FOR OFFICIAL USE ONLY

Report No. 14641

IMPLEMENTATION COMPLETION REPORT

UNITED REPUBLIC OF TANZANIA

SIXTH HIGHWAY REHABILITATION PROJECT (CREDIT 1688-TA)

JUNE 20, 1995

Energy and Infrastructure Operations Division Eastern Africa Department Africa Regional Office

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

CURRENCY EQUIVALENTS

Currency Unit - Tanzanian Shilling (T Sh)

Year	Exchange Rate
Appraisal Year Average (1986)	US\$1 = T Sh 16.415 US\$1 = SDR 1.155840
1990 Average	US\$1 = T Sh 200 US\$1 = SDR 0.78
Completion Year Average (1994)	US\$1 = T Sh 450 US\$1 = SDR 0.72

WEIGHTS AND MEASURES (Metric System)

1 meter (m)	=	3.28 feet (ft)
1 square meter (m ²)	=	10.76 square feet (sq. ft)
1 cubic meter (m ³)	=	35.3 cubic feet (cu. ft)
l kilometer (km)	=	0.62 mile (mi)
1 square kilometer (km ²)	=	0.39 square mile (sq mi)
1 metric ton (mt)	=	2,205 pounds (lb)

FISCAL YEAR OF BORROWER

July1- June 30

-

ABBREVIATIONS AND ACRONYMS

AfDF	African Development Fund
AGC	Attorney General Chambers
CODAP	Coordination Office for Donor Assisted Projects
СТВ	Central Tender Board
DANIDA	Danish International Development Agency
ERR	Economic Rate of Return
GOT	Government of Tanzania
ICR	Implementation Completion Report
FY	Fiscal Year
ICB	International Competitive Bidding
IDA	International Development Association
IRP	Intergrated Roads Project
IRP II	Second Integrated Roads Project
MCTI	MCW's Morogoro Training Institute
MCW	Ministry of Communications and Works
MOE	Ministry of Education
MOW	Ministry of Works
MWCT	Ministry of Works, Communications and Transport
NCC	National Construction Council
NORAD	Norwegian Agency for Development Corporation
NTC	National Transport Corporation
PEHCOL	Plant and Equipment Hire Company
SAR	Staff Appraisal Report
SOE	Statement of Expenditure
TANZAM	Tanzania Zambia Highway
TAZARA	Tanzania Zambia Railways Authority
THA	Tanzanian Harbour Authority
TRC	Tanzanian Railway Corporation
voc	vehicle operating costs
vpd	vehicles per day

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

·

TABLE OF CONTENTS

PREFACE	j
EVALUATION SUMMARY	ji
PART I - PROJECT IMPLEMENTATION ASSESSMENT	1
A. STATEMENT/EVALUATION OF OBJECTIVES-	1
Project Implementation and Organization Project Restructuring	2 3
B. ACHIEVEMENT OF PROJECT OBJECTIVES	3 3
C. IMPLEMENTATION RECORD AND MAJOR FACTORS AFFECTING THE P	ROJECT 4
D. PROJECT SUSTAINABILITY	6
E. BANK PERFORMANCE	7
F. BORROWER PERFORMANCE	7
G. ASSESSMENT OF OUTCOME	8
H. FUTURE OPERATION-	8
L KEY LESSONS LEARNED.	8
PART II - STATISTICAL TABLES	10
TABLE 1: SUMMARY OF ASSESSMENTS	10
TABLE 2: RELATED BANK LOANS/CREDITS	11
TABLE 3: PROJECT TIMETABLE	12
TABLE 4: CREDIT DISBURSEMENTS	12
TABLE 5: KEY INDICATORS FOR PROJECT OPED ATION	13
TABLE 0. KET INDICATORS FOR PROJECT OPERATION	14
TABLE 8A: PROJECT COSTS	15
TABLE 8A-1: PROJECT COSTS FUNDED BY IDA	16
TABLE 8B: PROJECT FINANCING (US\$M)	17
TABLE 9: ECONOMIC COSTS AND BENEFITS	17
TABLE 9A: ECONOMIC RATES OF RETURN (ERR)	18
TABLE 10: STATUS OF LEGAL COVENANTS	19
TABLE 11: BANK RESOURCES: STAFF INPUTS	22
TABLE 12: BANK RESOURCES: MISSIONS	23

APPENDICES

- A. Mission's Aide Memoire
- B. Borrower's Contribution to the ICR
- C. Map

IMPLEMENTATION COMPLETION REPORT

UNITED REPUBLIC OF TANZANIA

SIXTH HIGHWAY REHABILITATION PROJECT

(Credit 1688-TA)

PREFACE

This is the Implementation Completion Report (ICR) for the Sixth Highway Rehabilitation Project in Tanzania, for which Credit 1688- TA in the amount of SDR 43.3 million (US\$ 50 million equivalent) was approved on June 25, 1986 and made effective on December 4, 1986.

The credit was closed on June 30, 1994, compared with the original June 30, 1992 closing date. It was fully disbursed, and the last disbursement took place on October 31, 1994. Parallel financing for the project was provided by grants from the governments of Denmark (US\$ 2 million) and Norway (US\$ 17.1 million), and a loan from the African Development Fund (US\$ 17.45 million). The total financing of the project, including the Government contribution (US\$ 22 million) was US\$ 117.15 million.

The ICR was prepared by Mr. Yitzhak Kamhi, Task Manager, and Mrs. Aoufa Ezzine, Consultant, Energy and Infrastructure Division of the Africa region, and reviewed by Mr. Stephen Weissman, Division Chief, and Mr. S.K. Agarwal, Project Advisor, AF2DR..

Preparation of this ICR was begun during the Bank's final supervision/completion mission in November 1994. It is based on materials in the project file. The borrower contributed to preparation of the ICR by preparing own evaluation of the project's execution (Appendix II).

EVALUATION SUMMARY

Introduction

1. Tanzania is a large country (945,000 km²) with a widely dispersed population of 28 million, most of whom live in rural areas. Agriculture is the key sector, accounting for over 60 percent of GNP, 90 percent of employment and about 85 percent of foreign exchange earnings. Transport plays a vital role in this sector for internal distribution and marketing of inputs and food crops, including export of cash crops. The transport infrastructure also serves as an important corridor for the external trade of Tanzania's land-locked neighbors- Zambia, Burundi, Rwanda, Uganda, Zaire and increasingly, Malawi. Roads are predominant means of transport in all sectors, with railways carrying a major share of the important import/export traffic.

2. The transport system is comprise of five sectors: (i) a road network of about 82,000 kms; (ii) two railway systems totaling about 3,610 kms of track (2,640 kms operated by the Tanzanian Railway Corporation (TRC) and 970 kms within Tanzania by the jointly owned Tanzania/Zambia Railway Authority (TAZARA)); (iii) ocean ports managed and operated by the Tanzanian Harbours Authority (THA); (iv) two international airports and over 60 smaller airfields (mostly unpaved); and (v) a pipeline conveys crude oil products from Dar-es-Salaam to the Zambian border.

3. The basic road network links all the main production centers but with varying degrees of efficiency. At the time of project appraisal, only about 3,000 kms (30 percent) of the trunk roads were paved and most had deteriorated due to lack of maintenance. The two rail systems were also in varying degrees of disrepair due to poor maintenance of tracks, locomotives and wagons. The transport sector in general suffered from a shortage of trained and experienced personnel, weak management, and an acute scarcity of foreign exchange to meet the costs of spare parts and imported materials.

4. The Bank Group has extended credits and loans to help finance five highway projects, one trucking project, two railway projects, and five port projects. Prior to this credit, and during the earlier years of lending, the projects concentrated on financing of construction and equipment. The focus later shifted to the strengthening of local institutions with provisions for technical assistance and training. While experience with the execution of physical components has generally been satisfactory, the technical assistance and the training objectives have been difficult to achieve mainly because of (i) delays in the appointment of technical assistance staff, (ii) cultural and language adjustment problems of technical assistance staff, (iii) lack of effective administrative commitment by Government, (iv) lack of suitable local counterparts, and (v) unrealistic targets. Experience also showed that technical assistance staff should be more carefully chosen to ensure their suitability.

5. An important lesson learned from the fourth and fifth highway projects was the high cost of undertaking civil works by force accounts. Efforts should be made to develop the local contracting industry so that much of the road maintenance and rehabilitation works could be let out to contractors. The Sixth Highway project included a component to promote the execution of road maintenance works by contract.

6. This project was prepared and appraised in 1985 under a very different economic environment than when implemented in 1986. The macroeconomic reform started in 1986 when the Government launched the Economic Recovery Program (ERP). The measures initiated at that time included significant exchange and interest rate adjustments, increases in producer prices for export crops, and reduction of the number of price-controlled items. These actions were followed up with trade liberalization measures including export retention accounts and the Open General License facility (OGL), gradual dismantling of administrative controls over prices and distribution, and progressive devaluation of the currency. The economic response to these reforms was positive, with Gross Domestic Product growing at between 4 and 5 percent per annum. Agricultural production also increased substantially. The volume of road traffic, transport of crops out of the rural areas and transport of consumer goods into the rural areas increased despite the deterioration of the road infrastructure. Roads were deteriorating faster than they were rehabilitated.

Project Objectives

7. The objectives of the project, were to: (i) reduce the transport costs by rehabilitating the most important sections of the highway network; (ii) improve the system of road maintenance works by increasing contractors rather than by force account; (iii) assist and expand the capacity and efficiency of the trucking industry; and (iv) increase the availability of trained engineers in Tanzania.

8. The project provided for: (i) a road rehabilitation program consisting of 295 kms of the TANZAM Highway and 700 kms to 1,000 kms of gravel roads; (ii) an equipment rehabilitation program for the inoperable equipment and vehicles bought under the Fourth and Fifth Highway projects; (iii) technical assistance to the Ministry of Communications and Works (MCW) in project coordination, road maintenance, and equipment management; (iv) general training to MCW staff; (v) assistance to the local contracting industry; , (vi) assistance to the trucking industry; and (vii) consulting services to carry out an agricultural feeder road study, various feasibility studies and detailed engineering for several roads.

9. The project had to be restructured as a result of the increased scope of work, e.g. widening of unpaved roads and asphalt chip sealing of pave road shoulders. The number of kilometers of gravel roads had to be reduced from 1,000 kms to 130 kms. Since preparation of the Integrated Roads Project (IRP) was well underway, the work not contracted under this project was rolled over to IRP. NORAD increased its contribution from US\$ 6.9 million to US\$ 17.1 million to finance an additional section of Tanzam

Highway, increasing the total length of the road sections to be rehabilitated from 295 kms to 370 kms.

Implementation Experience and Results

10. While the project as restructured met substantially its objectives for the road rehabilitation components, it partially achieved its objectives for the technical assistance and training components, and it failed its objectives for equipment rehabilitation component.

11. The vehicle operating costs were reduced in average by at least 30 percent for all the rehabilitated roads. The Economic Rate of Return now is 41 percent for Tanzam Highway, compared to 39 percent at appraisal, and 37 percent for the gravel roads, compared to 27 percent at appraisal. The data provided by MWCT indicated an increase of traffic in the Tanzam Highway (almost three times more than the appraisal estimates), which is due to higher economic activity as a result of the improvement of the roads.

12. The project as a whole was completed two years behind schedule, in 1994, with considerable delays and variations for the various project components.

13. Procurement delays were the main cause of slow start-up of the project. This prompted the inclusion, under IRP, of a comprehensive study to overhaul the Government's procurement and supply management system, preceded by agreement between GOT and IDA of interim procurement regulations, standard procurement documents and more realistic procurement decision-making limits at ministry and regional levels.

14. The roads works proved to be a major source of delays, due to inadequate and poorly documented engineering designs. As a result, significant changes occurred in the field and the actual costs of roads works had been increased well above appraisal estimates. As result of this cost overrun, the project scope had to be amended and the road rehabilitation was concentrated on Tanzam Highway, by expanding it to 370 kms. The scope of the gravel road rehabilitation was reduced from about 1000 kms to 130 kms and the remaining work was rolled over to IRP.

15. The equipment rehabilitation component started 2 years behind schedule. The delay was caused by weak management within the MWCT, lack of proper planning of plant maintenance and utilization of spare parts, and delays in procurement decisions. These problems remain to date.

16. The training and technical assistance components had a slow start up due to delays in the completion of the training facilities.

17. The initial project cost at appraisal was estimated at US\$107.7 million. The final project cost rose to US\$ 117.15 million primarily due to (i) due to the inclusion of the

equipment rehabilitation component (US\$2.9 million), (ii) the increased component for the feasibility studies (US\$ 7.4 million), and (iii) the exchange rate fluctuation (US\$8.6 million). Funding of the total project costs was provided by IDA (US\$ 58.6 million), grants from NORAD (US\$17.1 million) and the government of Denmark (US\$2 million), loan from the African Development Fund (US\$17.45 million) and a government contribution of US\$22 million.

18. The project outcome was satisfactory since the project substantially met its objectives for the paved road rehabilitation component. With this project providing invaluable experience to MWCT, the ministry is better prepared to manage and contract IRP's massive investments. Additionally, with regards to institutional development, the project increased the availability of trained engineers in Tanzania. Further, the assistance to the Local Contracting Industry enabled the Borrower to improve the local construction industry. Local contractors acquired training in project management, budgeting, and preparation of bidding documents. Some of these contractors are now undertaking civil works under IRP. The assistance to the trucking industry constituted technical assistance especially accountants and mechanics, and the provision of spare parts, tires and workshops tools for the Regional Trucking Companies (RETCOs).

Summary of Findings, Future Operations and Key Lessons Learned

19. As noted, this project helped in the preparation of the IRP, in the sense that the lessons learned during implementation of the Sixth Highway project were taken into account in the preparation of IRP. The two ongoing IRP projects, which provided for rehabilitation works and institutional support to MWCT, will provide support to the Government by giving priority to road maintenance, improving transport sector administration through policy and institutional reforms, expanding the domestic roads construction industry; improving management and procurement practices, and mobilizing and coordinating the substantial resources required to support these actions.

Key Lessons Learned

- 20. Lessons from the project are:
- Undertake main institutional changes prior to project effectiveness. The structure of road administration has been subject to frequent changes during the implementation of the project. The result of these changes was confusion, poorly organized planning administration and ineffective long-term institutional and work force development. Therefore, main institutional and policy changes, including reorganization and institutional reinforcement of roads administration, as well as changes in the procurement regulations should be undertaken prior to project effectiveness.

- Phase policy changes with implementation progress. Physical progress is often needed to highlight the needed changes. It would be appropriate to annually review the program and to phase it with implementation progress, using subsequent fund releases based on continuing institutional reforms and strengthening.
- Re-evaluate the engineering design of the roads works before commencement of project. Inadequate engineering design of roads works and weak documentation caused substantial changes in the field, delays in the implementation, and cost overruns. A careful reevaluation of the engineering design prior to actual commencement of works would avoid such delays and cost overruns.
- Condition the approval of roads works contracts financed by IDA on the Government agreed annual road budget. Road networks are deteriorating faster than the level of investments to rehabilitate and to maintain them. Therefore, the Government should invest more in timely periodic road maintenance works, while IDA's contribution should be for road rehabilitation and upgrading projects.
- Establish a maintenance strategy for the roads. No project can be sustained without policy and institutional reforms for proper maintenance strategy for the roads network.
- Improve the regulatory environment to stimulate the development of the private sector. An important objective of the project was to carry out major maintenance and rehabilitation works by contract rather than by force account. Strengthening the Government's contract management capacity and capability would promote private sector participation in road maintenance.
- Public sector based equipment rehabilitation programs do not work. The failure of the various efforts of the Government to implement this component have led to a decision to leave this to the private sector.

PART I - PROJECT IMPLEMENTATION ASSESSMENT

A. STATEMENT/EVALUATION OF OBJECTIVES

Objectives

1. The objectives of the project, which formed part of the Borrower's Transport Sector Investment Program (FY1986-FY1988) were to: (a) support the Borrower's efforts towards improvement in the efficiency of its transport operations and maintenance; and (b) expand the effective capacity in its territory in order to assist the Borrower in its efforts to rehabilitate its economy, particularly the agricultural sector. The project consisted of the following components:

(i) Road rehabilitation program

- (a) Rehabilitation of six sections of the Tanzam highway totaling 295 kms;
- (b) Rehabilitation of 700 kms to 1000 kms of gravel roads; and
- (c) Provision of technical assistance for the supervision of construction of the above works.

(ii) Equipment rehabilitation program:

- (a) Rehabilitation of inoperative road maintenance equipment and vehicles; and
- (b) Provision of technical assistance for the supervision of the above activities and reorganization and strengthening of six zonal workshops and the central workshop at Morogoro.

(iii) Technical assistance to MCW:

(a) Strengthening the capabilities of the Borrower's Ministry of Communications and Works by the provision of technical assistance in project coordination, training, road maintenance, and equipment management and service.

(iv) Training:

- (a) Provision of fellowships for training abroad of engineers, planning officers and other professionals of MCW;
- (b) Establishment of a three-year highway technicians course for about twentyfive highway technicians at the Dar-es-Salaam Technical College;

- (c) Training of existing field supervisory personnel at the Morogoro Training School; and
- (d) Preparation and supervision of annual in-service training program for MCW staff;
- (v) Assistance to Contracting Industry:
- (a) Training of local contractors, in the areas of cost estimation, preparation of bids, site management, methods of execution of roadwork and contractual obligations; and
- (b) Technical assistance to local contractors in carrying out periodic maintenance and rehabilitation works.

(vi) Assistance to Trucking Industry:

- (a) Strengthening of public regional trucking companies by the provision of technical assistance in the areas of management, accounts, vehicles maintenance and vehicles repair, and in assisting in the execution of Part 2 below; and
- (b) Provision of spare parts, tires and batteries for both public and private truck operators;
- (vii) Studies:
- (a) Carrying out of feasibility studies and detailed engineering of sections of the Chalinze-Segera-Mkumbara, Tanga-Segera and Arusha-Moshi roads; and
- (b) Carrying out an agricultural feeder roads study.

2. Given the deteriorated state of the country's high priority trunk road, the complete lack of maintenance on the rural/feeder roads and the urgent need to alleviate constraints in the movement marketing and export of agricultural products, the project objectives were clear and important for the sector, and in line with the Association's country strategy.

Project Implementation and Organization.

3. The Department of Roads under the MWCT was in charge of the project's implementation. The assistance to the local contracting industry was implemented by the National Construction Council (NCC) under the direction of the MWCT. Similarly, the assistance to the trucking industry was implemented by National Transport Corporation

(NTC) under the direction of MWCT. A project coordinator from MWCT was responsible for overall coordination of the various project elements and disbursements of the credits funded by IDA and AfDF. IDA managed NORAD funds through a trust fund agreement.

Project Restructuring

4. In November 1989, the Bank and the Government agreed to the following substantial changes:

- (i) revise the financial participation of IDA in rehabilitating road maintenance equipment and civil works, in order to reduce Government participation in the project costs to about 10 percent (from 20 percent as appraised), and to bring the cost share in line with the subsequently appraised Integrated Roads Project (IRP);
- (ii) increase scope of works, by widening unpaved roads and asphalt chip sealing of paved roads shoulders. With increased IDA participation in roads works to a more realistic percentage for a country in Tanzania's economic situation, and increased scope of works, the number of kilometers of gravel roads had to be reduced, from 700 kms-1,000 kms to 130 kms. Since the preparation of IRP was well underway, those works not contracted under this project were rolled over to IRP.
- (iii) increase the total length of the sections of TANZAM Highway to be rehabilitated, from 295 kms to 370 kms. This was result of the additional financing provided under this project by the Government of Norway; for rehabilitation of section 5 of the TANZAM Highway;
- (iv) increase from \$500,000 to \$1,000,000 the upper limit amount for contracts used for training of domestic contractors in road works;
- (v) provide MCWT with greater flexibility in the procurement procedures to carry out the equipment rehabilitation component; and
- (vi) permit direct contracting of equipment repairs with local garages.

B. ACHIEVEMENT OF PROJECT OBJECTIVES

Physical Objectives

5. The project initiated a program to help reduce transport as a constraint facing the Tanzanian economy, through the rehabilitation of the most important sections of the

highway network. The economic recovery could not be sustained unless the transport costs are reduced and accessibility to the primary agricultural areas are improved.

6. The project, as restructured, substantially met its objectives for the road rehabilitation component, especially the part funded by IDA and NORAD. However, it only partially achieved its objectives for the technical assistance and training components. Further, it failed to meet its objectives for the equipment rehabilitation component.

7. The rehabilitation of 370 kms of Tanzam Highway restored a portion of the principal artery of the country to a maintainable condition. The vehicle operating costs were reduced in average by at least 30 percent for all the rehabilitated roads. The Economic Rate of Return is calculated at 41 percent for Tanzam Highway, compared to 39 percent at appraisal, and at 37 percent for the gravel roads, compared to 27 percent at appraisal. Section 1 of Tanzam Highway, was in better condition than the others and has therefore the highest rate of return (75 percent). The data provided indicated a high traffic increase on Tanzam Highway (almost three times more than the appraisal estimates), which is due to the observed higher economic activity and to the improvement of the road sections (Tables 9 and 9A).

8. With respect to institutional development, major improvements were achieved: (i) the Ministry was able to fill the vacant positions identified at the appraisal of IRP; and (ii) the project increased the availability of trained engineers in Tanzania. About 80 undergraduate engineers were trained, 20 of which obtained academic degrees at M.Sc level. These engineers were added to the pool of engineers needed to implement the Integrated Roads Project. A study on agricultural feeder roads provided the basis for successful institutional restructuring of the organization of the MWCT, creating a new rural roads division with a task of supervising the Core Rural Roads Program (CRRP).

9. The assistance to the Local Contracting Industry enabled the Borrower to strengthen the local construction industry. Local contractors acquired training in project management, budgeting, and preparation of bidding documents. Some of these contractors are now undertaking civil works under IRP.

10. The project continued the effort started under the previously successful IDAfinanced project (Cr 743-TA); to expand the capacity and to improve the efficiency of the trucking industry. The assistance to the trucking industry was comprised of technical assistance, especially accountants and mechanics, and the provision of spare parts, tires and workshops tools for the Regional Trucking Companies (RETCOs).

C. IMPLEMENTATION RECORD AND MAJOR FACTORS AFFECTING THE PROJECT

11. All the components commenced with delays ranging from 5 to 24 months. Initial delays were mainly caused by slowness of MWCT, MOF, A.G. Chambers and Central Tender Board (CTB), in the engagement of consultants and in procuring goods and

works. This led to the inclusion under IRP of a comprehensive study to overhaul the Government's procurement and supply management system, preceded by agreement between GOT and IDA of interim procurement regulations, standard procurement documents, and more realistic procurement decision-making limits at ministry and regional levels.

12. The roads works proved to be a major source of delays, due to inadequate and poorly prepared engineering designs. As a result, significant changes occurred in the field and the actual costs of roads works were above the appraisal estimates. To deal with this cost overrun and actual needs of the transport sector, the project scope was amended and the road rehabilitation was concentrated on Tanzam Highway; which was expanded to 370 kms. The scope of the gravel road rehabilitation was reduced from about 1000 kms to 130 kms, while the remaining components were transferred to the subsequent appraised Integrated Roads Project (IRP). The economic rationale behind this choice of giving the priority to Tanzam Highway over the gravel roads is neither clear nor documented. Alternatively, a total of total 370 kms of Tanzam Highway and 110 kms of gravel roads were rehabilitated. The rehabilitation of gravel roads started about 32 months behind schedule. The main causes of delays were i) scarcity of equipment, ii) weak local contractor performance, iii) lengthy period to contract consultants, and iv) underestimation of time needed for preparing detailed engineering.

13. There was a delay of about 24 months in the commencement of the rehabilitation of inoperative road maintenance equipment and vehicles. The delay was caused by weak management within MWCT and delays in procurement decisions. Specifically, the Attorney General's Chambers (AGC) and the Central Tender Board (CTB) delayed in approving negotiated contracts with private garages for repair of MWCT's road maintenance equipment. Based on the agreed amendment to the credit agreement, in November 1989, which allowed negotiated contracts, as well as IDA funding 100 percent of the equipment transport and repair costs, agreement among AGC and MWCT was obtained to facilitate procedures for repair contracts and spare parts purchases. However, CTB rejected MWCT's appointment of a procurement agent selected through procedures agreed with IDA. This task is now managed by the Government owned Plant and Equipment Hire Company (PEHCOL).

14. DANIDA financed the strengthening of the capabilities of MWCT through the provision of technical assistance, consisting of 4 advisors in project coordination, training, road maintenance equipment management, and road maintenance programming.

15. The training program at the Morogoro training School had a slow start up due to delays in the completion of the training facilities. The training component is being continued under IRP with IDA funding for a further two years.

16. The assistance to the trucking industry sector had three components: (i) supply of spare parts, (ii) supply of tires and batteries; and (iii) technical assistance. Procurement of 4,800 batteries and 8,500 sets of tire tubs and flaps has been completed and distributed to transport operators by the local supply agents.

17. The assistance to the local contracting industry faced slow initial implementation because the trainees did not have any experience in roads works, maintenance and project budgeting.

18. All the studies were completed on time and more studies emerged from the implementation of the project including: (i) a feasibility study for trunk roads covering 3,000 kms of gravel trunk roads; (ii) pavement management study on Tanzam Highway; (iii) bridge and ferry crossing study covering all trunk road bridges and ferry crossings in the country; (iv) Tanzania Railways Corporation (TRC) study; and (v) Chalinze-Arusha Road feasibility study. The agricultural feeder roads study (financed by DANIDA) was completed on time and has identified some 1,300 kms of Core Rural Roads to be rehabilitated under IRP. The above study has been succeeded by the Core Rural Roads Study as part of a DANIDA-financed O&M study which has provided engineering design for 622 kms of rural roads and training of local consultants in rural road rehabilitation design.

19. Delays were also caused by the rejection by the Ministry of Finance of negotiated contracts with international consultants for short-term studies, because the firms would not be subject to Tanzanian taxes. An agreement was reached with the Ministry of Finance to exempt foreign consultants from taxation.

20. The MOF's regulations did not allow local contractors to receive foreign currency for importing parts, materials and contracted works. This affected local firms when competing against foreign firms, and severely hampered efforts to develop the local industry.

21. There was lack of agreement with the Bank on the method of application of import duties and taxes for road contracts awarded through ICB.

22. The project had to be restructured as a result of the increased scope of work, e.g. widening of unpaved roads and asphalt chip sealing of paved road shoulders. The number of kilometers of gravel roads had to be reduced from 1,000 kms to 130 kms. Since preparation of the Integrated Roads Project (IRP) was well underway, the work not contracted under this project was rolled over to IRP. NORAD increased its contribution from US\$ 6.9 million to US\$ 17.1 million to finance an additional section of Tanzam Highway, increasing the total length of the road sections to be rehabilitated from 295 kms to 370 kms.

D. PROJECT SUSTAINABILITY

23. The project, as restructured, achieved its purpose by beginning the rehabilitation of Tanzania's trunk roads as a forerunner to the massive road rehabilitation program under subsequent IRP, as well as by providing the mechanism for implementing studies to support IRP and the Railways Restructuring Projects. Actions taken by the Government under the IRP, will determine the sustainability of the system established for maintaining

the main road network. The rapid increase in traffic volumes and loads since IRP, that commenced in the 1990s, will require special attention by MWCT in implementing the periodic reshaping and regravelling of unpaved roads and resealing and overlays of paved roads; especially for the highly trafficked Tanzam Highway. If the maintenance system improvements are successful, the achievements generated by the Sixth Highway project are likely to be maintained.

E. BANK PERFORMANCE

24. The project was identified, prepared and appraised at the time when the country's transport system was in disarray. The Association helped develop a program for the rehabilitation/strengthening of the country's vital trunk roads and institutional strengthening of various Government agencies. The Association's performance in project identification, as well as in the project preparation was satisfactory. It also assisted the Government in mobilizing donors to finance other components under the project. The Bank's supervision performance was generally satisfactory. The number of staff weeks required for the supervision of the project was doubled from the estimates given at the appraisal stage. The Association's supervision effort was adequate in spite of the lack of continuity in project supervision due to frequent changes in task management responsibilities. Five task managers and three Division Chiefs were involved during the implementation of the project. However, project implementation progress reporting was adequate and the performance rating given in Forms 590 appropriate, although in the last stages of project implementation when IRP started, supervision efforts were shifted from this project to IRP.

F. BORROWER PERFORMANCE

25. The Borrower's performance in project preparation was satisfactory. During implementation, general progress was behind schedule because of lack of experience of the contractors and because of constant changes in scope of works as a result of inadequate design documentation. Starting 1991, implementation performance has been improved as a result of the parallel implementation of IRP. The Government showed its resolve in addressing problems facing both projects. On the institutional side, trunk and regional roads have been brought under common management of the Director of Roads and Aerodromes. Regional Engineers Offices have been firmly established and staffing has been adequate. On resource mobilization, a Road Fund was established in July 1991 to finance road maintenance and rehabilitation with revenues derived from a levy on fuel sales. These improvements have encouraged private sector provision of transport services and facilitated the movement of freight and passengers throughout the country. The Project Coordination Office ensured a successful coordination among donors, and managed effectively and timely payments from IDA Special Accounts, disbursement applications, project progress and auditing reports.

G. ASSESSMENT OF OUTCOME

26. The project outcome was satisfactory since the project substantially met its objectives for the paved road rehabilitation component. With this project providing invaluable experience to MWCT, the ministry is better prepared to manage and contract IRP's massive investments. Additionally, with regards to institutional development, the project increased the availability of trained engineers in Tanzania. Further, the assistance to the Local Contracting Industry enabled the Borrower to improve the local construction industry. Training of contractors and local engineers was important and essential and is being utilized under IRP.

H. FUTURE OPERATION

27. The Integrated Roads Project, which is in two phases, IRP I and IRP II, is a radical new approach for improvement of transport sector in the country. The supervision of both projects is in progress. The objective of IRP in general is to restore Tanzania's trunk and regional roads network and to strengthen the MWCT's institutional capacity to properly maintain the networks. IDA continues to support this objective under IRP I by giving priority to road maintenance, expanding the domestic construction industry, improving management and procurement practices in the roads subsector, and mobilizing and coordinating the substantial resources required to support the program.

I. KEY LESSONS LEARNED.

- 28. Lessons learned from the project are:
- Undertake main institutional changes prior to project effectiveness. The structure of road administration has been subject to frequent changes during the implementation of the project. The result of these changes was confusion, poorly organized planning administration and ineffective long-term institutional and work force development. Therefore, main institutional and policy changes, including reorganization and institutional reinforcement of roads administration, as well as changes in the procurement regulations should be undertaken prior to project effectiveness.
- Phase policy changes with implementation progress. Physical progress is often needed to highlight the needed changes. It would be appropriate to annually review the program and to phase it with implementation progress, using subsequent fund releases based on continuing institutional reforms and strengthening.
- Re-evaluate the engineering design of the roads works before commencement of project. inadequate engineering design of roads works and weak documentation caused substantial changes in the field, delays in the implementation, and cost

overruns. A careful reevaluation of the engineering design prior to actual commencement of works would avoid such delays and cost overruns.

- Link the approval of civil works for the roads financed by IDA with the Government agreed annual road budget. Road networks are deteriorating faster than the level of investments to rehabilitate and to maintain them. Therefore, the Government should invest more in timely periodic road maintenance works, while IDA's contribution should be for road rehabilitation and upgrading projects.
- Establish a maintenance strategy for the roads. No project can be sustained without policy and institutional reforms for proper maintenance strategy for the roads network.
- Improve the regulatory environment to stimulate the development of the private sector. An important objective of the project was to carry out major maintenance and rehabilitation works by contract rather than by force account. Strengthening the Government's contract management capacity and capability would promote private sector participation in road maintenance.
- Public sector based equipment rehabilitation programs do not work. The failure of the various efforts of the Government to implement this component have led to a decision to leave this to the private sector.

PART II - STATISTICAL TABLES

TABLE 1: SUMMARY OF ASSESSMENTS

A .	Achievement of Objective	s Substa	ntial Par	tial Negligible	Not applicable
	Macroeconomic policies				х
	Sector policies				X
	Financial objectives	х		_	
	Institutional development		X		
	Physical objectives	Х			v
	Gender issues				X V
	Other social objectives				X
	Environmental objectives	x			А
	Public sector management		X		
	Private sector development		X	X	
	Others (specify)				X
B	Project Sustainability	1	ikely	Unlikely	Uncertain
				,	-
			x		
С.	Bank Performance	Highly s	atisfactory	Satisfactory	Deficient
	Identification			v	
	Prenaration assistance			X	
	Appraisal			X	
	Supervision			x	
D.	Borrower Performance	High sa	tisfactory	Satisfactory	Deficient
	Prenaration			x	
	Implementation			x	
	Covenant compliance			X	
	Operation (if applicable)				
F	Assassment of	Hiakhy			Hiabh.
	outcome	satisfactory	Satisfactory	v Unsatisfactory	unsatisfactory

•

TABLE 2: RELATED BANK LOANS/CREDITS

Loan/Credit Title	Purpose	Year of Approval	Status
Preceding operations			
1. Credit 48-TA/ Credit 115-TA First Highway Project (US\$17.0 million)	Construction of six road sections with detailed engineering work	1964	Completed
 Loan 586-TA/ Credit 142-TA Second Highway Project (US\$22.5 million) 	Construction of 499 kms of Tanzam Highway	1969	Completed
 Credit 265-TA/ Loan 586-TA Third Highway Project (US\$6.5 million) 	Paving the road between Mtwara and Masasi and preinvestment studies t	1971	Completed
 Credit 507-TA Fourth Highway Main tenance Project (US\$10.2 million) 	First phase of establishing a trunk road - maintenance organization	1974	Completed
5. Credit 743-TA Trucking Industry Rehabilitation and Improvement Project (US\$15.0 million)	Strengthen the operating capability, management and management information systems of selected companies through procurement and rehabilitation of trucks	1977	Completed
 Credit 876-TA Fifth Highway Project (US\$20.5 million) 	Second phase of establishing a trunk road maintenance organization	1979	Completed
Following operations 1. Credit 2149-TA Integrated Roads Project (US\$180.4 million)	Support the Government's economic recovery program by reducing transport costs and improving accessibility to agricultural areas	1990	Ongoing
2. Credit 2598-TA Integrated Roads Project II (US\$170.2 million)	Strengthen the capability of MCW to manage road maintenance program and to execute road rehabilitation and upgrading works	1994	Ongoing

Steps in Project Cycle	Date Planned	Date Actual		
Identification	1982	1982		
Preparation	1983	1983		
Appraisal	May 1985	May 1985		
Negotiations	March 1986	March 1986		
Board Presentation	April 1986	May 6, 1986		
Signing	June 1986	June 25, 1986		
Effectiveness	September 24, 1986, revised November 25, 1986	December 4, 1986		
Project completion	December 31, 1991	June 30, 1994		
Credit closing	June 30, 1992	June 30, 1994		

TABLE 3:PROJECT TIMETABLE

 TABLE 4:
 CREDIT DISBURSEMENTS

	10/87	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95
Appraisal estimate	6.5	19.1	31.7	41.7	48.3	50.0		0	
Actual	3.3	4.2	11.1	18.7	32.2	46.2	54.1	0	58.6
Actual as % of estimate	50.7	22.0	35.0	44.8	66.6	92.4	108.2	0	117.4
Date of final disbursement	3/87	6/88	6/89	6/90	6/91	6/92	6/93		10/94

TABLE 5: KEY INDICATORS FOR PROJECT IMPLEMENTATION

Key implementation indicators in SAR	Estimated	Actual
Number of trainees	0	80

TABLE 6: KEY INDICATORS FOR PROJECT OPERATION

Key Operating Indicators in SAR/President's Report	Estimated			Ac	tual		
Decrease in voc after rehabilitation (\$/km) [⊮]		Sec 1	Sec 2	Sec 3	Sec 4	Sec 5	Gravel
Light vehicles		.05	.06	.10	.08	.09	.09
Medium vehicles		.16	.13	.34	.27	.28	.35
Heavy vehicles		.28	.38	.56	.48	.48	.45
Number of maintenance equipment in operation	243			1	20		

a/ The figures are based on these initial roughness (in millimeter/km): 4,500, 5,080, 6,500, 5,540, 5,900, 10,500 for Sections 1, 2, 3, 4, 5 and gravel roads, respectively.

TABLE 7: STUDIES INCLUDED IN PROJECT

Study	Purpose as Defined at Appraisal/Redefined	Status	Impact of Study
 Agricultural feeder roads 	Rehabilitation/strengthening measures for selected roads	Completed	Identified 1,300 kms of core rural roads to be rehabilitated under IRP
2. Core rural roads study	Provide engineering design	Completed	Engineering design for 622 kms of rural roads and O&M study for MWCT
3. TRC study	Proposals to improve the "link line" between Dar es Salaam and Arusha	Completed	
4. Chalinze-Arusha Feasibility Study	Determine appropriate level of rehabilitating/strengthening measures	Completed	

TABLE 8A: PROJECT COSTS

Item	Appraisal Estimate (USSM)			Re	vised Estims (USSM)	ite	Actual/Latest Estimate (USSM)		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
Road Rehabilitation	19.9	55.5	75.4	12.9	77.1	90	17.4	59.05	76.45
Equipment Rehabilitation	0.4	4.6	4.9	0.4	5.4	5.8	0.3	7.5	7.8
Assistance to the Trucking Industry	0.1	6.9	7.0	0.1	7.6	7.7		7.5	7.5
Technical Assistance to MCW, Office Equipment & Supplies	0.1	1.4	1.5	0	3.2	3.2		1.3	1.3
Training	0.6	6.5	7.2	0.5	6.4	6.9		8.2	8.2
Assistance to Local Contracting Industry	0.4	1.7	2.2	0.5	1.2	1.7	0.3	2.4	2.7
Other Consulting Services	0.2	1.6	1.8	0.05	5.9	6.0		9.2	9.2
Total Project Costs before Taxes	21.8	78.3	100.1	14.6	106.8	121.4	18.0	95.15	113.15
Taxes and Duties	7.6	0	7.6	7.6	0	7.6	4	0	4
Total Project Cost	29.4	78.3	<u>107.7</u>	22.2	106.8	129.0	<u>2</u> 2	95.15	117.15

	Category	Appraisal ('000 SDR)	Appraisal (US\$M)	Revised ('000 SDR)	Revised (USSM)	Actual ('000 SDR)	Actual (USSM)
1	Civil works - Tanzam Sec	8 520	9.8	15 920	20.6	13 155	18.1
2.	Civil works - Gravel Roads	8.650	9.9	2,880	3.7	2,124	2.9
3.	Civil works - Housing and Hostels	240	0.3	470	0.6	253	0.3
4.	Equipment repair	430	0.5	650	0.8	960	1.3
5a.	Spare parts and components	2,160	2.5	2,160	2.8	1,879	2.5
5b.	Training aids, equipment and transport	730	0.8	470	0.6	505	0.7
5c.	Assistance to trucking industry	4,500	5.1	4,500	5.8	3,401	4.7
5d.	MWCT vehicles	0	0	1,000	1.3	1,857	2.5
6a.	Consultancy	3,810	4.4	5,778	7.5	7,518	10.3
6b.	Technical/Morogoro School	1,820	2.1	2,600	3.4	2,770	3.8
6c.	TA to local contracting	1,240	1.4	1,522	1.9	1,576	2.1
6d.	TA to trucking industry	1,150	1.3	1,500	1.9	1,941	2.6
6 c .	TA to MWCT	0	0	2,000	2.6	2,450	3.3
7.	Training	2,160	2.5	1,850	2.4	2,551	3.5
	Unallocated	7,890	9.1	0	0	0	0
	Special Account - (Fund A)	0	0	0	0	357	0.4
	Total	43,300	50.0	43,300	55.9	43,300	58.6

TABLE 8A-1: PROJECT COSTS FUNDED BY IDA

a/ At appraisal, 1 SDR - US\$1.15; in 1989, 1 SDR = US\$1.3; in 1994, 1 SDR = US\$1.38.

TABLE 8B: PROJECT FINANCING (US\$M)

Source	Appraisal Estimate			Revised Estimate			Actual/Latest Estimate		
	Local	Foreign	Total	Local	Foreign	Total	Local	Foreign	Total
IDA	0	50.0	50.0		50.0	50.0		58.60	58.60
AfDF	0	19.4	19.4		19.4	19.4		17.45	17.45
Kingdom of Norway	0	6.9	6.9		17.1	17.1		17.10	17.10
DANIDA	0	2.0	2.0		2.0	2.0		2.00	2.00
Government	29.4	0	29.4	29.4	0	29.4	22		22.00
Total	29.4	78.3	107.7	29.4	88.5	117.9	22	95.15	117.15

TABLE 9: ECONOMIC COSTS AND BENEFITS

Tanzam Section	1	2	3	4	5	Gravel Roads
Length (kms)	99.95	72.64	48.90	91.00	58.10	110
Investment Costs (US\$M)	15.533	13.717	13.301	19.693	13.775	4.908
Estimated Daily Traffic (1986)	1,092	309	388	327	367	60
Actual Daily Traffic	2,810	1,130	596	1,137	806	250
Normal Traffic (without						
rehabilitation) *	1,951	719	492	732	586	155
Generated Traffic	859	410.5	104	405	219	95
Savings to Normal Traffic (US\$M)	9	3	4.5	4.5	2.5	2
Savings to Generated Traffic						
(US\$M)	2	1	1.5	1.5	0.5	0.6
Total Benefits (US\$M)	11	4	6	6	3	2.6

a/ Data received from the Borrower.

Year/Section	1	2	3	4	5	Total TANZAM	Total gravel roads
0	-15.53	-13.72	-13.30	-19.69	-13.78	-76.02	-4.9
1	11	4	6	6	3	30	2.64
2	11	4	6	6	3	30	2.31
3	12	4	6	6	3	31	1.96
4	13	5	7	6	3	34	1.96
5	13	5	7	7	4	36	1.96
6	14	5	7	7	4	37	
7	15	5	8	7	4	39	
8	15	5	8	8	4	40	
9	16	6	8	8	4	42	
10	17	6	9	9	5	46	
ERR	74.48	30.22	47.02	30.25	21.09	41.36	36.78

TABLE 9A: ECONOMIC RATES OF RETURN (ERR)

TABLE 10: STATUS OF LEGAL COVENANTS

Agreement	Section	Covenant Type	Present Status	Description of Covenant	Comments
DCA	3.03	execution	complied with	The Borrower shall, no later than 1/1/87:	
				(i) annually thereafter, compile and publish statistics on its transport sector, with contents and form acceptable to the Association; and	Up to 1991. Restated 1995.
				 (ii) prepare a draft paper on its overall transport sector policy and furnish such paper to the association for its review 	ок
DCA	3.04	execution	complied with	The Borrower shall consult with the Association prior to undertaking any change in its overall transport investment program	ОК
DCA	3.05	execution	complied with	The Borrower shall, after prior consultation with the Association and review by the Association:	ОК
				 (i) introduce, no later than December 31, 1987, appropriate regulations to reform axle load control; and 	
				(ii) no later than March 31, 1988, adopt a plan for the implementation of the regulations.	
DCA	3.06	execution	complied with	The Borrower to give priority to staffing of its regional and district Government highway administrations in allocating manpower trained under the project	ОК
DCA	3.07	execution	complied with	The Borrower shall ensure that:	ОК
				(i) road transport inputs, financed under the project, shall be allocated in accordance with criteria agreed;	
				(ii) official inputs shall be allocated to the most efficient users based on criteria satisfactory to the Association and be subject to both import duty and sales tax;	
				(iii) road freight tariffs for inter regional traffic, shall, wherever, feasible be based upon the cost of providing the transport services; and	
				(iv) road freight tariffs for inter regional traffic, shall, wherever feasible, be based on bids.	
DCA	3.08	execution	cancelled	The Borrower shall ensure that individual truckers receive at least 65% of the funds allocated for part F2 of the project.	
DCA	4.01 (a)	financial	complied with	The Borrower shall have accounts, including special accounts and SOEs, audited and furnish to IDA, the audited accounts no later than 6 months after the end of each fiscal year.	OK
DCA	4.01 (b)	financial		The Borrower shall:	ОК
			complied with for FY 87 and 88	(i) have the accounts referred to in paragraph (a) of this section, including the Special Account for each fiscal year audited, in accordance with appropriate auditing principles consistently applied, by independent auditors acceptable to the Association:	
			complied with	(ii) furnish to the Association, as soon as	

Avreement	Section	Covenant Type	Present Status	Description of Covenant	Comments
				available, but in any case no later than 6 months after the end of each such year, a certified copy of the report of such audit by said auditors, of such scope and in such detail as the Association shall have reasonable request; and	
			complied with	(iii) furnish to the Association such other information concerning said accounts and the audit thereof and said records as the Association shall from time to time reasonably request.	
DCA	4.01 (c)	financial		For all expenditures with respect to which withdrawals from the Credit Account were made on the basis of statements of expenditure, the Borrower shall:	ОК
			complied with	 (i) maintain or cause to be maintained, in accordance with paragraph (a) of this Section, separate records and accounts reflecting such expenditure; 	
			complied with	(ii) retain, until at least one year after the completion of the audit for the fiscal year in which the last withdrawal from the Credit Account was made, all records (contracts, orders, invoices, bills, receipts and other documents) evidencing such expenditures;	
			complied with	(iii) enable the Association's representatives to examine such records; and	
			complied with	(iv) ensure that such separate accounts are included in the annual audit referred to in paragraph (b) of this Section and that the report thereof, contains, in respect of such separate accounts, a separate opinion by said auditors as to whether the proceeds of the Credit withdrawn in respect of such expenditures were used for the purposes for which they were provided.	
DCA	4.02	financial	complied with	The Borrower shall at all times maintain its roads in accordance with sound engineering and financial [practices and shall promptly provide the funds required for the foregoing	OK
DCA	(2) (b)	implementation	complied with	The Borrower shall, no later than December 31, 1986, dispose of all scrap parts and components, unusable equipment and vehicles and thereafter, regularly dispose of equipment and vehicles which have reached the end of their economic life	ОК
DCA	(3)	implementation	complied with	In carrying out part C of the project, the Borrower shall appoint:	ОК
			complied with	(a) a Project Coordinator within MCW, to be assisted by an Adviser, to provide overall coordination and monitoring of Project activities, assist the various agencies involved in the project to prepare bid documents, detailed work programs and monitoring and reporting systems, and supervise and manage project disbursements and accounts;	
			complied with	(b) a Training Advisor to assist the Chief Training Officer of MCW to: (i) make continual assessment of short-term and long- term training needs; and (ii) institute and supervise annual training programs for all levels of staff, monitor the execution of training programs and evaluate feedback and	

		Covenant	Present		
Agreement	Section	Туре	Status	Description of Covenant	Comments
				improvement of staff performance;	
			complied with	(c) a Road Maintenance Advisor, to assist	
			-	the Chief Road Maintenance Engineer of	
				MCW, in improving the efficiency of	
				MCW's road maintenance organization,	
				management and quality of road maintenance	
				works; and	
			complied with	(d) an Advisor to assist MCW's Equipment	
				Management Engineer in: (i) deployment	
				and management of the use of equipment and	
				vehicles; (ii) monitor of equipment and	
				vehicle availability and utilization; and (iii)	
				ensuring the adequate servicing and repairing	
				of equipment and vehicles and the keeping of	
				proper records	
DCA	(4)	implementation		In carrying out part D.2 of the Project, the	ОК
				Borrower shall: (a) review its existing civil	
				engineering course and rurnish new course	
				Inter than December 21, 1086; and (b)	
				appoint no later than July 1 1987 qualified	
				staff to work with each of the instructor	
				appointed under the project	
DCA	Schedule 5	special account	complied with	Activities under Part E of the Project shall be	
		-p	••••• • ••••	carried out by NCC under the direction of	
				MCW, which will supervise the training for	
				local contractors and also the technical	
				assistance to them. NCC shall charge such	
				fees for the training courses and technical	
				services as shall be agreed from time to time	
				by the Borrower and the Association.	
DCA	Schedule 6	special account	complied with	NTC, under the direction of MCW shall, in	
				carrying out the procurement of spare parts,	
				tires and batteries, invite applications for	
				these inputs by advertisement.	
				NTC shall screen the applications by	
				verifying vehicle registration data and	
				physical inspection and shall allocate the	
				inputs financed under the Project, on the basis	
				of the criteria referred to in Section 3.07 (I)	
				and 3.08. NTC shall sell the inputs to	l
				successful applicants at prices which shall	
				include duties and sales taxes and funds thus	
	[generated in Tsh, shall be credited to the	
				Borrower.	1

Stage of Project Cycle	Planned		Revis	sed	Actual	
	Weeks	US \$ ('000)	Weeks	US S ('000)	Weeks	US S ('000)
Through appraisal					85.2	
Appraisal - Board					9.0	
Board - Effectiveness					2.0	
Supervision	67	6.2	104.8	11	84.4	0.5
Completion	10	52.3	20	72	6.2	11.1
Total	77	58.5	124.8	83	186.8	11.6

TABLE 11: BANK RESOURCES: STAFF INPUTS
					Performa	nce rating	
Stage of project cycle	M/Y	No. persons	Days in field	Specialized staff skills represented			Types of problems
					Implem. status	Develop object.	
Through appraisal	05/85	4	19	HE, EC, Pr Ass, Constr			
Appraisal through Board approval	6/86	1	5	HE	2		
Supervision	01/87	2	15	HE, EC	2	2	
	12/87	2	9	Pr Tr EnG, Sr Tr EC	2	2	
	03/88	3	16	HE, Op ASS, Pr Tr Eng	2	2	
	05/89	1	17	Sr Tr EC	2	2	
	02/89	5	20	Tr ENG, Train Spec, Sr Tr EC, Proc Spec, Op Ass	2	2	
	07/89	5	12	Tr ENG, Train Spec, Sr TR EC, Proc Spec, Op Ass	2	2	slowness in procurement procedures
	04/90	1	12	Tr ENG	2	2	Transfer of some of road rehabilitation to IRP I
	02/91	1	13	FA	2	2	submission of an urban transport strategy under IRP
	04/91	1	15	FA	2	2	Establishment of PEHCOL
	10/91	4	21	FA, Pr oc Spec, EQ Spec, HE	2	2	not yet complete, project costs should be completed with CODAP and implementors
	07/92	2	17	FA,, FA	2	2	Project substantially completed except TANZAM civil works and equipment
	03/93	4	24	OA, Proc Spec, ENG, FA	2	2	rehabilitation component Extension of the closing date because of outstanding disbursements
	05/94	3	14	OA, ENG, FA	s	s	despite the difficulties with the equipment rehabilitation program and delays in completing road works
	11/94	2		ENG, Sr HE	S	s	Ask Borrower to submit a draft of ICR

TABLE 12: BANK RESOURCES: MISSIONS

FA: Financial Analyst, Proc Spec: Procurement Specialist, EQ Spec: Equipment Specialist, HE: Highway Engineer, OA: Operations Analyst, Op Ass: Operation Assistant, ENG: Engineer, Sr HE: Senior Highway Engineer, EC: Economist, Pr Tr Eng: Principal Transport Engineer, Sr Tr EC: Senior Transport Economist, Train Spec: Training Specialist.

TABLE OF CONTENTS

1.	Introduction
2.	Project Execution
3.	Costs of The Project
4.	Benefits Derived from the project
5.	Borrowers performance
6.	Banks performance
7.	Accomplishments of the project

APPENDIX A

AIDE-MEMOIRE OF ICR MISSION

1

UNITED REPUBLIC OF TANZANIA SIXTH HIGHWAY PROJECT (CREDIT 1688-TA) INTEGRATED ROADS PROJECT I (CREDIT 2149-TA) Supervision Mission (November 23-December 15, 1994)

AIDE MEMOIRE

An IDA mission comprising of Mr. Olav Ellevset, the mission leader (Consultant-Highway Engineer) and Yitzhak Kamhi (Senior Transportation Engineer, World Bank) visited Tanzania during November 23 through December 6 (Ellevset) / December 15 (Kamhi), 1994 to supervise the Sixth Highway and Integrated Roads Projects, combined with a familiarization mission for Mr.Kamhi.

As a part of the mission a field trip comprising of the above mentioned and Mr. S. Materu, Mr. W. Lyatuu and Mr. W. Shila from the Ministry of Works, Communications and Transport, was made during November 25 through December 2 whereby projects and Regional Engineer's Offices in the regions of Morogoro, Iringa, Mbeya, Dodoma, Singida, Arusha, Kilimanjaro and Tanga were visited. The findings from the field trip are worked into the aide memoire.

This aide memoire contains the findings, recommendations and agreements reached with the Government. These are subject to IDA management confirmation from Washington.

Dr. George Mlingwa, Principal Secretary Ministry of Works, Communications and Transport

Distribution

Mr. P. Ngumbullu, Principal Secretary Ministry of Finance

Mr. W.Shellukindo, Principal Secretary Prime Minister's Office

Mr. M.E. Sanare, Director General Air Tanzania Corporation

Ambassador A. Sykes, Chairman PEHCOL

Mr. N.Lemunge, Director General PEHCOL

Mr. K.Msita, Executive Secretary National Construction Council

Mr. P. Bakilana, Managing Director National Transport Corporation

Mr. P. Morris, Principal Transport Engineer (UNDP) Ministry of Works, Communications and Transport

Mr. M.Konishi, Resident Representative World Bank, Dar es Salaam

Yitzhak Kamhi World Bank

Table of Contents

I. EXECUTIVE SUMMARY

of Agreed Actions

II. IMPLEMENTATION STATUS OF ROAD WORKS

Tanzam Highway Himo-Arusha Rehabilitation Project Himo-Holili, and Himo-Marangu Rehabilitation Projects Babati Area Roads. Singida-Shelui Section Tanga-Horohoro Rehabilitation Project Other Gravel Roads Contracts Dar es Salaam Region -- Emergency Road Repair Program Mbauda-Losinyai Road, Arusha Region Development Budget 1994/95 Overall Status of Trunk Roads Upgrading and Rehabilitation Projects Overall Status of Rural Roads Upgrading and Rehabilitation Projects

III. MAINTENANCE PROGRAMS AND FUNDING

Maintenance Programming
Maintenance Funding
Maintenance Monitoring
Maintenance Operations
Maintenance Organization

IV. SECTOR MANAGEMENT AND INSTITUTIONAL ISSUES

Regional Engineer's Offices (REOs) Road Safety Weight Control Contracting Procedures Central Materials Laboratory (CML) NTC and Road Transport Matters

V. SIXTH HIGHWAY PROJECT

VL EQUIPMENT MANAGEMENT

VII. CIVIL AVIATION Air Tanzania

Annexes

- I. Trunk Roads Upgrading and Rehabilitation Projects. Status as of November, 1994
- II. Status of Rehabilitation Works for Rural Roads Programs
- III. Road Maintenance Program, and Budget for FY 1994/95, including releases from the Road Fund
- IV. Approved Development Budget 1994/95
- V. Status of Periodic Maintenance Works Trunk and Rural Roads as of November 31, 1994

I. EXECUTIVE SUMMARY

Summary of Mission Recommendations and Agreed Actions

Subject	Issue	Agreed Action	Timing
Rehabilitation Works	Creeping/flowing of asphalt concrete in steep hills at Kitonga Gorge, Tanzam Section 4 and Chalinze-Segera Road.	MWCT to come up with proposal for eventual countermeasures and precautions for other projects	March 31, 1995
	Tanzam Highway Status Report for further need of rehabilitation and overlay	MWCT to propose packaging of remaining sections and scopes of works with cost estimates	-
	Babati Area Roads contractual arrangements following major change in scope of work	MWCT to resubmit proposal of November 15,1994 including cost of price adjustment, based on Engineer's analysis.	January 31, 1995
	Tanga-Horohoro surfacing	MWCT to submit technical proposal and cost estimate for surfacing including estimated economical rate of return (ERR)	February 28, 1995
	Dar es Salaam Roads overdue certificates	Addenda to contracts to Bank	January 31, 1995
	Fast deterioration of recently rehabilitated gravel roads	MWCT to review options for ensuring protecting gravel roads from fast deterioration (e.g. materials stabilization)	-
Maintenance	Side drainage along Tanzam Highway	MWCT to inspect and ensure side drains of the Tanzam are reestablished	
Sector Management and Institutional Issues	Accounting, monitoring and reporting system to be improved	MWCT to ensure that accounting, monitoring and reporting will be given the highest priority in system development	-
	Central Materials Laboratory (CML)	MWCT to ensure a strengthening of the CML and its role in project preparation and pavement monitoring	-

Sixth Highway Project	Credit closed on June 30, 1994 and ICR to be submitted to the Board within 6 months	MWCT to prepare its part of ICR and submit a draft to IDA.	January 31, 1995
Equipment Management	Legislative problems constraining PEHCOL's ability to effectively procure spare parts for equipment	PEHCOL to intensify its action with MWCT and Ministry of Finance.	

iş,

.

IL IMPLEMENTATION STATUS OF ROAD WORKS

2.01 Tanzam Highway

The Tanzam Highway leaves a very much different impression now, as the repairs carried out by Noremco/Nodest/Norconsult along the approx. 330 km from Ruaha River to Igawa have complemented the already rehabilitated sections. It is appreciated that the impact of the recent works is very good, at a total cost of about US\$ 2 million.

2.02 For Sections 1, 2 and 3A only the signs are still missing, whereas the road markings are complete. The issue of speed control through Mikumi National Park (Section 2) has previously been raised by the park authorities, but proposed measures were very strong and unrealistic. However, at present no precautions to reduce the adverse effects of the high speeds after the rehabilitation were seen. It is explained that less animals are appearing along the road after the rehabilitation was completed, possibly because of the high speeds induce fear.

2.03 Section 4 is substantially complete, and only signs and markings are remaining except for some additional works for erosion protection not included in the contract. The Contractor expects to reach full completion about December 20. All interim certificates have been approved, and payment for the last one only is not yet received. The Contractor has also submitted several claims of a total value of about US\$ 4 million, but explains that no answers have yet been received. First claim was submitted two years back, and the last one in June this year.

2.04 A general problem connected to the design of the shoulders in suburban areas was seen in Mbeya as traffic from accesses and pedestrians are breaking the edge and the surface dressing of the shoulder. Another design problem seems to be the pavement mix in hills, as in the hill near Inyala Pumping Station there were clear indications on creep due to an unstable mix. Unless the problem is looked into and corrected similar pavement conditions as in the Kitonga Gorge may develop. The gradient of the hill seemed to be 8-10%. The same problem was also noticed developing in the hills of Wami Bridge along the Chalinze-Segera Highway in Coast Region. It is agreed that the Ministry should identify the mechanisms behind the creep/flow problem, and come up with a proposal for eventual countermeasures and precautions for ongoing design and works within five months.

2.05 Section 5 was completed after the last mission to that area, and works and completion seemed to be excellent. The only problem, which has got nothing to do with the rehabilitation, is that at Chimala Bridge the silting up of the riverbed is so extensive that only about 1,5m is left of the height under the bridge. This type of bridge is not designed to handle side forces, and it may be washed away during the rains if current will become strong enough. There are other places with similar situation, and the problem should be looked into.

2.06 However, there are still sections that need major works to be undertaken, like:

- i) The 80 km from Songwe to Tunduma in Mbeya Region that remains with a significant lower standard, and which needs a combination of reconstruction, rehabilitation and resurfacing. Full rehabilitation is indicated to be at a cost of about US\$ 10 million.
- ii) The 12 km steep Section 3B through Kitonga Gorge needs a new pavement as the present one has extensive creeping/flowing due to instability in the mix. It is understood that a new pavement design is being prepared. The structure of the road except from the top layer is good.
- iii) The interim section Chalinze-Melela (Morogoro) is at present being maintained by filling potholes. but the whole section should be resurfaced, and rehabilitated in some obvious weak sections.
- iv) The remaining 55 km of Section 1 (AFDC) between Ubungo (DSM) and Mlandizi will need major works according to the completed design. This section has been shortened due to increases in works and costs for the part where works have been carried out.

It is agreed that the present status of the Tanzam should be summarized, and packaging proposed for remaining types and scope of works including cost estimates be presented by the Ministry to the donor community.

Himo-Arusha Rehabilitation Project

2.07 The Contractor is Federici, Consultant is Norconsult International. The rehabilitation is financed by AfDB and the consultancy services by NORAD. The project is 5 months behind schedule.

The pavement design was modified for this project after signing the contract due to the availability of suitable materials. The relevant changes in rates were negotiated and presented to the Ministry, and the contractor informed about his intention to present a claim for extension of time due to the time spent for approval of new pavement design. The no-objection has been given by AfDB for the changes, but there is no overall change in contract value due to the change in design. There are obvious advantages from a construction point of view for the contractor to use bitumen stabilized base rather than penetrated macadam.

2.08 Due to a review of the road safety aspects of the original design of the project a number of changes outside the road itself has come up, like pedestrian facilities, parking areas and reduction of accesses.

Himo-Holili, and Himo-Marangu Rehabilitation Projects

2.09 The Contractor is Noremco, Consultant Norconsult International, and the rehabilitation are financed by NORAD. Works proceeding well, including the three spans Whuna bridge. Consumption of bitumen in stabilized gravel was about 5,2% that is rather high.

Babati Area Roads, Singida-Shelui Section

2.10 This is one of the three sections of the Babati Area Roads Contract. The total length of the Project initially was 310 km of rehabilitated roads. Due to very heavy traffic and poor materials quality, it was agreed to realign the Singida-Shelui Section and to change the initial scope of works from gravel rehabilitation of the original road alignment to a standard whereby the bitumenization is to take place at a later stage.

2.11 Also the original alignment of the existing road through the Sekenke escarpment was not adequate to the functional importance of the major link of the Central Corridor, thus causing numerous traffic accidents and loss of lives and property. The contractor Messes Ladwa was instructed to embark on the related additional works, without the formal consent of the Bank. The additional works resulted in significant increase of the original cost and change of the original contract rates for the new items of works. V. O. NO.7 was issued to the contractor by the Engineer in June 93 taking into consideration the new rates and the claims of the contractor in respect of the new alignment, based on the agreed quantities.

2.12 The May 94 mission requested MWCT to justify the new adopted rates and to compare them with the rates accepted in similar contracts. The document in this respect was presented to the mission (letter dated November 15, 1994).

It is agreed that MWCT will resubmit the document and clearly define additional works excluding the claims submitted by the contractor, as well as to estimate total expected costs for the completion of the project also considering price adjustment up to the completion of the project. The mission noted that the present extension of time will end on December 18, 1994 and that the contractor has requested a new extension of time since the work will continue throughout 1995. It was further agreed that the MWCT will review the situation and seek legal advice through the consultant to avoid additional claims in this respect, and the Mission recommends that the issue of extension of time is given proper attention.

2.13 At this point of time, it is clear that the total cost of the project has increased substantially and that the total funds provided for the project will be adequate for the completion of about 88.0 km. of the road instead of the originally planned 310.0 km. The contractor has recently increased the overall production by injecting new equipment, however the sustain ability of his efforts needs to be closely monitored.

2.14 Consulting engineer Messes Dorsch expects completion in May 1995, while the mission is of opinion that the end of 1995 is more realistic date. The mission is further of opinions that the supervision on site is to be intensified in order to enable proper and timely reaction of the Client if and when required.

Tanga - Horohoro and Marangu - Tarakea Road Rehabilitation

2.15 This road represents the major link between Mombasa, Kenya and Tanga - Dar es Salaam Area. Total length is 68 km. Contract for the rehabilitation was signed on 20 December 1993 with Messes Sietco and the contractual period for the completion of the construction is August 1995. The take off the contractor was long delayed due to non availability of required equipment by the contractor.

2.16 Furthermore, the contractor seems to be lacking experience in construction in tropical areas and of proper organization. The stretches of the road that he substantially completes being not properly maintained, lose its shape and deteriorate fast, before the road stretch can be handed over to the client. Lack of the equipment, specifically loaders and trucks are slowing the progress of works. Estimated delay as of today is more than three months. Since the contractor was awarded the construction contract comprising of the two sections of a distance of approximate 500 km apart, it will be most unlikely if the second part of the contract will start before the first part is at least substantially completed. Lack of the equipment and proper management may cause more delays.

2.17 The mission advised MWCT to issue a warning letter to the contractor and to ensure that proper measures are taken to avoid eventual loss of more time for the construction and possible claim from the contractor. It is obvious that the consultant will need an extension of time and additional inputs for the supervision if the contractor commences with the second part of this project now.

2.18 The mission urges MWCT to consider the road upgrading to a bituminous road considering the importance of the road and expected heavy traffic volume. Reference is also made to para 2.19.

Other Gravel Roads Contracts

2.19 There is a number of gravel roads' contracts in the program, originally under Sixth Highway program:

- i) Babati Area Roads, 310 km, ongoing on reduced length of 88 Km
- ii) Tunduma-Sumbawanga, 230 km, completed
- iii) Usagara-Lusahunga, 270 km, ongoing
- iv) Tanga-Horohoro, 68 km, ongoing
- v) Marangu-Tarakea, 52 km, not yet started, but included in same contract as iv)

The general experiences are that the rate of wearing of gravel pavements along these roads is very fast, and there is a general concern that some stabilization of the surface needs to be done in order to reduce the gravel loss.

In Mbeya the Regional Engineer expressed concerns to the mission about the Tunduma-Sumbawanga Road. The RE has previously proposed bitumenization of the road, but funding situation has not allowed any works of that sort except from a short section within Tunduma village that was included in the contract.

It is agreed that MWCT by end of January, 1995 submit a proposal to the Bank concerning all the gravel road contracts in order to stop the fast deterioration of the pavements, including economic analysis and estimated ERRs.

2.20 Dar es Salaam Region-Emergency Road Repair Program

The Program initially comprised of 9 packages. Packages 5 and 8 have been canceled and only 7 packages are presently under construction. The originally foreseen construction period is now in its 35th month, which is more than double. The original concept of periodic maintenance and emergency repair was discarded early in

the Program as the roads scheduled for emergency repairs and for periodic maintenance required full road width construction, additional drainage facilities and heavier pavement. It is expected that serious flood prevention deficiencies should be corrected as well as that several major hydraulic structures/bridges will be constructed. There has been serious flooding in each of the past three years that caused overtopping of several of the Program roads threatening catastrophic washout.

2.21 Out of seven packages, three packages (1, 7 and 9) are completed. The remaining packages are in different stages of completion; as follows:

Package 2: substantially completed, expected completion end 94,

Package 3: 70% completed, expected completion 2/95,

Package 4: 75% completed, expected completion 4/95,

Package 6: 65% completed, expected completion 2/95,

Overall completion of the Program is 85%.

The main causes for the massive delay in the execution were identified as:

- (i) not adequate design documentation available for the construction as a result of emergency situation
- (ii) lack of experience of the contractors for the type of work required
- (iii) lack of working capital and financial resources of the local contractors
- (iv) major changes of scope of works during the construction
- (v) non-availability of good quality wearing course material because of poor quality of materials (Package 9) and because of high increases in traffic flow as characteristically for urban and semi-urban areas.
- (vi) delays in issuing contract amendments

Contractor Performance

2.22 For package 2, the new Contractor is performing well. In respect to the initial Contractor for this package, the Mission received information that the performance bond has been pursued with the National Insurance Company. The mission urges MWCT to resolve the issues, otherwise the mission will not be able to recommend further use of NIC bonds for IDA-financed projects

Cost increase

2.23 Total cost of the works has been significantly increased. The estimated cost of the works has been received from supervising engineer taking into consideration the outstanding works to be done. The total cost of the original works (all packages excluding package 5) was Shs. 2,996 billion. Total value of works expected as of 11/94 is Shs. 4,208 billion in addition to the extra payments in respect of the fluctuations/interest on delayed payments and other costs totaling to Shs. 0,655 billion. Total expected cost to the completion of the works is estimated to Shs. 6,043 billion (4,905 billion for the works and Shs. 1,138 billion for extras).

2.24 Because of the increase in quantities and extension of time, contract addenda have been prepared for all contract packages as well as for the consultants contract. Payments have been stopped to several contractors and the consultant pending signature of the Addenda. It was agreed that MWCT is to finalize the approval of addenda at latest by the end of January, 1995.

Mbauda-Losinyai Road, Arusha Region

2.25 This was one of the few rural roads the mission visited during this field trip. The Contractor is M/S Milkha Singh, and supervision is provided by REO. Works contracted are regravelling of 45 km at a total contract value of Shs 358,188 million, and works commenced in July, 1994. Road width is 5,5m, and design camber is said to be only 4%. A gravel road with that camber and compaction will after short time become almost flat and water run-off will become a problem. Also the general drainage situation of the section visited

was difficult as the side terrain was flat, but it was explained that the longitudinal gradient was sufficient for the ditches.

Development Budget 1994/95

2.26 The development expenditures for the local component the last quarter FY 1993/94 were presented (Annex IV), which shows no major change between planned and approved figures. Total expenditures of the year were Shs 3.849,7 million.

The Development Budget for FY1994/95 is also presented in Annex IV, and out of the proposed Shs 5.6 billion about Shs 4,5 billion was approved. Already about Shs 2 billion was spent during the first quarter that is about half of the allocation of the year. This trend has to be monitored very carefully.

Overall Status of Trunk Roads Upgrading and Rehabilitation Projects

2.27 Annex I provide the status of trunk roads upgrading and rehabilitation projects as of September 30, 1994. General progress is behind schedule and especially gravel roads have poor progress due to compaction water problems on the Usagara-Lusahunga site, intensive works at Sekenke escarpment, and poor contractor performance on Tanga-Horohoro Section.

Overall status of Rural Roads Upgrading and Rehabilitation Projects

2.28 Annex II provides the status of rural roads upgrading and rehabilitation projects as of June 30, 1994 that shows an overall performance of 68% of planned length, whereas about 49% of total budget were disbursed.

IIL MAINTENANCE PROGRAMS AND FUNDING

Maintenance Programming

3.01 The previous critical situation for the Tanzam is now stabilized, and the need of a maintenance program becomes more obvious. Such a program should not only deal with the pavement itself as a defective drainage system often is the reason behind the defects. The impression from the field trip is that the whole Tanzam should be inspected with the view to improve the side drains, and especially along the recent repaired sections. Also for some section's bush affecting the shoulder should be cleared, especially noted along Section 1 and interim section between 3A and 3B.

Maintenance Funding

3.02 The agreed maintenance funding for FY 1994/95 is US\$ 34,257 million (Donor contribution US\$ 5.5 million and GOT US\$ 28,8 million), as stated in the Staff Appraisal Report for IRPII. During the budget session the Treasury allocated only 11 billion Shs., or US\$ 22 million, to be collected from the fuel levy.

Since July 1 the collections have increased due to an increase in the levy from 30 to 35 Shs/litter, and the MWCT allocation has been increased to Shs 15,187 billion (US\$ 30,375 million) which represents 80% of the levy to be collected for this financial year; 20% goes to the Prime Minister's Office for development and feeder roads maintenance and rehabilitation.

Additional to this Shs 1 billion (US\$ 2 million) has been allocated from other sources, which will bring the total expected maintenance allocation to US\$ 32,37 million.

A review of the present funding situation was presented to the Mission (Annex 3). The review shows that about US\$ 30 million will be collected from the fuel levy for FY1994/95 by maintaining the present level of levy. In addition, maintenance funding support from other donors and agencies is of about US\$ 16.5 million. Together with the ordinary GOT allocation to Overheads and Administration in the DRA of US\$ 2 million mentioned above, this will bring the total maintenance budget up to US\$ 48.8 million out of which about

US\$ 40 million is directed to maintenance works.

Phase 1 of the study for broadening the revenue base of the Road Fund to meet future maintenance requirement in accordance with IRP targets is just about to start. The study will determine the most appropriate measures to increase revenue to the Road Fund through:

- (i) Transit Charges of heavy vehicles from other countries, and
- (ii) Heavy vehicle license fee from Tanzanian registered vehicles

Maintenance Monitoring

3.03 The existing monitoring system for maintenance operations needs improvements. Whereas it is easy to keep records for the allocation of funds to the regions, the monitoring system for how the funds have been spent is not sufficient, which especially is due to an insufficient accounting system in the Regional Engineers Offices (REOs). The issue is already looked into as a part of the identified subjects to be focused on by the Management Action Group (MAG); the accounting systems already operating in Mbeya and Tanga should be looked into by MAG.

Maintenance Operations

ьà,

3.04 The eight regions Iringa, Mbeya, Morogoro, Dodoma, Shinyanga, Coast, Kilimanjaro and Tanga have recently received some light equipment for paved road pothole patching to be carried out by force account. The equipment is supplied as complete units with small tippers, rollers/compactors, mini excavator/back hoe, compressor, pick-up, bitumen heater, and various handtools. The mission could already see the units in operation in Iringa and Morogoro regions.

3.05 Driving along the Same-Himo Road it was noticed that serious erosion had taken place downstream of culvert outlets especially in Mwanga District due to the heavy rainfall in April this year. It was also noted that the road markings had become very faint, and will soon disappear. Other types of materials should be used as center-line marking; such markings are effective in reducing speed with a reduction effect on the number of road accidents.

3.06 Mbeya and Tanga Regions are still maintaining a different works organization than other regions whereby more of the works are executed by force account. It should be noted that while typical regravelling works in Tanga are carried out at a cost of Shs 6,7 million/km by force account, the typical cost is said to be above that for contracts.

Maintenance Organization

3.07 At present maintenance responsibilities in MWCT are distributed to three sections, Trunk Roads Section, Rural Roads Section and Programming Section. Along with other proposals for reorganizing the Ministry, and in order to improve the maintenance organization, the MWCT has proposed the establishment of a new Maintenance Section under DRA. The proposal is at present with the Civil Service Department for approval. The section will have the responsibilities for all maintenance activities, planning, supervision and monitoring. This restructuring of the Ministry is urgently needed to improve efficiency and better monitoring of maintenance work.

IV. SECTOR MANAGEMENT AND INSTITUTIONAL ISSUES

Regional Engineer's Offices (REO)

4.01 The mission visited eight regions and held discussions with the Regional Engineers. The main conclusions are as follows:

- (i) The implementation capabilities of REOs have improved significantly, therefore the organization and management can efficiently carry out their duties.
- (ii) The funds from the Road Fund are released promptly and in accordance to planned activities. Some of the regions this financial year has received reduced payments due to the agreed deduction in respect to debts to PEHCOL.
- (iii) The funds required for payments of the administrative expenses of the offices are not fully available from the general fund, therefore the road fund money is partly financing them. In average, about 50% percent of these expenses is taken from the Road Fund.
- (iv) Technical assistance is most welcomed by the REOs and should be considered for all regions.
- (v) Reporting and monitoring of the expenditures and its classification is not adequate and this aspect should be emphasized and looked into by MWCT HQ. The mission urges MWCT to pay attention to the accounting, reporting and monitoring capabilities of the REOs.

Road Safety

4.02 The Road Safety Master Plan Document is to be prepared by Design Partnership, Dar es Salaam. The contract is financed by NORAD. The final document is expected to be submitted in April, 1995, and will contain long term strategies and plan for the next ten years.

4.03 The road accident recording system MAAP has so far been installed in Dar es Salaam, Mbeya and Tanga, and the Police have received the necessary training to operate the system. In the regions the Planning Engineer is the Regional Road Safety Coordinator.

4.04 The numbers of accidents along the Chalinze-Segera-Tanga Road have been high since the road was completed, but seems recently to have stabilized. DANIDA has provided a funding of Shs 35 million for road safety countermeasures. REO Tanga will await implementation until the accident situation has been analyzed.

Weight Control

4.05 During the field trip the weigh-bridge at Makambako (Tanzam) was visited, and clearly the present lack of effectiveness of weigh-bridges in providing protection for the roads needs the highest attention. Only 2 of the about 50 heavy trucks passing at the Tanzam were recorded to have entered the bay for checking. There is also no off-loading of the overload. The mission was informed that the strategy of initiating action has been to control international traffic at entry points.

4.06 The procurement issue of weigh-bridges was discussed with the mission. MWCT will decide which type of contract is more suitable, either one contract combining civil works and supply/erection, or separate contracts for civil works and for supply/erection.

4.07 Mobile weighing scales need to have a capacity of 40 tons. It appears that there is only one suitable supplier of this equipment. A statement in this respect will be needed. The Ministry is preparing with NORAD TA, a comprehensive program for IDA consideration.

Contracting procedures

4.08 The impression from most of the regions is that the present contracting procedures still take a long time such that works to be contracted usually change considerably during preparation. MWCT should look into the issue and identify the possibilities for improving the situation. However, recent contracts by Regional Tender Boards in Kagera, Mwanza and Tanga have been processed within a few weeks.

Central Materials Laboratory

4.09 The TA to Central Materials Laboratory for the past year is about to leave, at the same time as a twinning arrangement with the Norwegian Road Research Laboratory has been formulated under the umbrella of the Road Sector Program funded by NORAD. Looking into contract and project performance there is no doubt that materials technology is crucial input to project preparation and management that needs substantial strengthening, and from an engineering point of view one of the most important. The Ministry needs to strengthen CML to ensure that the issue will be given the highest attention.

NTC and Road Transport Matters

4.10 NTC has signed the consultancy agreement with IBIS Transport Management Services for the study on Restructuring Road Transport Services in Tanzania. The Inception Report was prepared and submitted. The recommendations will be presented to the Board of Directors of NTC shortly. The recommendations of the study should provide a basis for the Government to formulate an action plan for the restructuring and divestiture of RETCO and UDA.

NTC explained to the mission that it is in a process of structuring its corporate plan focusing on its core business activities within the context of the on going liberalization process with the aim of divestiture. Furthermore, NTC management requested continuation of TA services for their offices. They presented the status report on utilization of funds allocated under IRP I. From the status report it is understood that the balance available to date is SDR 684,692 for NTC and RETCOs, plus SDR 336,185 for UDA; totaling to US \$ 1,020,877. It was agreed that NTC will submit a request for the required technical assistance in field of financing/accounting and engineering, to MWCT giving enough details for an appraisal of their request, before sending it to the Bank.

V. SIXTH HIGHWAY PROJECT

5.01 The Credit was closed on October 31, 1994. During the May mission it was discussed with the Government the arrangements for the preparation of the Borrower's Contribution to the Implementation Completion Report (ICR) in the coming fiscal year. The Borrower was informed of the new policy on the submission of the ICR to the Board within six months after the closing date, and was provided with the last version of the Implementation Completion Reporting (OP 13.55 of April 1994). It is agreed that the Government will make best efforts to send their draft submission to the Bank for review by January 31, 1995.

VL EQUIPMENT MANAGEMENT

PLANT AND EQUIPMENT HIRE COMPANY (PEHCOL)

6.01 In spite of significant improvement in PEHCOL's operations and management, the organization continues to face serious problems because of procurement of spare parts, outstanding debts from the Regional Offices, frequent breakdown of its old equipment fleet and presently new constraint of having tax exemption for importation of spare parts from the Ministry of Finance.

The mission noted that number of the previous recommendations was carried out, namely:

- (i) increase in the amount of the special account to cover LCs for PEHCOL's procurement of spare parts;
- (ii) 100% advance payment for suppliers for expenditure of up to US \$ 100,000, guarantied by a accepted guarantee;
- (iii) Contracts for procurement of spare parts for values of up of to US \$ 300,000 do not require

prior approval by IDA, but will be submitted to IDA together with the requests for replenishment of reimbursement of expenditure. This is related to "sole source" purchases.

Arrears of Hire Charges

6.02 Total arrears to PEHCOL by REOs as reconciled and agreed is Shs. 463 million. The agreement for settlement of arrears calls for repayment in 6 consecutive months. The mission found out that some payments have been affected already to PEHCOL.

Tax Exemption Approvals

6.03 In July 1994 the Government came up with the new procedures in respect of exemption of tax duties, taking into consideration that the validity of the present exemption will expire on 31st. December, 1994. Even so, each purchase must obtain an approval from the Ministry of Finance. To date no such approval has been received by PEHCOL. The system is not yet functioning ,while in the meantime PEHCOL spare parts are laying in the port not being released. The mission urges MWCT and PEHCOL to find a solution or to consider a option that PEHCOL pays the tax and gets reimbursed later.

Valuation of Plant and Equipment and Equipment Condition Audit Study

- 6.04 The Study inclusive of:
 - (i) Valuation Report
 - (ii) Plant Demand Report
 - (iii) Fleet Condition Report
 - (iv) Audit Report

Has been submitted to PEHCOL and MWCT. The workshop was held on 4th December 1994 during which the Study was presented. The Mission was informed that the main conclusions of the Study are (i) 64% of the plant life are expired, (ii) funds that originally were supposed to be used for rehabilitation of the equipment should now finance new purchases. The mission urges MWCT and PEHCOL to give their opinion on the above conclusions and submit them together with the Reports to the Bank for its review.

Business Plan

6.05 One of the requirements for IRP II Credit to become effective is submission to IDA of evidence of the execution of an agreement between PEHCOL management and it's Board of Directors on performance indicators to be used for monitoring performance and determining managerial remuneration. The Consultant is still working on the Studies. The business plan has not yet been presented. PEHCOL informed the mission that it will be available by the end of December 1994. In the meantime interviews are held for managerial senior staff recruitment.

MWCT has informed the Bank, by its letter dated November 25, 1994, that the Goverment has already decided to divestiture PEHCOL by June 1996. In the light of the above MWCT is seeking the Bank's concurrence that: (i) the action taken by PEHCOL to engage senior management on terms related to performance indicators, and (ii) the Goverment's agreement to offer PEHCOL for divestiture by June 1996, complies with the intention of the related condition of effectiveness for Credit 2598-TA.

VII. CIVIL AVIATION

Air Tanzania

ъ÷

Air Tanzania Corporation (ATC) has continuously making its progress in improving its operating and financial performance. ATC is the first candidate for divestiture under the Government's program for reforms of the parastatal sector. The need to complete the organizational, operational and financial restructuring is now even more emphasized as it has held back the development of a divestiture program for the Corporation. ATC has therefore requested extension of TA contracts that expire this FY; airline's management expert, director of finance and administration and chief internal auditor, each for a period of twenty-four months. The funding available under Credit 2149-TA are not adequate to cover the costs of these services. ATC has therefore requested an additional allocation of about US\$ 2.4 million (for training of its staff and computerization and the TA's). In order to assess and eventually agree on this request, the Bank has requested ATC to develop an action plan for divestiture within a satisfactory timetable including budgetary provision for takeover of the remaining local currency liabilities. This plan has to be agreed with MWCT before the Bank can consider it. The submission is expected by the end of December 1994.

APPENDIX B

BORROWER'S CONTRIBUTION TO THE ICR

THE UNITED REPUBLIC OF TANZANIA

SIXTH HIGHWAY REHABILITATION PROJECT

CREDIT 1688-TA

IMPLEMENTATION COMPLETION REPORT (ICR)

MINISTRY OF WORKS, COMMUNICATIONS & TRANSPORT

INTRODUCTION

1. Until July 1994 Implementation Completion Report (ICR) were referred to as Project Completion Reports (PCR) and were spelled out in the Credits as the obligation of the Borrower¹ to prepare the draft in accordance with the Bank's Guidelines. The guidelines provided in July 1994 which leaves the Borrower only to a comment on the report needs to be reviewed to include at a chapter that can enable the Borrower to express his views with respect to the implementation, lessons learned as beneficiary as well as recipient of the credit. The bulk of the work is undertaken in the Borrower, s own environment and sometimes with varied impact on the economy of the recipient's country. The Operational Policies 13.55 of April 1994 which supplements SVPOP/COD No 8 of June 1989 provides under item 3 that the Borrower prepares and avails to the Bank its own evaluation report within six after the CLOSING DATE on the project's execution, initial operation, costs and benefits, the Bank's and the Borrower's performance of their respective obligations under the Loan Agreement and the extent to which the purposes of the loan were achieved ². In this respect the closing date agreed with the Bank for the Sixth Highway (Rehabilitation) Project (Credit 1688-TA) was October 31, 1994.

2. The areas which the report will concentrate will be (i) project execution; (ii) initial operations of the project; (iii) costs of the project (IDA as well as the other Donors); (iv)benefits derived from the project; (v) borrower's performance; (vi) Bank's performance; and (v) accomplishments of the project all together. The last part of the report will deal with conclusions and recommendations if any form the lessons learned from the project.

Project Execution

3. The Sixth Highway (Rehabilitation) Project was basically a road rehabilitation program. The main objectives of the project were to rehabilitate deteriorated road sections of the Tanzam Highway in Tanzania, traversing from Dar es Salaam to Southwest town of Tunduma and leading to Zambia included in the project were high priority road sections of the country's gravel trunk road network which were them serving the highly productive Agricultural areas.

For the execution purposes, the project was divided in six major parts including complimentary components to the road rehabilitation. The parts including the road rehabilitation are:

 i) -Rehabilitation of 295 Km of the Tanzam Highway out of the 925 Km stretch (i.e. DSM - Tunduma). Later another 58 Km was added to the project and funded by NORWAY.

¹ Staff Appraisal Report No. 5922-TA of April 1986 Annex III-4 P. 59

² General Conditions Applicable to development Credit Agreements section 9.06(c) refers.

-Regravelling of about 700 - 1000 Km of selected gravel trunk road sections.

- ii) Rehabilitation and repair of road construction/maintenance equipment, plant and vehicles mostly purchased under the IDA credit namely 4th & 5th highway.
- iii) Strengthening of the Ministry's capacity to coordinate, road maintenance, training and equipment management through provision of Technical Assistance.
- iv) Assistance to the local contracting industry through training of the local contractors.
- v) Assistance to the Trucking Industry through T.A. as supply of spares and tires.
- vi) Conducting feasibility studies to badly deteriorated road section of the Chalinze-Segera-Tanga/Arusha road and Agricultural feeder roads in the highly producing areas.

Initial Operations

4. The initial operations under the credit started in early January 1987, as the credit was only effective in December 1986. Prequalification of contractors to undertake the civil works was completed by January 1987, followed by invitation to bid and planning for starting of the civil works on sections 2 & 4 of the Tanzam Highway in August 1987. Consultant for design and supervision of the gravel trunk road rehabilitation was initiated and signed in 1987. On the equipment repair and rehabilitations a consultancy contract was also signed in 1987. All the above activities were those funded under credit 1688-T.A. The other donors also respected their obligations. Civil works under the AfDB on Tanzam Highway section's 1 & 3, contractors were prequalified in June, 1988.

5. Part of the Norwegian funds were to be used for sections 2 & 4 while part was provided for the feasibility studies. These operations started in 1987. T.A. provided by DANIDA to the Ministry reported to their station in early 1987. Other operations under IDA were the services to the local construction industry and Transport Industry both of which started in 1987. All the students (79) earmarked for undergraduate training in Indian Universities started their studies in 1987.

Costs of the project

6. The total original project costs was estimated US \$ 107.7 million including taxes and duties. Five agencies contributed forwards the above costs, four of them were Donor Agencies while the fifth was the government of Tanzania as the borrower's contribution to the project. Table 1 below summarizes the contribution of each agency. Later the Kingdom of Norway added another 50 million W. Kroner (bring the total contribution by the Kingdom of Norway to N.Kr.

Table 1

SUMMARY OF PROJECT FINANCING (AGENCIES)

Source	Amounts in US \$ Million			
	LOCAL	FOREIGN	TOTAL	
IDA	-	50.0	50.0	
AfDB	-	19.4	19.4	
Kingdom of Norway	-	6.9	6.9	
DANIDA	-	2.0	2.0	
G.O.T.	29.4	-	29.4	
Total	29.4	78.3	107.7	

7. The project was divided into seven categories in facilitating smooth disbursement. The project component financing was as summarized in table 2 below. However the procurement procedures followed individual donor agency guidelines. IDA guidelines for the IDA funding and AfDB guidelines for their funding. Both these agencies ICB conditions governed where applicable as well as International Shopping. For the other agencies (NORAD & DANIDA) bilateral agreements were the guidance.

Table 2

SUMMARY OF PROJECT COSTS BY COMPONENT

	CURRENCY IN US \$ MILLION				
COMPONENT	LOCAL	FOREIGN	TOTAL		
Road Rehabilitation (Tanzam Highway & Gravel Roads	21.2	42.2	63.4		
Equipment Rehabilitation	0.3	3.9	4.2		
Technical Assistance to MWCT	0.1	1.2	1.3		
Training	0.6	5.3	5.9		
Assistance to Local Contracting Industry	0.4	1.4	1.8		
Assistance to Trucking Industry	0.1	6.2	6.3		
Other Consulting Services	0.2	1.3	1.5		

Base costs contingencies	22.9	61.5	84.4
(i) (Physical) (ii) Price (Financial)	1.6 4.9	4.4 12.4	6.0 17.3
Total Project Costs	29.4	79.4	107.7

This was the Sixth Highway project financed by the group in the Highway sector. From 8. financing point of view the funds estimated for this project would not have been enough to enable the objectives to be attained. The first highway project $(1964)^3$ involved assistance in constructing about six road sections totalling 860 kms and Technical Assistance as well as training and ended up with cost overrun which had to be overcome by a supplementary credit (1968). The problems encountered during implementation namely (i) the delays and reluctance in recruiting expatriate staff (ii) cultural and language problems experienced by the expatriate staff and (iii) shortage of adequately qualified local staff as revealed in a Project Performance Audit Report (PPAR) of 1975 cited in the reference 3 above, were to experienced during the Third, Fourth and Fifth Highway projects. This project was also the second on the series of IDA credit/loans funding with co-financing. The first one was credit 142-TA, Loan 586-TA which had a co-financing of US \$ 7.5 million from The Swedish Government being a contribution towards the construction of some sections on the Tanzam Highway aggregating to 499 kms. Reports on the execution of this projet conclude that the funds were not only adequate but its execution was below appraisal costs and the objectives were fully met.

Benefits Derived from the project

9. There are a number of benefits which emanated from the projects. The first and foremost is the rehabilitated road sections thus reducing tremendously the vehicle operating costs and increasing the user benefit. Journey times have been reduced by almost half of what it used to be before the rehabilitation. Products movement have been eased. The project included an agricultural feeder road study which resulted into a major institutional change. A new division was created under the MWCT to facilitate closer and simpler management of the rural roads network. The entire institutional reform under the MWCT was initiated under the above study and the change is ongoing.

10. The basis of the Integrated Roads Project (IRP) was conceived during the implementation of this project. The study (feasibility and detail engineering) of the Chalinze - Segera - Tanga and Segera - Moshi - Arusha road was undertaken during the implementation of the same project and the outcome of these studies are clearly visible benefits to the borrower. Training as conceived under the project was very successful and beneficial. The implementation capacity in the Ministry of COMWORKS was found to be inadequate hence the previous projects (Credits 507-TA and 876-TA) addressed the problem by assisting to train more engineer. Under this

³ Staff appraisal Report No.5922-TA of April 1986 Annex 1-2 P 44

project another group of engineers were trained in India and the Government added another 80 graduate engineers to the country. More than twenty (20) other engineers acquired Msc degrees under the same project while more than seventy five (75) civil engineering technicians were specifically trained in highway construction and maintenance. A significant improvement was therefore realized with respect to institutional development which enabled the Ministry to fill the vacant positions identified in previous reports⁴.

11. The assistance to the Local Contracting Industry enabled the borrower to improve the local construction industry. The objectives of this component was twofold (i) to improve the road maintenance works executing system by introducing 'contracting' rather than 'force acount'and this can only be done by increasing the capabilities of the local contracting industry; (ii) to provide assistance to expand the capacity and efficiency of the trucking industry hence facilitate smoother movement of goods and freight. At the beginning of the project there were no (both indigenous and semi indigenous) local contractor interested and capable of undertaking Roadwork. Now there are about 300 local contractor (again here local indigenous and semi indigenous) who have already acquired training in project management, budgeting and bid preparation. This is quite an achievement in local construction industry. Some of these contractors are now undertaking big jobs under IRP.

12. The Assistance to Trucking Industry was a continuation of a previous assistance under Credit 743-TA which had one major goal that is to support the Government's efforts to reverse the deteriorating trend in truck transport, and this was to be achieved by (i) strengthening the operations capability of selected companies in regions where agricultural activity was severely constrained by inadequate truck transport services; (ii) procurement and rehabilitation of truck through strengthening of management and management information systems; and (iii) putting these trucking companies on a sound financial footing. The assistance constituted the provision of spare parts; tyres and workshop tools for the Regional Trucking Companies (RETCO's) and other firms to improve movements of goods and freight in the country. Provision of technical assistance to the project implementation agency had an added value its success. The benefits accrued out of this assistance and the effects are very obvious and conspicuous.

13. The equipment rehabilitation however was not a success as envisaged under the project. Number of reasons could be advanced as to why. however the main reason can be due to little understanding of the real problem. There has been allot of schools of thought of this issue and quite a few studies have been undertaken but the problem remain unresolved. Under this project the problem was thought to be of management nature and hence an expert in the form of technical assistance was provided to advise on equipment management. But also there has been an issue of monitoring their availability and utilization.

14. Furthermore to ensure that adequate service and repair is undertaken on time as well as

⁴ Staff Appraisal Report No.8367-TA of May 6, 1990 Annex 1-1 item 12 P 55

proper record keeping was itself a problem. In trying to solve the above issues the project has not succeeded at all. At most the Government has now decided to divest the equipment and hope that the Regional Engineers will still be able to get from the open market their needs for equipment when they arise.

Borrower's performance

15. The Borrower's performance under the project has been quite casual. On one side there has been too many institutional restructuring within very short period such that performance of the Borrower is seen as insignificant when measured at sectoral level. The need for private sector participation in improving the economy of the country cannot be overemphasized. However, it is the speed at which the borrower would like to have realized these changes at policy level. Under this project the Borrower became more aware of developing a decentralized contract management system for road maintenance works, and at regional level for both routine and periodic.

16. The policy objectives as contained in the Structural Adjustment Program (SAP) prepared in June 1982 were more real. For example in persuing the Road Transport Policy Paper with an aim to ensuring that rehabilitation and maintenance of the existing assets were given priority in the Transport Sector Investment Program the Borrower in December 1987 called a Transport Sector Donor's Conference to present the paper together with another document entitled Programme for Transport Sector Recovery.⁵ In that document the Government outlined the dasic policy, institutional changes and rehabilitation requirements for the sector inorder to reestablish the road transport infrastructure to enable it to cater for the reuirements of the economy. Furthermore the document singled out capacity building for sustainability with respect to delivery of the transport services as a critical issue to be dealt with. First steps to restore the country's essential road network by providing adequate funding and develop institutional capacity for their maintenance were taken during the implementation of this project.

17. Another major institutional reform which became an important performance indicator for the Borrower is the agreement by the Borrower to implement the recommendations of the study undertaken under the project. This study namely "The Agricultural Feeder Roads Study" and funded by DANIDA became the pivot for the institutional changes for better performance. The Terms of Reference⁶ for the study were carefully written, and the recommendations of the study formed the basis for the 10 year rehabilitation programme with objectives to make administration and management of the road network autonomous. The achievements reported under the Integrated Roads Project⁷ are a result of the implementation of the study.

18. Equally the Borrower undertook the adoption of the Market Liberation Strategy during

⁵ Staff Appraisal Report No. 8367-TA of May 6, 1990 item 1.10 Pg.4

⁶ Staff Appraisal Report No. 5922-TA of April2, 1986 Annex III-10 Pg. 72

⁷ Staff Appraisal Report No.12536_TA of March 17, 1994 item4.16 Pg. 23

the implementation of the project by promoting the encouragement of the local contractors in participating in the rehabilitation and maintenance of the road infrastructure as well as the establishment of the private plant pools and creation of a company to manage the then Government owned equipment and plant.

19. Overall, the Borrower learned a number of lessons relevant for the future during the implementation of the project. The most important lesson is the one on inadequate preparations on proper documentation that it causes a lot of delay in starting hence cost overruns. Donor coordination is a success on this respect hence the sound and efficient system of exchange and flow of project informations, between the implementors, as well as donors. Maintenance culture and the importance of maintaining the existing infrastructure as a means of achieving a sustainable economy was also a major lesson learned.

Bank's Performance

20. During the implementation the Bank staff and management as a whole were very cooperative. The project was supervised by five task managers during its lifetime. Organizational changes in the Bank lead to the project passing through supervision of three Division chiefs and hence three departments. All these changes did not affect the performance of the Bank on the project. Unavoidable changes of the scope of work due to delays at the beginning were readily attended to the most spectacular performance was the readiness of the Bank Staff is the early years of implementation, to positively agree to improvements on the scope of the project. This created a Donor-Borrower relationship that should be adopted in future for implementation. On that basis other donor were involved in implementation (This was the first mult-Donor financed) of the project. Donor coordination and involvement was initiated under this project and has been very successful.

Accomplishments of the project

21. The Civil works for paved roads envisaged under this project was overspent by SDR 3.55 mio. while the Gravel roads were underspent by about SDR 5.44 mio. There was an overexpenditure of SDR 3.58 mio. for Consultancy services for the whole project life. As for the Technical Assistance to MWCT the cost overun was SDR 2.45 mio. which is a clear indication that there was a good number of Technical Assistance under project.

A summary of the expenditure for the IDA funds is attached for reference. Training and capacity building for both the Local Construction Industry and the Staff in MWCT was significant. About 80 undergraduate Engineers were added to the country over and above those graduating in the country and other sources within the project life. Local Contractors were trained and the completion of the project the number of contractors capable of undertaking roadworks had risen from almost <u>ZERO</u> to above one hundred. A good number of Postgraduate studies were persued by MWCT staff adding about 20 proffesional to the society. There were a number of

i

amendments to the scope of the physical works of the project during the implementation. Some of these amendments were due to delays in the startup of the project. The Civil works for the paved road sections were delayed for more than a year while the gravel raods were moved to the next project. All in all the project although extende twice was very successful.

Prepared by: W.A.Lytauu Project Coordinator-MWCT ,



APRIL 1986
ni de las. Noti astration