief Roads Engineer wrote to the contractor to express grave concern over the slow rate of construction progress. Reasons for slow progress were insufficient equipment to carry out the work, poor state of repair of much of the equipment and the closing down of site operations twice monthly for long weekends when construction was already far behind schedule. Finally, the contractor's financial problems led to the take-over of the firm by a larger construction company in February 1979, from which time progress substantially improved. Liquidated damages paid by the contractor for the delay amounted to US\$58,000. The road was to be repaired by the contractor during the maintenance period. A contract for additional drainage works in Molepolole was awarded to a contractor registered in Botswana in December 1981 at a cost of US\$120,000. This work was satisfactorily completed in mid-1982.

3.04 Supervision of construction was carried out by American consultants. At the time of contract negotiations in November 1976, the Bank considered that the consultants' estimates of 83.5 man-months for supervision was excessive for a 15-month construction contract. Subsequently, the amount of expatriate man-months was reduced, but even with the resulting reduction in costs the total cost of the consultant's contract was still 42% higher than estimated at appraisal. Final costs were even higher because of the longer construction period. The consultants provided close supervision of the contract and held many meetings with the contractor's representatives to try to resolve the problems of slow construction progress.

Detailed Engineering Mahalapye-Serule Road

3.05 The contract for the detailed engineering of the Mahalapye-Serule road was awarded to a British consulting firm. Work began in February 1976 and was satisfactorily completed on schedule in December 1976.

Road Maintenance Study

3.06 Consultants for the Maintenance Study were shortlisted in November 1975, but invitations for proposals did not go out until June 1976 because RD did not have sufficient staff to evaluate proposals (para. 4.04). The study was awarded to a joint venture of Danish and British consultants. Work finally started in February 1977, over one year behind schedule. The draft report was completed by September 1977, but the final report was not issued until May 1978, 18 months later than estimated at appraisal. The delay was partly due to the protracted time (8 months) taken by the consultants to incorporate the comments of the Government and the Bank into the report.

3.07 The study can be divided into two parts - (a) recommendations for improving maintenance of the main road network, and (b) preparation of the pilot DRMP. A five-year program was drawn up for the maintenance and improvement of the main road network. The report also contained recommendations on gazetting and degazetting of roads, a task system for maintenance workers to improve productivity, an accelerated program of localization of Maintenance Branch staff, a plant hire scheme, improved cost accounting, mechanical workshop improvements, maintenance vehicle and equipment requirements, and more use of private sector workshops for repair and maintenance of vehicles and equipment. While RD endorsed the latter recommendation, CIO strongly disagreed with it, claiming that with extra facilities and more time the performance of CIO would improve (para 4.06). RD disagreed with the consultants recommendations that all periodic maintenance continue to go out to contract since RD wanted to build up a force account periodic maintenance capacity which it has proceeded to do. Subsequently, the Bank agreed to RD's request to include the purchase of equipment for two regravelling for account units under the Fourth Road Project, although this was eventually financed by USAID (para. 3.23). The whole problem of poor relations between RD and CIO was not addressed by the consultants in the study, which only recommended that relations "should be improved". The poor relations stemmed from RD's frustration with continued poor performance of CIO and what was perceived as lack of cooperation.

3.08 Pilot DRMP. The consultants recommended a labor-intensive improvement and maintenance program for 370 km of district roads in the Central District. However, the extent to which the program would be replicable in other districts was seriously questioned by the consultants, given the greater administrative, materials, equipment and other resources of the Central District compared to others. Such doubts were criticised by both the Government and the Bank who considered that the program could hardly be a pilot one if it could not be replicated elsewhere, although there was still the problem of the much lower population densities of other districts. Consequently, it was possible to extend the program to other districts (para 3.24). Overall, the Government found that the design of the pilot program needed revisions. The Bank therefore agreed with the Government that an individual be recruited immediately to establish one maintenance unit to test labor-intensive methods and other appropriate levels of technology, if necessary. The expert would be responsible for

drawing up proposals for the appropriate composition and requirements of the pilot unit, rather than accepting the Maintenance Study's recommendations on the pilot program. RD requested both the Bank and ILO for assistance with recruiting a suitable expert for the pilot DRMP and ILO responded in mid-1978 by providing an experienced engineer to review the program's needs.

3.09 The program submitted by ILO in April 1979 was considerably larger than the one recommended in the Maintenance Study and envisaged at appraisal, with estimated costs over three times the notional sum included at appraisal. The program included the selective betterment of roads and substantial technical assistance. The Bank was to finance 84 man-months of technical assistance for a total cost of US\$0.60 million, while the equipment and all local costs were to be financed by NORAD for a total cost of US\$0.50 million. The Bank was concerned that the program was far too large and that the technical assistance requirements were excessive, given the experience already accumulated in Kenya and other countries with labor-intensive techniques. However, ILO insisted on retaining all technical assistance but agreed that the Project Manager would review expatriate staffing requirements on arrival. The Bank agreed to this and signed an agreement with ILO in September 1979.

Implementation of the Pilot District Road Maintenance Program

3.10 The program eventually started in January 1980, three years later than estimated at appraisal, and was completed by July 1982, four years later than scheduled. During 1980, various techniques were tried on experimental sections of roads and by May 1981 a full pilot program had begun. Overall, the pilot program proved successful in developing labor-intensive methods for the selective betterment and maintenance of roads. Altogether, 35 km of roads were improved and 100 km of bush clearing was carried out between May 1981 and June 1982, all by labor-intensive methods. The original concern over the availability of labor proved unfounded, for no problems with recruiting labor were encountered. This was despite a daily wage rate of P2.10, 48% less than the public sector minimum wage (a special dispensation had been given by the Cabinet to allow the program to pay the lower rate). Productivity did not appear to suffer, being on a par with other countries where labor-intensive methods had been introduced. Efforts were made to foster the local production of tools, but most locally manufactured tools proved to be of inferior quality with the exception of donkey carts manufactured for the program.

3.11 The pilot program's estimate of the direct costs of spot improvements are US\$1140/km and for roads requiring a higher level of betterment US\$1880/km. Indirect costs, excluding technical assistance, are an additional US\$1550/km. Technical assistance costs have not been included because such costs are considered to have longer term training and institution-building benefits.

Staff Training for RD

3.12 Funds allocated under the loan for scholarships for RD trainees abroad were not utilised, since scholarships were provided by USAID.

Soils Laboratory Equipment

3.13 Soils and materials laboratory equipment as agreed at appraisal was delivered in 1976. In 1982, the Government requested that the Bank finance an additional US\$0.25 million of equipment for the new laboratory which had been financed under the Fourth Road Project. The Bank agreed and the equipment was purchased and delivered by March 1983.

Weighbridges and Loadometers

3.14 Three weighbridges and 12 loadometers were purchased and procured by October 1976. However, when the first weighbridge was installed it was found to be far too sensitive, requiring constant adjustments of the scales and intensive maintenance. During the rainy season it was virtually inoperable due to moisture intrusion. RD proposed to the Bank that eight sets of semi-portable weighbridges designed for conditions similar to those of Botswana be purchased with savings from other project components for a total cost of US\$0.13 million. The Bank agreed and the weighbridges were delivered and installed by mid-1982 and appears to be operating efficiently and effectively. The Bank also agreed to RD purchasing 24 automatic traffic counters to improve collection of traffic data for a cost of US\$20,000.

Feasibility Study and Detailed Engineering of the Dumela-Ramokgwebana Road

3.15 In 1978, the Government requested that the feasibility study and detailed engineering of the Dumela-Ramokgwebana road be financed with cost savings under the loan. The road led to the border with Zimbabwe and was considered necessary because of the extra traffic expected to be generated when Zimbabwe became independent and lifted restrictions on traffic crossing the border. The Bank agreed and a firm of British/South African consultants were selected to carry out the feasibility study in January 1979. The study was completed by November 1979 and showed that paving the road was economically justified for 47 of the 76 km of road up to the border if restrictions on traffic crossing the border were not lifted. However, if the restrictions were lifted, paving of a further 18 km would be marginally justified. Detailed engineering of 65 km of the road was awarded to another UK firm; an additional 10 km to the Zimbabwean border was included at a late stage in the study. The work was satisfactorily completed by October 1980 and the road was later constructed under the Fifth Road Project (Loan 1941-BI).

Project Revisions

3.16 An amendment to the Loan Agreement (Annex 1) was approved in June 1978 to include the feasibility study and detailed engineering of the Dumela-Ramokgwebana road, additional weighbridges and traffic counters. The total and foreign cost estimates for the project were revised downwards, mainly because of cost savings for construction of the Gaborone-Molepolole road. This meant that the Bank could finance 100% of the foreign costs as opposed to the original 92%, even with additional components included in the project.

B. Implementation of the Fourth Road Project

Construction of the Mahalapye-Serule Road

3.17 The contract for the construction of the Mahalapye-Serule road was awarded to the lowest bidder, an Italian contractor, in November 1977, three months behind the appraisal schedule. During the first half of the contract, delays were encountered because of the contractor's difficulties in organising the construction works, problems with compaction and level control of the base course, and technical problems with new chip spreaders. Continuity of works also suffered from a large turnover of expatriate staff and delays in arrival of replacements (partly due to the length of time it took to process residence/work permits). None of the above problems were apparent during prequalification. Attempts to rectify the situation were hampered by strained relations between the contractor's agent and the consultant's supervision staff. However, after the replacement of the agent with another contract manager in May 1979 construction progress and contractor/consultant relations improved significantly. The road was completed to a satisfactory standard by September 1980, three months behind schedule. On completion of the road, the contractor put in claims for poor weather, additional works and other items amounting to US\$2.50 million, the majority of which were rejected by the supervising consultants. Subsequently, after negotiations the contractor and the Government agreed in 1982 to a settlement of US\$1.20 million for all claims.

3.18 Construction supervision was awarded to the same consultants who had carried out the feasibility study; their performance was satisfactory.

Feeder Road Study

3.19 The project included a feeder road study to be carried out after the Ministry of Agriculture had prepared an Arable Land Development Program, so as to ensure coordination of rural road and rural development programs. However, progress was very slow so that by 1980 rural development areas had still not been identified by the Ministry of Agriculture, nor was there any sign of the program beginning in the near future. Therefore, MWC decided to go ahead with first phase of a study to identify 1000 km of feeder road priorities; the second phase was too include an in-depth study of the technical and economic feasibility of upgrading those roads. The study was awarded to a firm of British consultants and work was started in March 1980, one year later than scheduled at appraisal.

3.20 The first phase of the study was completed by August 1980. The consultants studied 4000 km of roads and, using simple economic and social criteria, identified 1000 km for further study in Phase 2. RD was under the impression that the 1000 km had been agreed to during a Bank supervision mission, especially since 1000 km had been included in the TOR for the second phase of the study. However, subsequently the Bank recommended that 500 km be included in Phase 2 because only this amount appeared to be economically justified for further study. The Bank also objected to the inclusion of main roads in the list of feeder roads to receive further study, although in Botswana the majority of main roads were of the same class as feeder roads and had low traffic levels and road influence areas with low population densities. However, the Government

insisted on including 1000 km in Phase 2 because of its strong commitment and perceived contractual obligation to study this amount; the remaining 500 km were therefore financed out of local funds.

3.21 The major problem with Phase 1 was that the consultants used a methodology more appropriate to Phase 2 for selecting the roads to be studied. This methodology should have been discussed with the Bank at the beginning of Phase II. Simple criteria should have been developed for identifying road priorities in Phase 1 as suggested in guidelines for the study sent to the Government by the Bank after receiving the terms of reference. A more detailed economic analysis could then have been carried out as part of Phase 2. In addition, the TOR for Phase 2 seem to have been interpreted to include only studying the feasibility of upgrading roads to gravel or bitumen standard, rather than studying improvement of the roads to a lower standard. Instead of recommending improvements to the methodology of the study, the Bank tried to make the Government abide by the findings of Phase 1. Significantly, after the study was completed in 1981 the Bank agreed to finance the preparation of a spot improvement program for the 900 km of roads not economically justified for upgrading to a higher standard, which was the original intention of the study. Confusion over the study stemmed from the turnover of Bank staff working on the project (para 6.03) and an ambiguous set of TOR. Phase 2 found that only three roads were economically justified for upgrading to bituminous standard after the design standards were reduced on the advice of the Bank. These were:

Maun-Shorobe	35 km
Mochudi-Sikwane	40 km
Pitsane-Good Hope	27 km

3.22 The Bank agreed in early 1982 to finance the detailed engineering of the above roads with cost savings from other components. The detailed engineering, which was awarded to three different consultants, was completed by September/October 1983.

Implementation of Road Maintenance Study

3.23 Implementation of the Road Maintenance Study was not ready to start until mid-1978 when the Maintenance Study was finalized (para. 3.06). However, USAID offered to finance the maintenance program with US\$6.0 million of grant funds, so that no Bank funds were required. Implementation of the program began in early 1980, one year later than estimated at appraisal. It included maintenance equipment and technical assistance for RD and CTO, including one maintenance engineer, one cost accountant and two mechanical training officers. The program was completed by the end of 1983, 18 months later than estimated at appraisal. The performance of RD's Maintenance Branch was improved after reorganisation and the installation of a cost accounting system. Performance certainly benefitted after the delivery of US\$4.87 million of vehicles and equipment and the secondment of CTO mechanics to road maintenance depots. Overall, coordination between RD and CTO improved with different personnel and equipment availability rates increased, due in large measure to the new equipment. However, problems still exist with CTO's inventory control and the timing and processing procedures for the procurement of spare parts. Also, vehicles were not replaced as scheduled in 1982 because of cutbacks

in recurrent funds resulting from the Government's poor budgetary situation.

Extension of DRMP

3.24 The pilot project for DRMP was not completed until mid-1982 (para. 3.10), nearly three years later than estimated at appraisal. Serious consideration was given to deleting the extension of the program from the project, since the Closing Date was originally set for December 1981. However, in order that other project components could be completed the Closing Date was extended to December 1983, so that the extension of DRMP was kept in the project. The contract for the ILO technical assistance team for the extension of the program to other districts was signed in September 1982; the team consisted of one technical adviser, one civil engineer, one training adviser, and one training officer. In addition, SIDA financed the post of district roads engineer with responsibility for DRMP and other rural road programs within MLGL. NORAD continued to finance all equipment and local costs of the program (para. 3.10). By end-1983, three additional DRMP units had been established in Central, Ghanzi and North East districts and there were also plans to establish two more in North West and Kgatleng districts in 1984. Training of gang leaders, technical assistants and officers has been highly successful.

3.25 This phase of the program was scheduled for completion by end-1986, but the Closing Date for the project remained December 1983. Consequently, the Government requested additional funds for the rest of the program from either cost savings under the Fifth Road Project or from a future road project. The Bank was not able to grant this request since the technical assistance services proposed for financing were different from and additional to those appraised in the Fifth Road Project (which also had a Closing Date of October 1984) and the uncertainty as to whether there would be another road project. However, on an exceptional basis, the Bank agreed to continue to process withdrawal applications for DRMP until June 1984, six months after the Closing Date. Thereafter, NORAD agreed to pick up the technical assistance costs, in view of its already deep involvement in the program.

Training

3.26 During appraisal no training specialist from the Bank had visited Botswana to review the RD training program. However, a Bank training specialist was sent out in June 1979 to discuss with the Government the role of the RD Training Center and the development of a new curriculum, including a course for road technicians. The Bank and the Government subsequently agreed to expand the Training Center from the three classrooms and office space envisaged at appraisal to include applied science and soils and materials laboratory facilities, additional classroom space and hostel facilities. British consultants were appointed to prepare detailed plans and bid documents. The appraisal envisaged that works would be carried out by force account because of lack of local contractors to carry out such a small contract, but the Bank later agreed to Government's request to contract out the work because of the expanded size of the contract. The contract was awarded to a local company after local competitive bidding; work began in late 1979 and was satisfactorily completed in September 1980.

3.27 In 1982, the Bank agreed to Government's request to finance yet another extension of the Training Center with cost savings from other project components. A further extension of hostel and kitchen facilities was necessary because RD had undertaken the additional responsibility of training staff for DRMP (although theoretically the responsibility was that of MLGL). The extension was designed by consultants and the contract was awarded to a local firm in October 1983 after local competitive bidding. After considerable delays, the work was satisfactorily completed by October 1984. Despite the doubling of funds allocated to training equipment in 1978 (para. 3.39), no equipment was procured under the project because of availability of funds from bilateral donors. Because of the shortage of staff at the Training Center, additional assistance was provided in 1981 under the Fifth Road Project for training of instructors.

Additional Project Components

3.28 Tuli Block Road Study. When the contract for the supervision of construction of the Mahalapye-Serule road was let in May 1977, the Government immediately followed up on its request made at negotiations (para. 2.10) to use cost savings from the supervision of construction contract for a study of roads in the Tuli Block area. The Bank only agreed to the study once the bids for construction of the Mahalapye-Serule road had come in well under the estimated cost (para. 3.45). The study, awarded to a joint venture of two firms from USA and Botswana, commenced in January 1979 and was completed by November. The main objective of the study was to identify roads which would provide improved access for produce from the Tuli Block area to the main centers of population in Botswana. The Tuli Block is an area of large freehold farms and subsistence agriculture; it had good agricultural potential for both irrigated and dryland farming, but little development had taken place during the last ten years.

3.29 The study found that upgrading of several roads to paved standard for varying widths of 3.7 - 6.0 meters was economically justified, provided that an optimistic scenario for agricultural development was assumed. However, if no change in agricultural development was to take place then upgrading of only one road was economically justified. Based on the optimistic agricultural scenario, the Bank agreed to finance the detailed engineering of three roads to paved standard:

Selebi Phikwe - Sefophe	23 km	6.0 m wide
Palapye - Martin's Drift	100 km	4.5 m wide
Mahalapye - Macheneng	96 km	3.7 m wide

The same joint venture carried out detailed engineering for the first two roads and the third road was awarded to another firm of South African consultants. Work began in February 1980 and was satisfactorily completed by early 1981. In mid-1980, the Bank agreed that detailed engineering for the seven km access road to the Selebi Phikwe Airport could be added to the Selebi Phikwe - Sefophe contract. This road, along with the airport access road, was included for construction in the Fifth Road Project. However, the other two roads were not included because the Bank's 1980 agricultural sector mission found that the optimistic scenario for agricultural development in the Tuli Block area was unrealistic. The study also recommended spot improvements for several hundred kilometers of roads, 149 km of which were included in the Fifth Road Project.

3.30 In 1983, the Bank agreed to finance a more detailed investigation of water availability for two of the three roads in the Tuli Block area for which detailed engineering was complete. This arose because of the difficulties ongoing road projects were having in obtaining water, with the likelihood of claims resulting. Under the Department of Water Affairs a consulting firm registered in Botswana successfully carried out the drilling work, which was completed in early 1984.

3.31 Gaborone-Tlokweng Border Gate Road. In 1978, the Government requested that detailed engineering and construction of the Gaborone-Tlokweng Border Gate road be financed under the project with cost savings from the Mahalapye-Serule road. Tlokweng Border Gate is situated on the border with RSA, 17 km east of Gaborone, and is a popular crossing point. After MWC provided the economic justification for improving the road from a temporary sand seal to a double bituminous surface dressing standard on a new basecourse, the Bank agreed to inclusion of the road in the project. Detailed engineering, carried out by British consultants, began in mid-1979.

3.32 The consultants soon found that the existing base was much stronger than originally thought; consequently, RD changed the TOR so that Phase 1 would look at various pavement design alternatives and the optimum time of construction. On the instructions of RD, the consultants proceeded with Phase 2, which included further deflection tests on the road and detailed engineering for the whole road on the basis that the road would need a new base course some time in the future. Only when a supervision mission visited Botswana in June 1980 did the Bank realize that work had proceeded so far; evidently, RD had not received a Bank telex sent in January objecting to the changes in the TOR, including the deflection tests and plans for Phase 2. As detailed engineering was so far advanced the Bank agreed to its completion. The Bank and the Government agreed that only resealing, fencing and some drainage works would need to be financed under the project, since this would be sufficient to delay reconstruction of the road for at least another three years. Separate contracts for resealing and fencing were awarded in March 1981 after local competitive bidding; the work was satisfactorily completed by late 1981.

3.33 In mid-1981, Government submitted proposals for more works on the road, including extensive drainage works. The Bank objected to these proposals, arguing that such works could be carried out when the road was reconstructed. An acrimonious exchange of telexes and letters followed, for RD had been under the impression that the drainage works had been agreed to in principle by the Bank in June of 1980 and in February 1981 when a Bank supervision mission had not raised any objections to the works. Finally, the Government's proposals were accepted by the Bank in December 1981, after RD had demonstrated to a supervision mission consisting of different Bank staff the necessity for drainage works if existing road works were to be protected. The work was locally tendered and started in January 1983 and satisfactorily completed in November 1983, four months later than scheduled. Supervision for all the contracts was satisfactorily carried out by the same consultants who carried out the detailed engineering.

3.34 Confusion also arose over whether the Bank had approved detailed engineering and construction of the Tlokweng village road, requested by Government in early 1981 during a Bank supervision mission. After a

lengthy exchange of telexes, the Bank eventually agreed to consider Government's request after submission of an economic evaluation for upgrading the three km road to paved standard. MWC provided the economic justification in November 1982, when the Bank agreed to the road's inclusion in the project. Detailed engineering was completed in mid-1983 by the consultants who worked on the Tlokweng Border Gate road. The consultants were retained for supervision of construction, which was awarded to a local contractor in accordance with local procurement procedures. International competitive bidding had been stipulated in the Loan Agreement but the Bank agreed, on an exceptional basis, to local procurement procedures because of the relatively small contract amount. Work was satisfactorily completed by February 1984.

3.35 Technical Assistance for RD In mid-1978, Government requested that the project include the financing of consultants to fill short term vacancies within RD. The staffing situation had deteriorated during 1978, with large time lags between the departure of expatriate staff and arrival of replacements. The Bank was not enthusiastic about financing consultants for staff positions, but realised the difficulties of filling vacancies with expatriate staff. It therefore agreed that, while Government was searching for long-term expatriate staff, temporary use could be made of consultants for a maximum term of nine months for any one position. Consultant services amounting to about US\$0.34 million have been financed under the project; this has included the provision of temporary staff for the Training Center, the secondary road improvement program, supervision of regravelling works, design and supervision of construction of road depots and the Central Materials Laboratory (financed under the Fifth Road Project), a gravel survey for periodic maintenance requirements for the Nata-Maun road, and training of local staff in maintenance procedures for weighbridges. On the whole, costs have tended to be low because of the selection of consultants with local offices.

Project Revisions

3.36 The project was first revised in November 1978 (Annex 2), following the lower than estimated cost for construction and supervision of the Mahalapye-Serule road (paras. 3.45-46) and the participation of NORAD and OPEC in the financing of the project (para. 2.12). Total project costs were estimated at US\$21.0 versus US\$26.0 million estimated at appraisal. This revised estimate included additional project components - construction of the Gaborone-Tlokweng Border Gate road, feasibility study and detailed engineering of the Tuli Block roads and technical assistance for RD. Additional funds were also provided for implementation of the Road Maintenance Program (US\$2.1 million compared to the appraisal estimate of US\$1.0 million) and more equipment for RD's Training Center (US\$0.7 million compared to the appraisal estimate of US\$0.3 million). Disbursement percentages were also changed to reflect the Norwegian financing of local expenditures.

3.37 Schedule 1 of the Loan Agreement was changed again in September 1981 so that funds could be reallocated from the unallocated category to cover contingencies for the civil works cost of the Mahalapye-Serule road. In March 1983, the project was revised again (Annex 3) to reallocate loan funds of US\$2.1 million that had not been used for the Road Maintenance Program because of USAID financing (para. 3.23) and US\$0.7 million that had not been used for training equipment and vehicles because of financing from bilateral sources (para. 3.27). Additional project components were

included in the amendment to the Loan Agreement, including detailed engineering, supervision and construction of the Tlokweng village road, additional costs of detailed engineering and supervision of construction of the Gaborone-Tlokweng Border Gate road, detailed engineering for three feeder roads, expansion of RD's Training Center and investigation of water availability in the Tuli Block area. Additional funds also had to be reallocated from the unallocated category to cover further cost increases on the Mahalapye-Serule road (para. 3.17) and additional works on the Gaborone-Tlokweng Border Gate road (para. 3.33).

Project Financing

3.38 The Bank and the Government of Norway each financed US\$8.8 million of project expenditures, instead of the US\$10.0 million originally estimated, since the cancellation of US\$2.4 million was shared between the two agencies. OPEC financed US\$1.0 million for consultants to supervise construction of the Mahalapye-Serule road and part of the cost of detailed engineering and supervision of construction of the Gaborone-Tlokweng Border Gate road. There was some confusion over claims submitted to OPEC instead of the Bank in 1980, but this was resolved by submission of OPEC claims to the Bank for the amount overpaid.

C. Project Costs

Third Road Project

3.39 Total project costs (see Table 3.2) were US\$6.6 million (P5.6 million), 85% of the appraisal estimate of US\$7.78 million, including taxes and duties. The total cost includes additional project components (paras. 3.13-15) and excludes those components financed from other sources (paras. 3.09 and 3.12). Total costs for the project as originally defined, including equipment financed by NORAD for the pilot DRMP, totalled US\$6.16 million, 79% of the appraisal estimate.

3.40 The major decrease in project costs was for construction of the Gaborone-Molepolole road; including the additional cost of drainage works in Molepolole, the final cost totalled P3.33 million (US\$3.98 million), about one third less than projected at appraisal. The major reason for this large difference in costs was that tender prices were much lower than estimated - the lowest bid was P2.93 million compared to the Bank's estimate of P3.92 million. The very high Bank estimate was the result of the devaluation of the rand from US\$1.47 at the time of appraisal to US\$1.15 by the time the appraisal report was finalised in November 1975. Construction costs estimated in US\$ at appraisal were retained while the cost in rands was changed to reflect the devaluation. However, the contract was let in pula to an RSA contractor at very close to the cost estimated in rands at appraisal, illustrating the problem of projecting the currency in which the contract will be let. Given that the original estimate was made in pula, it is not clear why the Bank assumed that the contract would be in US\$, for it was very difficult for contractors from other countries to compete with S. Africans for contracts of that size. Presumably, the appraisal team wanted to make sure there would be no cost overruns. The appraisal estimates of price contingencies were also over-estimated, for prices of labor and specified materials (mainly petroleum and petroleum-based products) only increased by an average of 4.5% from 1977 to 1979, while the appraisal allowed for a 19% increase from 1975 to 1977.

3.41 The other item with lower costs than estimated at appraisal was detailed engineering of the Mahalapye-Serule road: the actual cost of US\$0.38 million was 75% of the appraisal estimate. However, the estimated cost in rands given in the Issues Paper was very close to actual costs, but again it was assumed that the contract would be let in US\$, so that the appraisal estimate in rands was increased to reflect the devaluation of the rand.

3.42 Costs for supervision of construction were 82% higher than estimated at appraisal (in US\$). This was partly because the contract period was nearly 60% longer than originally estimated due to problems with the contractor (para. 3.03). In addition, RD selected consultants who had included a substantial amount of expatriate services in their proposal; the Bank expressed strong reservations about the cost of the proposal and subsequently some expatriate staff were replaced by Botswana personnel.

3.43 The total cost of technical assistance for the pilot DRMP (US\$0.62 million) was 50% higher than the notional amount of US\$0.42 million originally included in the project. The increased cost was the result of higher than estimated man-months of expatriate staff. Loan funds originally allocated for equipment for the program were used to finance technical assistance, since NORAD financed all of the equipment. Other project costs were higher than estimated because of changes in project components. Additional weighbridges and traffic counters (para. 3.14) increased costs by US\$0.15 million and additional soils and materials laboratory equipment (para. 3.13) increased costs by US\$0.25 million. The cost of the additional project component, the feasibility study and detailed engineering of the Dumela-Ramokgwebana road (para. 3.15) amounted to US\$0.38 million. No funds allocated for scholarships were used because of bilateral financing (para. 3.12).

Fourth Road Project

3.44 Total project costs amounted to US\$21.15 million (P18.96 million), 75% of the original appraisal estimate of US\$28.03 million (see Table 3.2), including taxes and duties. The total cost includes additional components (paras. 3.32-35) and excludes components financed from other sources (paras. 3.23 and 3.27). Total costs for the project as originally defined, including components financed by other donors, totalled US\$24.06 million or 86% of the appraisal estimate.

3.45 The major decrease in costs was for construction of the Mahalapye-Serule road: final costs were US\$14.22 million, 62% of the appraisal estimate of US\$22.99 million. The lowest bid for the contract was US\$11.10 million, 69% of the appraisal estimate. This bid was well below the next lowest bid of US\$13.96 million (86% of the appraisal estimate) because the contractor had just completed work on the Nata-Kazungula road and therefore had less mobilization and other costs. At the time of appraisal in September 1976, the cost of construction had been estimated at US\$14.78 million, closer to average bid prices. However, this estimate was increased to US\$16.17 million by Grey Cover in March 1977 to reflect the price of bids opened in late 1976 for the Serule-Francistown road. There appears to be no apparent explanation for why bids opened in

late 1976 for this road were higher than the average price of bids opened in July 1977 for the Mahalapye-Serule road. Final costs of construction were 28% higher than the bid price, compared to 42% physical and price contingencies allowed for at appraisal: this includes claims amounting to US\$1.2 million which were settled through negotiation in 1982.

3.46 Supervision costs were also lower than projected, amounting to US\$0.99 million, or 78% of appraisal estimates. Other consultant services originally included in the project were for the feeder road study - costs for this study (US\$0.24 million) were 77% lower than the notional amount included at appraisal. Additional funds of US\$0.6 million were provided for detailed engineering of three feeder roads (para. 3.22). Technical assistance costs for the extension of DRMP to other districts totalled US\$1.37 million, 86% of appraisal estimates. The original cost estimate was a notional amount, since the pilot DRMP had not even begun at the time of appraisal (para. 3.10), and included equipment costs which were eventually financed by NORAD. Construction of the training school extension was the only component whose cost was over the appraisal estimate. This was because the extension was far larger than originally envisaged (paras. 3.26-27). Total costs for the training component amounted to US\$0.71 million, compared to US\$0.43 million estimated at appraisal. However, this was for expansion of the training school and did not include the purchase of US\$0.33 million of training equipment originally included in the project, as this was financed bilaterally. Financing of the remaining project component - implementation of the road maintenance study - was taken over by USAID (para. 3.23). USAID's final costs of US\$5.84 million were nearly four times higher than the appraisal estimate, which was a notional sum primarily included for maintenance equipment. The cost of equipment financed by USAID amounted to US\$4.87 million, three times the appraisal estimate.

3.47 Costs for additional project components totalled US\$3.62 million, comprising:

	<u>US\$ Million</u>
Construction of the Gaborone-Tlokweng Border Gate road ...	0.89
Construction of the Tlokweng Village road	0.33
Detailed engineering and supervision of above two roads ...	0.27
Detailed engineering of three feeder roads	0.60
Feasibility study and detailed engineering of Tuli Block) roads, plus water availability investigation)..	1.19
Technical assistance for RD	<u>0.34</u>
Total	<u>3.62</u>

Disbursements

3.48 Only 50% of loan funds had been disbursed by June 1979, when the Third Road Project was scheduled for completion. This was because of (i) delays in calling for bids for construction of the project's major component, the Gaborone-Molepolole road (para. 3.02) and the Road Maintenance Study (para. 3.06), and (ii) lower than estimated costs of the Gaborone-Molepolole road (para. 3.40), and (iii) time taken to implement additional project components. The Closing Date was extended four times from December 31, 1978 to August 31, 1982 to allow full disbursement of funds. The loan was fully disbursed by March 1983, two and three quarter years later than scheduled. US\$0.7 million of loan funds were cancelled in late 1982.

3.49 Only 67% of the loan for the Fourth Road Project was disbursed by June 1981, the scheduled date of completion. This was the result of (i) delays in starting the extension of DRMP (para. 3.24) and the feeder road study (para. 3.19), (ii) time taken to settle claims for the Mahalapye-Serule road contract (para. 3.17), and (iii) lower than estimated cost for the project's main component, construction of the Mahalapye-Serule road (para. 3.45). The Closing Date was extended once from December 31, 1981 to December 31, 1983 to allow full disbursement of loan funds. Disbursements of the Bank loan and the Norwegian grant were completed in November 1984, 41 months later than scheduled. US\$0.9 million of loan funds were cancelled in November 1983, as a consequence of the March 1983 amendment of the loan agreement, and an unused loan balance of US\$1.5 million was cancelled in late 1984.

Procurement

3.50 There were no procurement problems of any significance in either of the two projects.

Reporting

3.51 Progress reporting requirements were agreed at negotiations of both projects. In July 1979, the Bank realised that no progress reports had been received for the two projects, with the exception of the construction components. (Similar reporting problems had been encountered under the Second Road Project). RD began submitting quarterly progress reports from 1979, but they tended to be very brief and contained few details of project progress. In particular, there was no revised project implementation schedule, no review of covenants, or details on key personnel changes in RD, as required under the Third Project. Project monitoring indices required under the Fourth Project were never submitted, perhaps understandably so, since they were extremely detailed. Significantly, the Fifth Road Project returned to the same progress reporting requirements as used under the Third Project and completely dropped the project monitoring indices of the Fourth.

IV. INSTITUTIONAL PERFORMANCE AND DEVELOPMENT

Covenants and Borrower's Performance

4.01 Details of the covenants of Loan Agreements 1174 and 1408-BI and Government's compliance with them are included in Annex 4. Both loan agreements contained covenants requiring improved procedures for collection of traffic data (Section 4.04 of Loan 1174-BI and Section 4.05 of Loan 1408-BI) because the traffic data collection system in Botswana had not been reliable. The Government submitted a program to the Bank in December 1975 to improve traffic data collection by transferring responsibility from RD to the Statistical Unit in MWC; technical assistance was also provided by the Central Statistics Office. Thereafter, traffic statistics were compiled annually by the Unit and the first transport statistics bulletin was issued in 1979.

4.02 Both loan agreements also included covenants regarding the improved performance of CIO (Section 4.05 of Loan 1174-BI and Section 4.06 of Loan 1408-BI). A reorganization and improvement program was submitted to the Bank in December 1975 and implemented with bilateral assistance (para. 4.06). The condition of disbursement for maintenance equipment requiring a 60% equipment availability rate (Schedule 1, para. 4 (b)) never became an issue because maintenance equipment was financed by USAID and not the Bank (para 3.23). Information is only available on the availability of equipment including that purchased with USAID financing (para 4.06). Therefore, it is difficult to evaluate if the covenant would have been met before new equipment was purchased.

Consultants Performance

4.03 Under the two projects, consultants were employed for supervision of construction, feasibility studies, detailed engineering, the Road Maintenance Study and short term assistance for RD. Performance was, on the whole, satisfactory. However, the Road Maintenance Study financed under the Third Road Project had a few weaknesses: some parts were incomplete and the pilot project for DRMP had to be redesigned. The latter was rejected because the program did not show a real knowledge of labor-intensive techniques (para. 3.08) and another pilot project was drawn up by an ILO expert (para. 3.08). The consultant's lack of experience in labor-intensive methods had been of some concern to RD when awarding the contract, but at that time the Bank did not accept RD's request to exclude the pilot DRMP from the study and employ individual consultants with more experience of labor-intensive methods.

Institutional Performance

4.04 One of the major problems during the first few years of the two projects was the shortage of staff within RD; this had also been a recurring problem throughout the Second Road Project (PPAR, Credit 303-BI, March 31, 1977 - para 20). In mid-1976, about 30% of the professional posts were vacant, although some of the positions were filled with expatriate staff by the time of appraisal. However, by mid-1977, 40% of professional and nearly 50% of semi-professional positions were vacant. The major staffing problem has been the lack of qualified local staff to fill engineering and technical posts within RD, for even by 1984 only 8 of

a total of 21 professional positions in RD were held by Batswana highway engineers (one of whom is the Chief Roads Engineer); of 60 technician positions, 16 were filled by expatriates in 1984. Training of road technicians and supervisors and equipment operators has been improved under the Fourth and Fifth Road Projects. Training facilities have been improved (paras. 3.26-27), additional staff have been recruited and the curriculum expanded and improved to make the training more practically oriented.

4.05 The shortage of local staff has meant a heavy reliance on expatriates, financed by several different bilateral agencies. The major problem in 1976 and 1977 was replacing those staff whose contracts had expired with new engineers, a problem exacerbated by the slow Government recruitment process. The Government's Directorate of Personnel, which was responsible for recruiting expatriate staff for RD, was very slow in processing requests and approving candidates, despite pressure from the Bank to speed up recruitment. The Bank eventually agreed to RD's request to finance consultants to temporarily fill vacant positions (para. 3.35). By 1979, the staffing situation had improved and has since remained relatively stable, although there is still the problem of lack of continuity of staff, since many staff only have two year contracts. Nevertheless, RD has been able to handle a large construction program during the course of the two projects, as well as a program to improve road maintenance; it has also provided assistance to MLGL to help design and implement DRMP.

4.06 The performance of CTO has improved considerably since appraisal of the two projects when the Bank was very concerned about the low availability rate of maintenance vehicles and equipment. A program to improve the operations of CTO was drawn up, with CIDA assistance, in 1975 and started in 1976. Six staff members, including the General Manager, were financed by CIDA, two mechanical instructors were financed by USAID, and one training and organization specialist was financed by ODM. Performance gradually improved and equipment availability rates increased to well over 60% by 1983, although it is difficult to separate out the effect of the program from the effect of newly-procured maintenance equipment (para 3.23). Overall, road maintenance has improved as the result of the USAID-financed maintenance program and the assistance provided by CIDA to CTO. Major achievements have been improved cooperation between RD and CTO and improved maintenance of equipment in the field because of the secondment of CTO mechanics to RD road maintenance depots.

V. ECONOMIC REEVALUATION

General

5.01 The basis for the economic analysis of roads included in the Third and Fourth Road Projects was an assessment of expected benefits and costs with and without the road improvements. Investment costs have been taken net of taxes and duties and include supervision of construction. The quantifiable benefits are savings in vehicle operating and road maintenance costs. Actual traffic volumes have been taken up to 1983-84, from when projections based on past traffic growth rates have been used. VOC for various years are shown in Table 5.1; these estimates are taken mainly from appraisal reports (Third, Fourth and Fifth Road Projects), which have taken the estimates from different consultant feasibility studies. This means that the costs are not all consistent, since each consultant has calculated voc in different ways.

Third Road Project

5.02 Gaborone-Molepolole road. The area of influence of the Gaborone-Molepolole road mainly consists of small farms which concentrate on cattle raising and crop cultivation. Gaborone, the capital of the country, and Molepolole are primarily marketing centers, although both have some limited industrial development. Traffic has increased at a lower than projected rate: in 1984 traffic was 324 vpd on most of the road (44 km) compared to 512 vpd projected at appraisal. The small length of road close to Gaborone (8 km) has a higher level of traffic of 522 vpd: this compares to 844 vpd projected at appraisal for the first 5 km from Gaborone. Traffic levels fell by 20-33% from 1977 to 1979 on the two sections of road, but have since increased by 11% p.a. The economic reevaluation has projected an annual increase of 10% p.a. until 1990, declining to 7% p.a. thereafter.

5.03 All costs and benefits are in 1976 prices, net of taxes and duties. Total economic construction costs amounted to P4.0 million in 1979 prices (including supervision of construction), compared to P4.31 million estimated at appraisal in 1975 prices. Estimated voc with and without the road improvement for different years are given in Table 5. The voc are obviously not compatible from one year to another, since voc savings estimated at pre-1979 appraisals were much higher than estimated at later appraisals. Therefore, estimates of voc savings for given traffic levels are lower in the economic reevaluation than at appraisal of the two projects. The reestimated rate of return for the 8 km Gaborone-Metsimothabe section is 13% compared to 17% estimated at appraisal for the 5 km Gaborone-Mogoditshane section, and 12% for the Metsimothabe-Molepolole section compared to the appraisal estimate of 17%. Overall, the road yielded a rate of return of 12% compared to the appraisal estimate of 17%. The lower construction costs were offset by lower benefits resulting from the decrease in traffic during the first few years of the project and the lower estimate of voc savings/km in the economic reevaluation than at appraisal.

5.04 Pilot DRMP. No rate of return was estimated at appraisal for the pilot DRMP because there was little definition of the program. The final report on the pilot study made a rough estimate of the economic costs and benefits of the program, using the costs given in para. 3.11. Voc savings were estimated at US\$260 per km per annum (although no additional benefits were estimated for roads improved to a higher standard), assuming average traffic levels of ten vpd. Assuming a ten year life and a 5% annual increase in traffic, the rate of return for the roads receiving spot improvements is about 5% (including direct and indirect costs). Benefits from increased agricultural production or year-round access have not been estimated.

Fourth Road Project

5.05 The Mahalapye-Serule road was the last section of the North-South road to be upgraded to all-weather standard. This road links the population centers of the eastern corridor, where 80% of the country's population resides, and links the capital, Gaborone, with Francistown and the mining complex around Selebe Phikwe in the north-east of the country. Traffic on the Mahalapye-Serule section of the North-South road has increased by an average of 16% per annum since 1976. Average traffic levels on the 65-km section from Mahalapye to the junction with the Martins Drift road were 550 vpd in 1984 compared to the 377 vpd projected at appraisal; on the following 9-km section from Martins Drift road junction to Serowe Fork the average traffic levels were 459 vpd in 1983 compared to 377 vpd projected; and on the Serowe Fork-Serule section (75 km), 399 vpd compared to the 249 vpd projected. Traffic growth has slowed down since 1980 from Martins Drift road junction to Serule, averaging 10% per annum. The economic reevaluation has assumed 10% annual increase in traffic for the Mahalapye-Martins Drift road junction up to 1990, and thereafter a 7% increase. Traffic on the other two sections is projected to increase by 7% p.a. from 1984 until the end of the project.

5.06 All costs and benefits are in 1979 prices. Total economic costs of construction were P11.5 million in 1979 prices (including supervision), compared to the appraisal estimate of P15.10 million in 1976 prices. Vehicle operating cost savings are based on the difference in operating costs for an earth and a paved road. The appraisal calculated separate rates of return for three sections of the road, since they had different traffic levels and rates of growth. The reestimated rates of return for these three sections are given below:

	<u>Appraisal</u>	<u>Reevaluation</u>
Mahalapye-Jct. with Martins Drift road (65 km)	15	24
Jct. with Martins Drift road - Serowe Fork (9 km) .	19	19
Serowe Fork - Serule (75 km)	14	18
Total Project	15	21

Gaborone-Tlokweng Border Gate Road and Tlokweng Village Road

5.07 Construction of the Gaborone-Tlokweng Border Gate road (17 km) was added to the project in 1979 after an economic justification for the road had been prepared by the Planning Unit of MWC. The original justification for the road was based on upgrading the existing road having a bituminous sand-seal to a double bituminous surface treatment standard, assuming that vehicle operating conditions on the road would revert to the equivalent of a gravel road after three years. Based on a traffic level of 240 vpd and a 7% estimated annual traffic growth, the rate of return was estimated at nearly 20%. Subsequently, the road was found to be stronger than estimated (para. 3.32), so that only resealing and fencing were carried out at first. However, after the double bituminous surface treatment was completed, extensive drainage works costing P0.613 million were carried out on the road to protect the base and new surface treatment. Without such works it is assumed that the road would have gradually deteriorated to an unpaved road over the next three years. Based on such an assumption the rate of return is 19%.

5.08 The Tlokweng Village road (3.2 km) was an additional component included in the project in 1982. The road was upgraded from earth to paved standard and had a traffic level of 523 vpd in 1984. An economic evaluation of the road carried out by MWC's Planning Unit estimated a 26% rate of return. Final construction costs were lower than estimated, resulting in a reevaluated rate of return of 40%.

VI. ROLE OF THE BANK

6.01 There were substantial cost savings for both projects, primarily because of lower than estimated bids for the major road construction components of each project. The extent to which the over-estimation of costs at appraisal could have been avoided is difficult to judge. In the case of the Third Road Project, the Bank clearly made an incorrect assumption that the contract for the Gaborone-Molepolole road would not be let in rands. This is somewhat inconsistent with references in the files before and after appraisal that the contract would probably go to a South African company because of the relatively small size of the contract. However, the most likely explanation for assuming the contract would not be let in rands is that Bank staff were more concerned about underestimating costs. Additional funds would have been far more difficult to obtain after Board approval compared with the comparative ease with which excess funds could be used or even cancelled. The Fourth Road Project construction cost estimates were based on unit prices of similar works for which bids had already been received, although the consultants who prepared the bid documents did estimate costs at closer to the average bid prices. (The lowest bid was in fact far lower because of the comparative advantage of the contractor who had just completed another contract in Botswana). Both projects clearly demonstrate the advantage of presenting road projects to the Board only after the opening of bids. There is also the additional advantage of saving start-up delays for road construction.

6.02 Savings on costs of construction and from components subsequently financed by other donors were used to finance 100% of foreign costs and additional components for the two projects. RD appears to have regarded surplus funds from the Fourth Road Project as a line of credit for an ad-hoc collection of small projects. The Bank approved requests as they were submitted by RD throughout project implementation, although there was obviously concern about considering each request without reviewing other sector priorities. The continual addition of components was largely due to cost savings from the Mahalapye-Serule road in the first part of the project and additional funds made available later in the project because of the financing of the road maintenance component by USAID (para. 3.23). In at least one case, there appears to have been insufficient vetting of RD's requests - approval was given for the detailed engineering of 219 km of roads in the Tuli Block, 196 km of which later proved not to be economically viable (para. 3.29). Towards the end of the projects, the Bank introduced restrictions on the use of cost savings, resulting in the cancellation of funds for both projects.

6.03 During project implementation there were occasional misunderstandings between the Bank and RD as to what had been agreed during missions and in telexes. These lapses in communication could largely have been avoided by having Aide-Memoires drafted by Bank supervision missions and approved by RD before mission departure. Also, there was a high turnover of Bank staff supervising the projects; a higher level of staff continuity would, no doubt, have prevented some of the misunderstandings.

6.04 Three of the components originally included in the two projects had to be substantially revised from what was envisaged at appraisal. The training component of the Fourth Road Project was poorly prepared largely because no training expert was involved in the preparation or appraisal of the project. Subsequently, the needs and curriculum of the Training School were substantially revised as a result of a Bank training expert's visit to Botswana during project implementation (para. 3.26). The second component to be revised was the Feeder Road Study financed under the Fourth Road Project. This component was substituted for preparation of the Fifth Road Project shortly after appraisal because of doubts over whether there would be a Fifth Road Project. In retrospect, the inclusion of a feeder road component appears to have been premature: the Rural Development Program to which it was meant to be linked was at a very early stage of identification and was not developed any further during implementation of the project. The pilot DRMP was the third component to be substantially revised, partly due to the Bank's lack of experience with labor-intensive methods. ILO recommended a considerably larger program than originally thought necessary to successfully develop labor-intensive methods in Botswana (para. 3.09). Although a successful district road maintenance program has been developed, the economic viability of the program still remains questionable (para. 5.04), especially if the high cost of the technical assistance (US\$1.88 million) is included (paras. 3.12 and 3.46).

6.05 Both projects involved other financing agencies, either as a direct part of the projects or in parallel with them. Coordination between the Bank and those other agencies appears to have been good and effective.

VII. CONCLUSIONS

7.01 There were lengthy delays for both projects because of RD's slowness in calling for bids and contractors' delays. During the first two years of the projects, RD suffered from staff shortages which were partly alleviated by hiring consultants temporarily to fill vacant positions. The staffing situation had somewhat improved by the end of the projects, although lack of local personnel is still a problem because of the lack of suitably qualified engineers from Botswana. Subsequently, RD and programs like DRMP will continue to be dependent on expatriate engineers and other professionals over the next several years.

7.02 Costs for both projects were substantially lower than estimated at appraisal mainly because of lower than estimated construction costs for the two projects' major components. Cost savings have also been realised under the Fifth Road Project, indicating successive appraisal teams' tendency to overestimate costs. If the projects had been approved after bids were opened for the major construction components, this overestimation of costs could have been avoided. Seven components not originally included at appraisal were added to the two projects; in addition, two components - the Road Maintenance Study and DRMP - were substantially larger than anticipated at appraisal, as were other smaller components. The projects could have benefitted from more work on the non-construction components at the project preparation stage, for preparatory work was only carried out on the major construction components. Additional work carried out under the two projects included a miscellaneous collection of small components that had little connection with each other.

7.03 Despite the above reservations, the projects were successful. The construction of the Mahalapye-Serule road completed the paving of the North-South road up to Nata. Road maintenance and training of MWC personnel also improved and labor-intensive methods of construction and maintenance have been developed and local staff trained in the use of those methods under the two projects.

TABLE 3.1 (a)

PROJECT COMPLETION REPORT
BOTSWANA: THIRD HIGHWAY PROJECT (LOAN 1174-BT)
Actual and Expected Project Implementation

Project Component	Contractor/ Consultant Nationality	Dates of								Percent of the works completed by expected com- pletion date
		Bid Receipt		Contract Award		Beginning of Work		Completion of Work		
		Actual	Expected	Actual	Expected	Actual	Expected	Actual	Expected	
Construction of Gaborone-Molepolole Road:										
- Supervision	USA			2/76	10/75	2/76	11/75	7/79	6/77	14
- Construction	USA	2/77	1/76	7/77	3/76	7/77	4/76	6/79	6/77	13
Detailed Engineering: Mahalapye-Serule										
	UK	11/75	10/75	1/76	11/75	2/76	1/76	12/76	12/76	100
Road Maintenance Study										
	Denmark/UK	8/76	10/75	12/76	11/75	1/77	2/76	5/78	11/76	0
Feasibility Study & Detailed Engineering of Dumela-Ranokgwebana Road										
	UK	9/78	-	3/79	-	4/79	-	10/80	-	-
District Roads Pilot Maintenance Program:										
- Recruitment TA	ILO	-	-	-	-	1/80	11/76	-	-	0
- Procurement Equipment	Various	-	11/76	-	1/77	-	-	1/81	7/77	0
- Program Implementation	MLGL	-	-	-	-	1/80	8/77	7/82	6/78	0
RD Training										
	RD	-	-	-	-	-	12/75	-	6/78	0
Soils Lab. Equipment:										
- Additional Equipment	Various	7/76	2/76	8/76	4/76	-	-	12/76 3/83	11/76 -	80 -
Weighbridges:										
- Delivery		7/76	2/76	8/76	4/76	-	-	10/76	9/76	0
- Installation		-	-	-	-	-	-	-	11/76	0

Source: Project Files

TABLE 3.1 (b)

PROJECT COMPLETION REPORT
BOTSWANA: FOURTH HIGHWAY PROJECT (LOAN 1408-B1)
Actual and Expected Project Implementation

Project Component	Contractor/ Consultant Nationality	Dates of								Percent of the works completed by expected com- pletion date
		Bid Receipt		Contract Award		Beginning of Work		Completion of Work		
		Actual	Expected	Actual	Expected	Actual	Expected	Actual	Expected	
A. Construction of Mahalapye-Serule Road:										
- Supervision	UK	-	-	3/77	7/76	6/77	7/77	9/81	6/81	80
- Construction	Italy	7/77	6/77	11/77	8/77	12/77	9/77	9/81	6/81	80
B. Feeder Road:										
- Study	UK	-	-	2/80	1/79	3/80	2/79	12/81	2/80	0
- Detailed Engg.	Various	11/82	-	3/83	-	4/83	-	10/83	-	-
C. Implementation of Road Maintenance Study										
	-	-	-	-	-	1/80	1/79	12/83	6/81	35
D. Extension of DRIMP										
	ILN/Govt.	-	-	-	-	4/83	1/79	6/84	6/81	0
E. Road Department Training School:										
- Equipment	Various	-	1/78	-	6/78	-	-	-	12/78	-
- Construction	Botswana	7/79	-	11/79	-	12/79	-	9/80	-	-
- Supervision, Design	UK	11/78	-	1/79	-	2/79	-	9/80	-	-
F. Tuli Block Study:										
- Detailed Engineering	USA/Botswana	8/78	-	11/78	-	1/79	-	11/79	-	-
	USA/Botswana	12/79	-	1/80	-	2/80	-	early 1981	-	-
G. Gaborone-Tlokweng Border Gate Road										
- Design	UK	5/79	-	6/79	-	6/79	-	9/80	-	-
- Supervision	UK	-	-	-	-	3/81	-	2/84	-	-
- Construction ^{1/}	Various	-	-	-	-	3/81	-	2/84	-	-
H. Tlokweng Village Road:										
- Detailed Engineering	UK	-	-	-	-	1/83	-	5/83	-	-
- Construction	Botswana	-	-	-	-	-	-	2/84	-	-

^{1/} Construction carried out in three separate small contracts.

Source: Project Files

Table 3.2 (a)

PROJECT COMPLETION REPORT
Botswana: Third and Fourth Road Projects
(Loans 1174 and 1408-BT)

Actual and Estimated Project Costs: Third Road Project 1/

Project Component	Appraisal Estimate			Actual			Appraisal Estimate			Actual			Actual As % of Appraisal Estimate	
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	% Pula	% US\$
	Pula '000			Z/			US '000							
A. Construction of Gaborone-Molepole Road	1,017	4,113	5,130	834	2,500	3,334	1,178	4,752	5,930	994	2,983	3,977	65	67
B. Consulting Services:														
(i) Supervision of A	41	209	250	73	355	428	48	242	290	90	439	529	171	182
(ii) Detailed Engineering Mahalapye-Serule Road	74	377	451	57	276	333	85	435	520	65	318	383	74	74
(iii) Road Maintenance Study	52	251	303	49	241	290	59	290	349	59	288	347	96	100
(iv) Feasibility Study & Detailed Engineering: Dumela-Ranogwena Road	0	0	0	52	252	304	0	0	0	65	318	383	-	-
C. Pilot DRIMP:														
(i) Technical Assistance	31	167	198	71	349	420	36	194	230	86	422	508	212	221
(ii) Maintenance Equipment	2	164	166	-	-	(100)3/	2	189	191	-	-	(118)3/	(60)	(62)
D. Strengthening RD:														
(i) Training	24	126	150	0	0	0	28	145	173	0	0	0	0	0
(ii) Soils Lab. Equipment	1	27	28	6	275	281	1	31	32	5	265	270	1,004	844
E. Weighbridges And Loadmeters	3	49	52	5	175	180	5	57	60	5	175	180	346	300
Total	1,245	5,483	6,728	1,147	4,423	5,570	1,440	6,335	7,775	1,369	5,208	6,577	83	85

Note: See footnotes on Table 3.2 (b), page 2

PROJECT COMPLETION REPORT
Botswana: Third and Fourth Road Projects
(Loans 1174 and 1408-BT)

Actual and Estimated Project Costs: Fourth Road Project 1/

Project Component	Appraisal Estimate			Actual			Appraisal Estimate			Actual			Actual As % of Appraisal Estimate % Pula US\$	
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total		
	Pula '000			Pula '000			US\$ '000			Pula '000				
A. Construction of Mahalapye-Serule Road	4,970	14,932	19,902	3,071	9,214	12,285	5,742	17,245	22,987	3,555	10,664	14,219	62	62
B. Construction of Gaborone-Tlokweng Border Gate Road	0	0	0	218	653	871	0	0	0	224	670	894	-	-
C. Construction of Tlokweng Village Road	0	0	0	93	277	370(E)	0	0	0	83	250	333(E)	-	-
D. Consultant Services:														
(i) Supervision of A	216	866	1,082	163	653	816	257	1,005	1,262	197	790	987	75	78
(ii) Preparation of Feeder Road Program	54	216	270	40	160	200	68	243	311	48	192	240	74	77
Detailed Eng.	0	0	0	132	527	659	0	0	0	120	480	600	-	-
(iii) Detailed Engineering and Supervision of B and C	0	0	0	54	216	270	0	0	0	55	218	273	-	-
(iv) Feasibility Study and Detailed Engineering of Tuli Block Roads, plus Water Availability Investigation	0	0	0	202	807	1,009	0	0	0	238	952	1,190	-	-
E. Road Maintenance:														
(i) Implementation of Findings of Study	130	1,185	1,315	-	-	(4,809) <u>4/</u>	146	1,372	1,518	-	-	(5,840) <u>4/</u>	(366)	(385)
(ii) Extension of DRIMP	130	1,185	1,315	150	1,354	1,504(E)	146	1,372	1,518	137	1,231	1,368(E)	114	86
												(3,700) <u>5/</u>		

PROJECT COMPLETION REPORT
Botswana: Third and Fourth Road Projects
(Loans 1174 and 1408-BT)

Actual and Estimated Project Costs: Fourth Road Project 1/

Project Component	Appraisal Estimate			Actual			Appraisal Estimate			Actual			Actual As % of Appraisal Estimate %	
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total		
	Pula'000			Pula'000			US\$ '000			Pula				US\$
F. Strengthening of RD:														
(i) Construction of Training School	7	74	81	240	360	600(E)	3	98	101	283	425	708(E)	741	700
(ii) Equipment For Training School	26	264	290	0	0	(593)6/	29	305	334	0	0	(700)6/	(205)	(210)
(iii) Technical Assistance for RD	0	0	0	75	299	374	0	0	0	68	272	340	-	-
Total	5,533	18,722	24,255	4,438	14,520	18,958	6,391	21,640	28,031	5,008	16,144	21,152	78	75

Footnotes

1/ Includes taxes and duties

2/ Appraisal estimates were in RSA rands, but Botswana introduced its own currency (the pula), in 1976, when one rand was equal to one pula

3/ Financed by NORAD

4/ Financed by LEAD

5/ Estimated amount to be financed by NORAD for period 1982-86

6/ Estimated amount financed bilaterally

E = Estimated

Sources: Third & Fourth Road Appraisal Reports
Consultant Reports
Project Files

Table 5.1

PROJECT COMPLETION REPORT
BOTSWANA - THIRD AND FOURTH ROAD PROJECTS
 (Loans 1174 and 1408-BT)

COMPARISON OF VEHICLE OPERATING COSTS (thebe per km)

	<u>Earth</u>			<u>Gravel</u>			<u>Paved</u>		
	<u>Third Appraisal 1975</u>	<u>Fourth Appraisal 1976</u>	<u>Reevaluation 1979</u>	<u>Third Appraisal 1975</u>	<u>Fourth Appraisal 1976</u>	<u>Reevaluation 1979</u>	<u>Third Appraisal 1975</u>	<u>Fourth Appraisal 1976</u>	<u>Reevaluation 1979</u>
Passenger Car	8.68	10.23	(16.00	6.51	7.60	(13.00	5.23	5.64	(9.60
Pickup/Minibus	10.80	12.65	(7.95	9.28	(6.14	7.10	(
Light Truck	18.76	21.04	21.70	12.03	13.50	17.60	8.45	9.58	13.70
Medium Truck	(27.83	(34.11	33.50	(17.59	(20.81	29.10	(11.59	(13.98	21.40
Bus	((23.20	((20.30	((15.30
Heavy Truck	43.43	48.95	41.80	25.92	29.78	37.20	17.05	19.48	27.30

Source: 1975 Third Road Project Appraisal Report
 1976 Fourth Road Project Appraisal Report
 1979 Feasibility Study for Dumela-Ranokwehana Road: B. Colquhoun & Partners, 1979

PROJECT COMPLETION REPORT

BOTSWANA - THIRD AND FOURTH ROAD PROJECTS (Loans 1174 and 1408-BT)

Details of Economic Analysis

<u>Economic Data</u>	<u>--- Gaborone-Molepolole ---</u>		<u>----- Mahalapye-Serule -----</u>			<u>Gaborone-Tlokweng</u>	
	<u>Gaborone-Mogoditshane</u>	<u>Mogoditshane-Molepolole</u>	<u>Mahalapye-Jct. With Martins Drift Road</u>	<u>Jct. With Martins Drift Road-Serowe Fork</u>	<u>Serowe Fork-Serule</u>	<u>Border Gate</u>	<u>Tlokweng Village</u>
Km	8	44	9	69	63	17	3
^{1/} vpd ⁻ 1979	303	323					
1980			266	380	244		
1982						309	
1984							524
Annual Traffic Growth:							
1984 to 1990	10	10	10	7	7	10	7
1991 to 2004	7	7	7	7	7	-	7
Capital Cost (Economic Prices)							
Pula'000	600	3389	5001	748	5754	986	451
First Year voc Savings							
Pula'000	36	249	633	87	547	36	80
First Year Maintenance Savings							
	5	26	40	6	44	14	2
Rate of Return							
- Appraisal Estimate	17	17	15	19	14	-	-
- Reevaluation	13	12	24	19	18	19	40

^{1/} Traffic volume for first year in which road opened

COPY

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LN 1174 BT

June 2, 1978

Honorable Dr. Q.K.J. Masire
Vice President and Minister of Finance
and Development Planning
Ministry of Finance and Development
Planning
Private Bag 008
Gaborone, Botswana

Dear Dr. Masire:

Re: Loan No. 1174-BT (Third Road Project)
Amendment to Loan Agreement

We refer to a letter to the Bank dated March 17, 1978 (Ref. FDP 104/2/6 II) signed by Mr. Martin Taylor, Chief Economist, Ministry of Finance and Development Planning, requesting certain amendments to the Project and a reallocation of Loan proceeds. We refer also to the Loan Agreement (Third Road Project) dated November 21, 1975 between the Republic of Botswana and the Bank.

The total project cost, net of taxes and duties, is now estimated at about US\$6.5 million equivalent, including a foreign component of about US\$5.8 million, versus a total cost of US\$7.4 million and a foreign component of US\$6.3 million estimated at appraisal. The revised estimate includes funds for additional project components (a feasibility study and detailed engineering of the Dumela-Ramokgabana Road, provision of traffic counters, and construction of an additional weighbridge) requested by the Government in the letter referred to above. As a result of the reduction in the project cost estimate, the Bank loan will now cover the full foreign component.

The following amendments to the Loan Agreement are therefore proposed:

1. Part B of Schedule 2 is amended to include Part B (iii) as follows:

"(iii) a feasibility study and detailed engineering of the road between Dumela and Ramokgabana, about 77 km long."

2. Part B of Schedule 2 is amended as follows:

"The acquisition and installation of traffic counters, load-meters and weighbridges."

Honorable Dr. Q.K.J. Masire

June 2, 1978


3. The table set forth under paragraph 1 of Schedule 1 is amended to read as follows:

<u>"Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollar Equivalent)</u>	<u>% of Expenditures to be Financed</u>
(1) Civil works	2,670,000	75%
(2) Consultants' services and staff training	1,560,000	83%
(3) Equipment and vehicles	460,000	100% of foreign expenditures
(4) Unallocated	<u>1,110,000</u>	
TOTAL	<u>5,800,000"</u>	

Since as a formal matter your concurrence is required, I would appreciate your indicating your agreement with the foregoing by signing the form of confirmation on the enclosed copy of this letter and returning it to us.

Sincerely yours,


INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

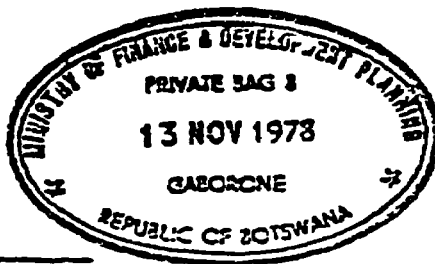
By 
Michael H. Wihlen
Director
Country Programs Department
Eastern Africa Regional Office

Enclosure

Confirmed:

REPUBLIC OF BOTSWANA

By 
Minister of Finance and
Development Planning



August 31, 1973

Honorable Dr. Q.I.J. Masire
Vice President and Minister of Finance
and Development Planning
Ministry of Finance and Development Planning
Private Bag 003
Gaborone, Botswana

Dear Mr. Vice President,

Re: Loan No. 1408-BT (Fourth Road Project)
Amendment to Loan Agreement

This letter is in response to a letter to the Bank dated March 17, 1973 (Ref. FDP 104/2/6 II) signed by Mr. Martin Taylor, Chief Economist, Ministry of Finance and Development Planning, requesting certain amendments to the Fourth Road Project and a reallocation of Loan proceeds. Please refer also to the following documents: (a) Loan Agreement (Fourth Road Project) dated May 20, 1977 between the Republic of Botswana and the International Bank for Reconstruction and Development; (b) Loan Agreement (Loan No. 63-P) dated October 7, 1977 between the Republic of Botswana and the OPEC Special Fund; and (c) letter (Norwegian Aid Participation Agreement) dated May 16, 1978 between the Kingdom of Norway and the Bank.

The total project cost, net of taxes and duties, is now estimated at about US\$21 million equivalent, versus US\$26 million estimated at appraisal. The revised estimate includes the cost of additional project components (primarily the paving of the 17 km Tlokweng Road, technical assistance for the Roads Department, and increased consultants' services for feasibility studies and engineering work) requested by the Government in the above-mentioned letter. In view of the agreements referred to above with the OPEC Special Fund and the Kingdom of Norway, the revised financing plan now comprises the US\$20 million Bank loan (which includes the US\$10 million Norwegian participation), and US\$1.0 million from the OPEC Special Fund specifically to finance consulting services to supervise road construction. To meet the Government's desire for Norwegian financing of local costs, we propose to amend the disbursement percentages contained in Schedule 1 of the Bank's Loan Agreement to permit financing of total expenditures except for taxes and duties. The disbursement percentages proposed in the following paragraph will achieve this objective. We also propose to reallocate the amount of the loan in order to reflect these changes.

Subject to your confirmation, the Loan Agreement (Fourth Road Project) is therefore amended as follows:

Honorable Dr. Q.X.J. Masire

August 31, 1973

1. Part A of Schedule 2 is amended to read:

"Construction of the road between Mahalapye and Serule, about 150 km long, and the road between Gaborone and Tlokweng, about 17 km long, to two-lane bituminous paved standard."

2. A new Part F is added to Schedule 2 to read:

"Strengthening the Borrower's Roads Department by providing technical assistance."

3. The table in paragraph 1 of Schedule 1 is amended to read:

<u>"Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollar Equivalent)</u>	<u>% of Expenditures to be Financed</u>
(1) Civil works	11,500,000	93%
(2) Consultants' services for Parts C, D, E. and F of the Project	1,100,000	95%
(3) Technical assistance and equipment		
a) gazetted roads	2,100,000	95%
b) district roads	1,300,000	95%
(4) Training equipment for Part B of the Project	700,000	95%
(5) Unallocated	<u>3,300,000</u>	
TOTAL	<u>20,000,000</u>	

4. Paragraph 2 of Schedule 1 is deleted and the remaining paragraphs renumbered accordingly.
5. Section 3.01 is amended by adding after the words "Parts A to D" the words "and Part F."
6. Section 3.02 (iii) is amended by adding after the words "Part C" the words "and Part F."

Honorable Dr. Q.I.J. Kwaitsa

August 31, 1973

Please indicate your agreement with the foregoing by signing the form of confirmation on the enclosed copy of this letter and returning it to us.

Sincerely yours,

**INTERNATIONAL BANK FOR RECONSTRUCTION
AND DEVELOPMENT**

By _____
Michael H. Wiehan
Director
Country Programs Department
Eastern Africa Regional Office

Enclosure

Confirmed:

REPUBLIC OF BOTSWANA

By _____
Authorized Representative

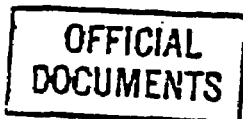
Date: _____

Cleared with & cc: Messrs. Ludwig (EAPHW), Mead (LEG), Wiratunga (CTR)
cc: Messrs. Bjelogrić (EAPHW), Jordan (EALDB), Reese, (EALDB),
Reid (EAPHW), Ms. Mason (EAPHW)

Mr. Hornstein (VPO)
Mr. Tolley (EANVP)
Mr. Thabane (EDS)

cc: OFEC Special Fund

DNJordan/DMead/~~SM~~Wiehan:vs



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15 March 1983

The Hon. P.M. Mmusi, MP
Vice President and
Minister of Finance and Development Planning
Ministry of Finance and Development Planning,
Private Bag 008
Gaborone, Botswana

Dear Mr. Minister:

Re Loan No. 1408-BT (Fourth Road Project)
Amendment to Loan Agreement

This letter is in response to the letters of May 31, 1982 and September 20, 1982 in the name of the Permanent Secretary, Ministry of Finance and Development Planning, requesting that surplus funds in the above project be reallocated for the purposes described in this letter. Please also refer to the following documents: (a) Loan Agreement (Fourth Road Project) dated May 20, 1977, between the Republic of Botswana and the International Bank for Reconstruction and Development; (b) the amending letter dated August 31, 1978, to the Government from Mr. Wiehen of the World Bank; (c) the amending telex dated September 9, 1981, to the Government from Mr. Gyamfi of the World Bank; and (d) the Government's technical and economic justification for the Tlokweng Village Access Road and the Roads Training Center extension sent to the Bank under cover of your Ministry's letter of September 20, 1982.

The Government has proposed the use of project savings for: (a) construction of, and detailed engineering and supervision for, the 3.2 km Tlokweng Access Road; (b) expansion of facilities being financed under the project for the Roads Department Training Center; (c) investigation of water availability (including drilling) for two of the three feeder roads in the Tuli Block; (d) detailed engineering and supervision for the Gaborone - Tlokweng Gate Road; and (e) detailed engineering of three additional feeder roads, viz Maun-Shorobe, Mochudi-Sikwane and Pitshane-Good Hope. The total estimated cost of these civil works and consultants' services is US\$1.9 million.

In addition, it will be necessary for us to reallocate US\$1,350,000 from the US\$1,550,000 unallocated category to civil works, which is overdisbursed by US\$935,553 because of cost escalation in the

The Hon. P.M. Mmusi, MP

15 March 1983

project's main component -- construction of the Mahalapye-Serule road -- and because of additional works and cost escalation on the construction of the Tlokweng Gate Road.

We also propose that US\$900,000 of project savings remaining after reallocation of the surplus funds be cancelled forthwith.

Therefore, subject to your confirmation, the Loan Agreement is amended as follows:

1. Part A of Schedule 2 of the Loan Agreement is amended to read: "Construction of the road between Mahalapye and Serule, about 150 km long, and the road between Gaborone and Tlokweng about 17 km long, with a 3.2 km long link to Tlokweng Village, to two-lane bituminous paved standard."

2. The table in paragraph 1 of Schedule 1 is amended to read:

<u>"Category</u>	<u>Amount of the Loan Allocated (Expressed in Dollar Equivalent)</u>	<u>% Expenditures to be Financed</u>
(1) Civil Works	15,300,000	93
(2) Consultants Services for Parts A, C, D, E and F of the Project	2,496,766	95
(3) Technical assistance and equipment for		
(a) gazetted roads	3,234	95
(b) district roads	1,300,000	95
(4) To be cancelled	900,000	
(5) Unallocated	Nil	
TOTAL	20,000,000 "	

The Hon. P.M. Mmusi, MP

15 March 1983

Please indicate your agreement with the foregoing by signing the form of confirmation on the enclosed copy of this letter and returning the copy to us.

Sincerely yours,

INTERNATIONAL BANK FOR RECONSTRUCTION
AND DEVELOPMENT

By



Jochen Kraske
Director
Country Programs Department
Eastern Africa Regional Office

CONFIRMED:

REPUBLIC OF BOTSWANA

By



Authorized Representative

Date 21st April, 1983.

cc: The OPEC Fund

15 March 1983

Mr. Baledzi Gaolathe
Permanent Secretary
Ministry of Finance and
Development Planning
Private Bag 008
Gaborone, Botswana

Dear Mr. Gaolathe:

Re: Loan No. 1408-BT (Fourth Road Project)
Amendment to Loan Agreement


We are pleased to attach a letter for the counter-signature of your Minister amending the loan agreement for the above project.

We have agreed to the additional expenditures you have proposed with the expectation that disbursements will be made by the scheduled closing date of December 31, 1983, as the Bank would not wish to postpone this date, which has already been extended from December 31, 1981.

You will note in the attached letter that we are proposing that US\$900,000 of the project savings remaining after reallocation of the surplus funds be cancelled forthwith. Of this, US\$450,000 would be from the Bank loan and US\$450,000 from the participation in the loan of the Kingdom of Norway. Accordingly, we are informing the Norwegian Government of the amendment to the loan agreement and the cancellation. We are also sending a copy of our letter to the OPEC Fund, which is a cofinancier of the project.


Best wishes.

Yours sincerely,


David G. Reese, Chief
Country Programs Division
Eastern Africa Regional Office

c/w & cc: Mr. Sigfusson, Mr. Hornstein and Mrs. Renkewitz

cc: Messrs. Abe and Morris

AMorris/cce


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Borrowers Compliance With Main Covenants

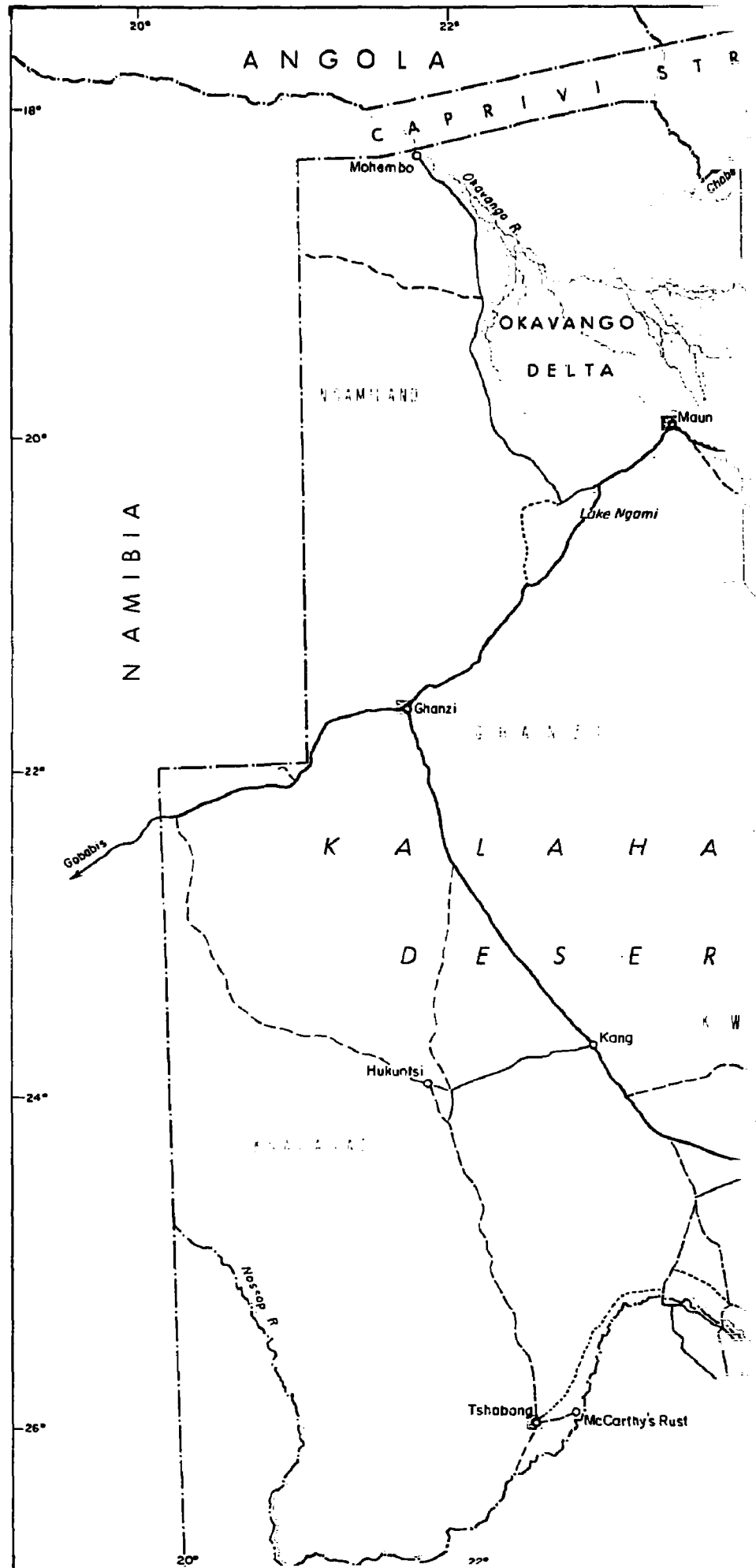
Loan Agreement 1174-BT

<u>Section</u>	<u>Covenant</u>	<u>Compliance</u>
3.02	Employ consultants and experts satisfactory to Bank	Complied With
4.03	Adequately maintain trunk and main roads and district roads of Central District	Maintenance improved during second half of project
4.04	Improve procedures for collection of traffic data	Complied With
4.05	Prepare a program acceptable to Bank for improving CTO and substantially complete program implementation by December 1978	Program implemented by CIDA and USAID, but not completed until 1984

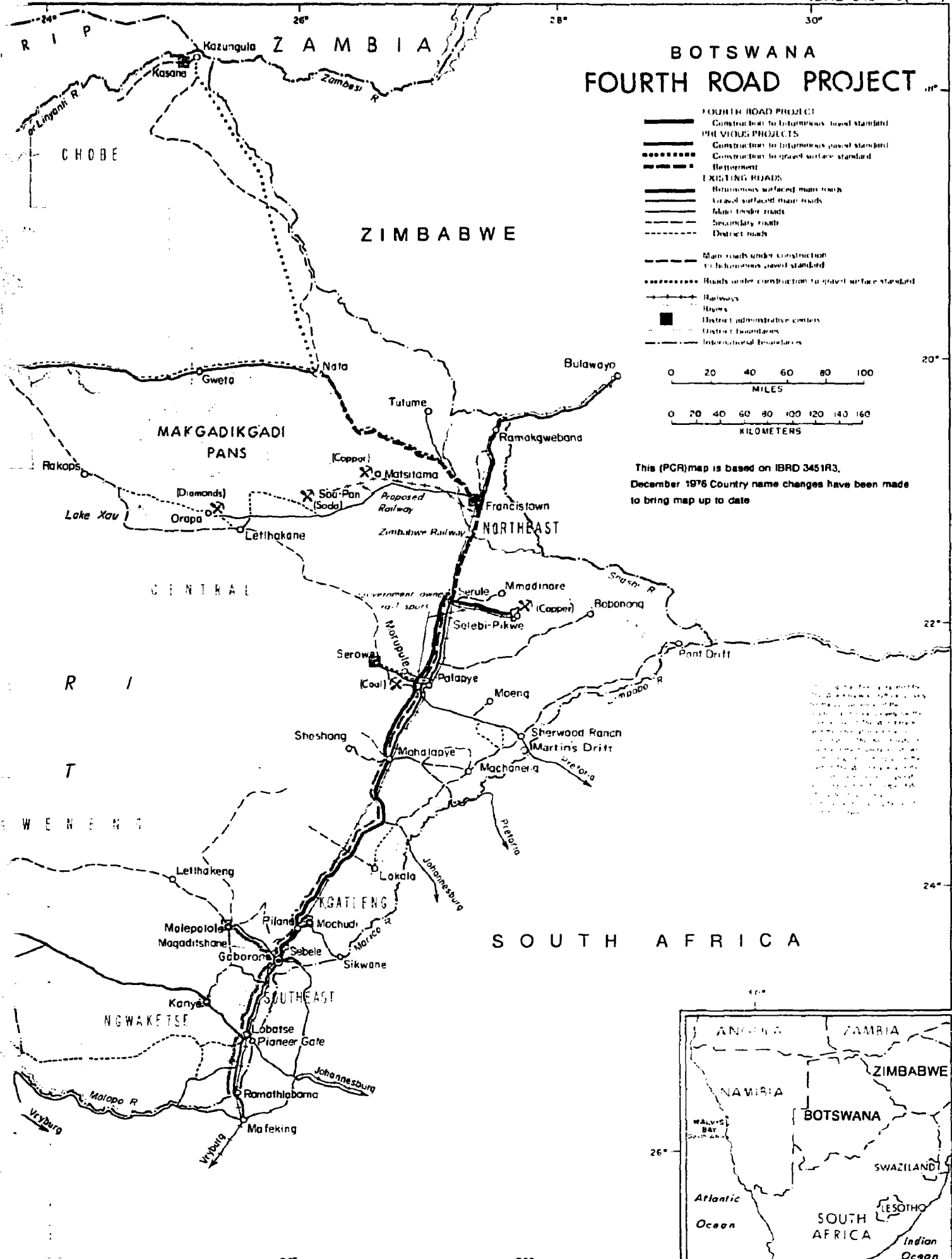
Loan Agreement 1408-BT

3.02	Employ consultants satisfactory to Bank	Complied With
3.07 (a)	(i) review with Bank results and recommendations of Road Maintenance Study	Complied With
	(ii) road maintenance program to be submitted before July 1, 1978	Complied With
	(iii) implement program	Program Being Implemented
3.07 (b)	(i) review with Bank results of District Road Pilot Program	Complied With
	(ii) submit for Bank's approval a plan of action for extension of program included in project	Complied With
4.03 (a)	Adequately maintain gazetted roads and district roads of districts included in project	Maintenance improved during second half of project

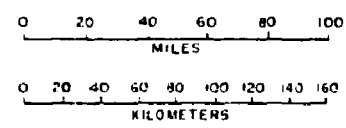
4.03 (b)	Discuss with Bank annual budgetary estimates for road maintenance	Complied With
4.04	Enforce axle-load and weight limits on gazetted roads	Complied With
4.05	Improve procedures for collection of traffic data	Complied With
4.06 and Schedule 1, para. 4 (b)	Strengthen organizational and operational efficiency of CTO so as to achieve 60% availability rate for vehicles and equipment for use by MOWC (condition of disbursement for maintenance equipment)	Improved performance of CTO; attained availability rates of over 60% in 1983; no maintenance equipment purchased with loan funds because other financing available



BOTSWANA FOURTH ROAD PROJECT



- FOURTH ROAD PROJECT**
 Construction to bituminous paved standard
PREVIOUS PROJECTS
 Construction to bituminous paved standard
 Construction to gravel surface standard
 Bitement
EXISTING ROADS
 Bituminous surfaced main roads
 Gravel surfaced main roads
 Main feeder roads
 Secondary roads
 District roads
 Main roads under construction to bituminous paved standard
 Roads under construction to gravel surface standard
 Railways
 Highways
 District administrative centers
 District boundaries
 International boundaries



This (PCR) map is based on IBRD 3451R3, December 1976. Country name changes have been made to bring map up to date.

