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PERFORMANCE AUDIT REPORT

GHANA

TRANSPORT REHABILITATION PROJECT I (CREDIT 1858-GH)
TRANSPORT REHABILITATION PROJECT II (CREDIT 2192-GH)
NATIONAL FEEDER ROADS REHABILITATION AND MAINTENANCE
PROJECT (CREDIT 2319-GH)

June 28, 1999

Sector and Thematic Evaluations Group
Operations Evaluation Department

CURRENCY EQUIVALENTS

Currency Unit	=	cedi (C)
US$ 1 1990	=	326 cedis (SAR)
1991	=	367 cedis
1992	=	437 cedis
1993	=	651 cedis
1994	=	964 cedis
1995	=	1,200 cedis
1996	=	1,500 cedis
1997	=	2,000 cedis
1998	=	2,300 cedis

WEIGHTS AND MEASURES

1 meter (m)	=	3.28 feet (ft)
1 hectare (ha)	=	2.47 acres
1 kilometer (km)	=	0.62 mile (mi)
1 metric ton (t)	=	2,205 pounds (lb)

FISCAL YEAR

January 01 – December 31

ABBREVIATIONS AND ACRONYMS

Danida	-	Danish International Development Assistance
DFR	-	Department of Feeder Roads
GOG	-	Government of Ghana
ERR	-	Economic rate of return
ICB	-	International Competitive Bidding
IMT	-	Intermediate Means of Transport
MPBS	-	Maintenance Performance and Budgeting System
NCB	-	National Competitive Bidding
NFRRMP	-	National Feeder Roads Rehabilitation and Maintenance Project
NGO	-	Non-Government Organization
OPEC	-	Organization of Petroleum Exporting Countries
PPF	-	Project Preparation Facility
RTTP	-	Rural Travel and Transport Program
SAR	-	Staff Appraisal Report
SDR	-	Special Drawing Rights
SSATP	-	Sub-Saharan Africa Transport Policy Program
TRP-1	-	First Transport Rehabilitation Project
TRP-2	-	Second Transport Rehabilitation Project
USAID	-	United States Agency for International Development
ICR	-	Implementation Completion Report
EVM	-	Evaluation Memorandum
ES	-	Evaluation Summary
OED	-	Operations Evaluation Department

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Office of the Director-General
Operations Evaluation

June 28, 1999

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

SUBJECT: **Ghana: Performance Audit Report**
First Transport Rehabilitation Project (Credit 1858-GH)
Second Transport Rehabilitation Project (Credit 2192-GH)
National Feeder Roads Rehabilitation & Maintenance Project
(Credit 2319-GH)

Attached is the Performance Audit Report (PAR) prepared by the Operations Evaluation Department on three transport projects in Ghana: First Transport Rehabilitation Project (Credit 1858-GH, approved in FY88); Second Transport Rehabilitation Project (Credit 2192-GH, approved in FY91); and National Feeder Roads Rehabilitation Project (Credit 2319-GH, approved in FY92). The projects closed 12-24 months behind scheduled. A total of US$216 million equivalent was disbursed, and US$2.8 million was cancelled at closing.

The main goals of the three project were to support the economic recovery program (ERP) of Ghana by removing transport impediments to private sector investment and economic activities through physical rehabilitation and through the promotion of market-oriented reforms in the roads and railways subsectors to create a favorable environment for the private sector, and to improve public sector management and resource allocation. The projects also sought to alleviate rural poverty by promoting intermediate means of transport, improving access to markets and socioeconomic activities, and introducing income-generating opportunities by promoting labor-intensive construction methods.

The physical objectives of all the audited projects were achieved. By improving economically important roads, the projects contributed to the success of the ERP. The projects helped to put in place a program of road rehabilitation and maintenance to arrest the deterioration of the road network and improve its condition. They helped in removing the physical constraints to transport and reducing transport costs, which in turn helped stimulate exports, farm production and marketing, and helped improve the mobility of passengers and goods. This is reflected in the high economic rate of return, which ranged from 18-42 percent.

The National Feeder Roads project and pilot feeder roads and rural transport components in the First and Second Transport Rehabilitation projects improved access and mobility of the rural population to markets and socioeconomic activities. Agricultural produce increased and became more diversified. Commercial transport also increased on improved feeder roads, thus enhancing the mobility of the rural population.

The objectives of the railways component in the TRP-I and II were not achieved. The railway in Ghana still suffers from poor physical condition and a deficient organizational framework.

Institutional strengthening and policy reforms have improved the management and financing of the road subsector. The Ghana Highway Authority and Department of Feeder Roads now carry out most of their maintenance and rehabilitation work using private contractors and consultants rather than direct force account. This has resulted in a thriving local construction and consultancy industry. In addition, the introduction of pavement management systems in the two agencies has enabled them to improve their expenditure and work programs. The establishment of a reformed road fund, with an autonomous board and secretariat, has vastly improved cost recovery and allocation of funds for maintenance.

The audit rates the outcome of the First and Second Transport Rehabilitation projects as *satisfactory,* sustainability as *uncertain,* institutional development impact as *substantial,* and Bank and Borrower performance as *satisfactory.* These ratings are consistent with those of the ICR, as reviewed by OED. The audit rates the outcome of the National Feeder Roads project as *highly satisfactory* (versus *satisfactory* in the ICR), sustainability as *likely* (versus *uncertain* in the ICR), institutional development impact as *substantial* (in concurrence with the ICR), Bank performance as *highly satisfactory* (versus *satisfactory* in the ICR), and Borrower performance as *satisfactory* (in concurrence with the ICR).

The Bank's project management style and policy dialogue with the client were exemplary and represent a "best practice" in the road subsector. The Bank provided timely and relevant sector assistance. It responded to the needs of the economic recovery program early on, and proceeded to design projects to address both the emergency needs of the ERP and the long-term needs of the sector. The policy dialogue in the road subsector was highly beneficial to the outcome of the projects and to the improved sector organization.

Three lessons emerge from the audited projects. First, the benefits of contracting out with the private sector for the design and implementation of civil works are eroded when public road agencies lack adequate capacity to manage contracts and an institutional mechanism to make sequential adaptations to changing circumstances and resolve disputes. The corporatization of road agencies and the establishment of a dispute resolution mechanism need to precede (or be done alongside) the institutional change to contract out with the private sector. Second, the decentralization of feeder road management to the district level needs to be preceded by a clear definition of ownership and a classification of feeder roads, and requires a coherent strategy to devolve power and accountability for resource allocation and generation to the district level. Third, road funds can be an important step in managing roads in a market economy. To complete the commercialization of roads in Ghana, the Fund should generally allocate funds in proportion with a region's contribution, but should also have a mechanism to address regional disparities arising from the unbalanced allocation of resources in the past. The second-generation road funds improve upon the first-generation road funds by enhancing the oversight responsibility and limiting the government's discretionary power to divert funds for other use.

Attachment

Contents

Principal Ratings

First Transport Rehabilitation Project (Credit 1858-GH)

	ICR[1]	OED/EVM[2]	PAR[3]
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Uncertain	Uncertain
Institutional Development	Substantial	Substantial	Substantial
Bank Performance	Highly Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Second Transport Rehabilitation Project (Credit 2192-GH)

	ICR	OED/ES	PAR
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Uncertain	Uncertain	Uncertain
Institutional Development	Partial	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

National Feeder Roads Rehabilitation Project (Credit 2319-GH)

	ICR	OED/ES	PAR
Outcome	Satisfactory	Satisfactory	Highly Satisfactory
Sustainability	Uncertain	Uncertain	Likely
Institutional Development	Partial	Substantial	Substantial
Bank Performance	Satisfactory	Satisfactory	Highly Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

Key Staff Responsible

First Transport Rehabilitation Project (Credit 1858-GH)

	Task Manager	Division Chief	Country Director
Appraisal	T. Pankaj	A. Soto	N/A
Completion	N/A	J. Wright	N/A

Second Transport Rehabilitation Project (Credit 2192-GH)

	Task Manager	Division Chief	Country Director
Appraisal	T. Pankaj	J. Wright	E. Lim
Completion	S. Hallgrimsson	M. Plessis-Fraissard	P. Harold

National Feeder Roads Rehabilitation Project (Credit 2319-GH)

	Task Manager	Division Chief	Country Director
Appraisal	A. Nickeson	J. Wright	E. Lim
Completion	S. Hallgrimsson	M. Plessis-Fraissard	P. Harold

[1] Ratings assigned by the Region in the Implementation Completion Report (ICR).
[2] Ratings assigned by OED in the Evaluation Memorandum (EVM) or Evaluation Summary (ES) during the ICR review exercise.
[3] Ratings assigned in this Performance Audit Report (PAR) based on the OED audit.

Preface

This is a Performance Audit Report (PAR) of three transport projects in Ghana: the First Transport Rehabilitation Project (Credit 1858–GH); the Second Transport Rehabilitation Project (credit 2192 –GH); and the National Feeder Roads Rehabilitation and Maintenance Project (credit 2319-GH).

The PAR was prepared by the Operations Evaluation Department (OED). In February 1999, an OED mission traveled to Ghana, where it held discussions with relevant government officials, private sector representatives, beneficiaries in villages, professional and trade organizations, and Bank staff in charge of the projects at headquarters and the resident mission. The kind cooperation and invaluable assistance from all the people consulted are gratefully acknowledged. OED staff also reviewed the President's Reports, Staff Appraisal Reports (SARs), Implementation Completion Reports (ICRs), transcripts of Board proceedings, project correspondence files, Bank documents on other transport projects, and other Bank and non-Bank materials.

The PAR adds value to the ICRs by focusing on selected issues that are likely to dominate future Bank-GOG dialogue in the sector: contract management, decentralization, and Road Fund.

Following standard OED procedures, copies of the PAR were sent to the relevant government officials and agencies for their review and comments. No comments were received.

1. Introduction and Background

The Context

1.1   When the economic recovery program (ERP) was launched in 1983, Ghana's transport sector was severely deteriorated. Years of maintenance neglect and mismanagement had left it in such poor condition that it had become a liability to the national economy and hindered the effectiveness of the recovery program. In the road transport subsector, the road infrastructure had deteriorated so much that it had lost its capacity to carry even the reduced levels of traffic of the early 1980s. Of the 14,134 km of trunk roads in 1984, about 6,500 km (46 percent) had suffered moderate or severe failure.[4] The situation was even worse for feeder roads, as the majority of the roads could not be used during the rainy season. The situation in the railway subsector was similar. Rail infrastructure and rolling stock were in poor repair, and derailment and breakdowns were frequent.

1.2   Transport sector institutions were also deficient, hindered by inefficient organizational arrangements and poor incentive structures. The poor macroeconomic conditions and political instability of the 1970s and 1980s had resulted in the exodus of many well-educated Ghanaians from the country. Those who remained had to contend with wages that did not cover the cost of living and a management system that was highly politicized, causing high absenteeism, low productivity, and widespread demoralization.

1.3   Although Ghana once enjoyed a relatively high living standard compared with most other West African nations, the combination of political uncertainty, *dirigiste* economic policies, and deterioration in the external terms of trade in the 1970s led to severe macroeconomic imbalances and a decline in income through the early 1980s. Import volumes fell by a third, real export earnings by 52 percent, and domestic savings from 12 percent of GDP to almost insignificant levels.[5]

1.4   In 1983, the government launched an economic recovery program (ERP) with the support of the World Bank, IMF, and other agencies to restore macroeconomic stability, maintain an incentive framework to enhance efficiency, encourage savings and investment, provide an enabling environment for the private sector, and improve public sector resource management. In the decade following the reforms, real GDP growth ranged from 5 to 12 percent and the benefits of that growth have been widely shared.[6]

1.5   The main elements of Ghana's transport system are: (a) a network of about 14,400 km of trunk and urban arterial roads, and about 21,000 km of feeder roads; (b) a 950-km railway system linking three main cities, Accra, Kumasi, and Takoradi, and two main ports; (c) two major ports at Tema and Takoradi; and (d) a maritime and airline system.

1.6   The Ministry of Roads and Transport has overall responsibility for the transport sector. It sets out sector strategy and policy for monitoring the performance of its agencies. In the road subsector, the Ghana Highway Authority (GHA) is responsible for managing the trunk road network. The Department of Feeder Roads (DFR) and Department of Urban Roads (DUR) are respectively responsible for the preservation, improvement, and development of the feeder and urban road networks. The Ghana Railway Corporation is responsible for managing the operations

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4. Ghana: Transport Sector Strategy Note (1985). Washington, D.C.: World Bank.
5. **Ghana: Country Brief.** http://afr.worldbank.org/gh/info.htm.
6. *Ibid.*

of the railway system.

Bank Group Involvement in the Transport Sector

1.7   The Bank's role in the transport sector in Ghana has been important in guiding and supporting rational sector policies and institutional reforms, and in supplementing resources. Since 1969, when the Bank first approved an engineering credit, Ghana has received 12 transport projects totaling US$558 million to develop, improve and preserve its transport sector. These included five highway projects (US$117 million); one highway sector investment project (US$100 million); one railway and one port project (US$29 million and US$24.5 million, respectively); two transport adjustment projects (US$156 million); and one rural roads and urban transport project (US$55 million and US$76 million, respectively). In addition, there have been important transport components in other programs for emergency credit and agriculture projects.

2.   Project Objectives and Relevance

2.1   In consultation with the government, the Bank issued a Transport Sector Strategy Note (1985) to lay out the measures that needed to be taken in order to rehabilitate the sector and to support the economic recovery program. The main recommendations of the Sector Strategy Note were to:

- Rehabilitate the physical infrastructure.
- Establish an improved system of resource allocation and infrastructure financing.
- Restructure sector agencies.
- Support private contractors.
- Improve policies and incentives for road transport.
- Promote intermediate means of transport.

2.2   The Sector Strategy Note, which was developed through intensive dialogue with the client and other donors, guided subsequent project designs and policy dialogue with the client. The Bank and the government (as well as the donor community) agreed on a series of short-and medium-term measures to redress the deficiencies in the transport sector in Ghana. The note was also a means to go beyond emergency repairs and develop a process to bring a long-term solution to the management and financing of the transport sector.

2.3   The audited projects benefited from a well-defined and well-thought out strategy and enjoyed borrower commitment and donor support. The main objectives of the *First Transport Rehabilitation* project (TRP-I) and the *Second Transport Rehabilitation* project (TRP- II) were to help sustain and accelerate Ghana's economic recovery program by removing transport barriers to private sector investment and economic activities. The projects were also designed to promote market-oriented reforms to increase the efficiency of the transport sector, create an environment conducive to the development of domestic private sector contractors, and improve public sector management and resource allocation. Finally, the projects had some pilot-components to promote intermediate means of transport in the rural areas and create economic opportunities for the rural poor by promoting labor-based construction methods. (Specific project objectives and components are listed in Table 2.1).

2.4   The *National Feeder Roads Rehabilitation and Maintenance* project (NFRRMP) sought to support the ERP by focusing on the feeder road network. Improving the feeder road network was essential to increase the production of food and cash crops by facilitating the transport of agricultural produce and inputs to and from markets. The project was also an attempt to improve

the mobility and economic opportunity of the rural poor, and increase the use of labor-based construction methods.

2.5 The objectives of the three audited projects were highly relevant to the needs of the client and were consistent with the Bank's strategy. In many ways, the concepts embedded in the projects represent innovative thinking for the time. The projects sought to promote the commercial management of roads, increase the capacity the private domestic contractors industry, introduce labor-based construction methods and promote intermediate means of rural transport. These project concepts are currently considered "best practices" in the Bank, and have been used in other developing and developed countries to design successful transport interventions.

2.6 One serious shortcoming of the design of the projects is the railway component of the TRP-I and TRP-II. The two projects were not adequately designed to raise Ghana's railways to acceptable condition. The needs of the subsector were not adequately addressed through an appropriate investment strategy, and policy and institutional reform.

Table 2.1 Project Objectives and Components

Project Name	Project Objectives	Project Components
First Transport Rehabilitation Project (Credit 1858 - GH) Approved: December 10, 1987 Effective: May 9, 1988 Original Closing Date: December 31, 1993 Actual ClosingDate: December 31, 1995 Loan Amount: US$ 65 M Project Cost: US$200 M	Remove physical bottlenecks to the expansion of exports, farm production and labor mobility through better maintenance and further rehabilitation of the transport infrastructure. Raising the efficiency of the transport sector. Facilitating rural transport by promoting appropriate low-cost technology; and Reducing transportation costs for both goods and passengers.	Road maintenance and rehabilitation Railway rehabilitation program. Support for transport sector institutions. Pilot programs for road transport and rural transport. Support for infrastructure planning.
Second Transport Rehabilitation Project (Credit 2192-GH) Approved: December 13, 1990 Effective: June 18, 1991 Original Closing Date: September 30, 1996 Actual Closing Date: December 31, 1997 Loan Amount: US$96 M Project Cost:US$212 M	Removing physical bottlenecks to the expansion of exports, farm production and labor mobility; and facilitating private sector development through improved maintenance and rehabilitation of the road and railway infrastructure; Improving the efficiency of both the public and private sector transport management through promotion of market-oriented policies, institutional development and manpower training; Encouraging new methods of infrastructure rehabilitation and maintenance practices, using appropriate technology, local resources, and community participation; Reducing transportation costs; and Alleviating poverty in rural areas, and improving the self-development of rural women.	Civil works, institutional strengthening and equipment in the road sector (64%); Capacity improvement in the railway subsector through provisions for locomotives and wagons, equipment and tools, civil works, and institutional strengthening (33%); Public and private transport sector institutional development (22%); and Low-cost rural infrastructure development and maintenance systems with emphasis on women's employment and involvement through provision for civil works and institutional support to women and NGOs (11%).
National Feeder Roads Rehabilitation and Maintenance project (Cr. 2319-GH) Approved: February 7, 1992 Effective: July 22, 1992 Original Closing Date: June 30, 1997 Actual Closing Date:	To provide improved feeder road access to transport agricultural inputs and agricultural produce to and from farms or villages and nearby markets and thereby increase food and cash crop production; To improve mobility and economic opportunity for the rural poor; and To improve the institutional capacity of DFR to sustain the feeder road program over time and to ensure the maintenance of the rehabilitated road network.	Full rehabilitation of 2,500 km of feeder roads in 16 selected road areas with high and medium agricultural potential; Regravelling of 2,850 km of feeder roads which were rehabilitated since 1982 and were now under maintenance; Construction of up to 5,000 culverts including spot improvements on some 720 km of selected feeder roads to provide minimum access; Purchase of road maintenance and workshop

June 30, 1998 Loan Amount: US$ 55 M Project Cost: US$102.7 M		equipment and tools and spare parts; Consultant services for engineering design and contract supervision for components and for an organization and management study; a maintenance performance budgeting system development; and socio-economic impact studies; Technical assistance to support DFR in contract management, road planning, road maintenance and equipment maintenance/repair operations; Overseas training for DFR staff and support for the Koforidua labor-based training school; Support to the local contracting industry including assessment of industry performance; provision of training, and light equipment for labor-based contractors; Rural mobility and environmental improvements and assistance to NGOs and women; and DFR decentralization support to develop and test a district-based routine maintenance system on feeder roads involving local communities (Extract from Staff Appraisal Report No. 9823-GH). The goals as stated in the SAR were realistic and achievable.

3. Implementation Experience and Results

3.1   All three projects were successfully implemented after some startup delays. Technical assistance and training programs linked to projects increased the capacity of the implementing agencies to expeditiously implement the projects. In the end, all three projects closed with some delays. The closing dates for TRP I and II were extended by 24 months and 15 months, respectively, from the SAR projection. The original closing date for the National Feeder Roads project was extended by 12 months. The main reason for these delays was the slow procurement process and the government's inability to provide timely counterpart funding.

Physical Achievements

Trunk Roads

3.2   The projects achieved their physical targets to rehabilitate and maintain the trunk road network. Under the First and Second Transport Rehabilitation projects, 4,705 km of trunk roads (35 percent of Ghana's trunk road network) received some periodic maintenance and rehabilitation work.[7] The projects helped to put in place a program of road rehabilitation and maintenance to arrest the deterioration of the trunk road network and improve its conditions. In 1989, only 33 percent the trunk roads were in good or fair condition, with a substantial part of the road network suffering from moderate and severe failure. By 1997, however, the danger of road failure was largely averted and the percentage of roads in good or fair condition increased to 42 percent (Table 3.1). While this is a major improvement, 58 percent of the network remained in poor condition by 1997. The Bank is supporting GOG through the ongoing Highway Sector Investment Program to bring the network to 70 percent in good condition and 20 percent in fair condition by 2005[8].

Table 3.1   Improvement in Road Conditions*

	Trunk Roads		Feeder Roads		
	1989	1997	1989	1997**	
				Maintainable Only	All Feeder Roads
% Good	13	18	16	51	21
% Fair	20	24	24	36	15
% Poor	67	58	61	13	64

*SOURCE: Data for 1989 comes from SAR TRP-II, while the Data for 1997 comes from the Road Condition Study: Final Report. The numbers may not be comparable over the different years because the surveys were done using different standards.

** The 1997 figures for feeder roads are divided by the maintainable network (9,805 kilometers), and the entire feeder road network (23,605 km), which includes the non-maintainable network (13,800 km).

3.3   By improving economically important roads, the projects were able to contribute to the success of the ERP. The projects helped in removing the physical constraints to transport and reducing transport costs, which in turn helped in stimulating exports, farm production and marketing, and improving the mobility of passengers and goods. This is reflected in the high economic rate of return of the projects, which was re-estimated at 42 percent (versus 61 percent at appraisal) for TRP-I, and 18 percent (versus 30 percent at appraisal) for TRP-II[9].

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7. ICR: TRP1 (Report No. 15741) and TRP2 (Report No. 18413).
8. Ghana: Highway Sector Investment Program: SAR (Report No. 14572-GH).
9. ERR for road components only.

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Feeder Roads

3.4   The National Feeder Roads Rehabilitation and Maintenance Project and the pilot feeder roads components in TRP-I and TRP-II have improved access and mobility of the rural population to markets and socioeconomic activities. Over 6,600 km (31 percent) of Ghana's feeder roads received some rehabilitation and maintenance work under the NFRRMP. The condition of the network has improved significantly (Table 3.1), with only 13 percent of the maintainable-network being in poor condition in 1997. However, a significant portion of the network remains non-maintainable, hence in poor condition, making the percentage of roads in poor condition 64 percent.

3.5   A socioeconomic impact monitoring study[10] undertaken during the implementation of the National Feeder Roads project suggests that agricultural production increased and became more diversified after feeder roads were rehabilitated. Commercial transport services also increased in improved corridors, thus enhancing the mobility of the rural population.

3.6   The findings of the study are corroborated by interviews conducted with beneficiaries for the purpose of this audit. The audit mission held focus group meetings with villagers from selected corridors in the Brong Ahafo Region. The feeder roads, where the village interviews were conducted, fall into the following categories.

    (i)   rehabilitated under NFRRMP;
    (ii)   rehabilitated using labor-based methods, and funded by another donor;
    (iii)   received some spot improvement through DFR's own fund; and
    (iv)   not improved at all, and passable only with great difficulties.

3.7   The interviewed villagers highlighted the following effects of improved feeder roads on their life:

(i) *Transport services are significantly more frequent and cheaper in the corridors where the feeder roads were rehabilitated than where there were no improvements done.* The villagers in the improved corridor said that the evacuation of their produce has significantly improved since the road was rehabilitated, as there were now more vehicles coming to their villages. On the other hand, the villagers who live along the unimproved feeder road complained that it is extremely difficult to get service into their village. When they do get service, they have to pay more than those who live along the improved corridor. Transporting one-hundred kilograms of maize to market costs 2,000 Ghanaian *cedis* in the improved corridor, versus 3,000 *cedis* in the non-improved one for the same distance (Table 3.2). Passenger services are also cheaper in the improved corridor, where it is 200-300 *cedis* cheaper than it is in the unimproved corridor for comparable distance.

(ii) *Farmers in improved corridors have reduced their use of intermediaries to sell their harvest and are getting better prices for their crops.* Because of the difficulties in getting transport services, many villagers used to sell their produce to intermediaries, at below the market price to compensate for the service provided by the intermediary. However, the improved transport services have decreased the need to sell their produce to an intermediary. Hence, villagers are getting a better price for their produce.

(iii) *Shopkeepers in improved corridors say their costs and sales have improved since the road was rehabilitated.* The costs of bringing goods from major markets to village shops decreased

because shopkeepers are able to find transport services without difficulty. According to one shopkeeper in the corridor where the feeder road was improved under NFRRMP, transport service was difficult to get before the road was improved, as many providers refused to go to the village. Since the improvement of the road, the shopkeeper said, he has no problem in getting service to bring his goods to the shop. In addition, he maintains that his sales have improved since the road was rehabilitated, as many villagers have become more mobile and pass through his shop more frequently.

(iv) *Summoning an emergency vehicle to take an ill person to a health facility is easier and cheaper where the roads were improved.* In Ghana's villages, when a person falls ill, the people send someone, often on a bicycle, to the main road or the next town to fetch a taxi to take the ill person to the hospital or clinic. The ease with which this service can be obtained and the price of the service significantly varies by the condition of the road. As Table 3.2 shows, if the roads are in good condition, taxis are more willing to go and charge less (15,000-25,000 cedis for a trip). On the other hand, if the roads are in bad condition, people have to wait until they find a taxi willing to go to that village, and when they do get one they pay a higher price (25,000-30,000 cedis per trip). Moreover, if a segment of the road is not motorable, the ill person has to be carried by the villagers to the point where it becomes motorable.

Table 3.2 Impact of Improved Feeder Roads on Transport Cost

Transport Cost (in *Cedis*	CHARACTERISTICS OF FEEDER ROADS			
	I[i]	II[ii]	III[iii]	IV[iv]
Freight, 100 kg Maize	2,000	2,000	3,000	3,000
Shared taxi	1,200	1,200	1,500	1,500
Minibus	1,000	1,000	1,000	1,200
Emergency taxi	15,000-20,000	20,000-25,000	25,000-30,000	25,000-30,000

Source: Village Interviews.
i. Rehabilitated under NFRRNP
ii. Rehabilitated using labor-based methods, and funded by another donor
iii. Received some spot improvement through DFR's own fund; and
iv. Not improved at all, and passable only with great difficulties

3.8   It should be noted that these findings from interviews with villagers are not intended to be exhaustive conclusions on what happens when feeder roads are improved. The purpose here is to get some sense of what the beneficiaries feel about the impact of improvements of feeder roads on their daily life, and to confirm the findings of the above-mentioned study. When the views of the beneficiaries are combined with the more systemic impact monitoring study, a clearer view emerges of what the impact of feeder roads is on rural life in Ghana. Undoubtedly, improvements in feeder roads have significant economic and social benefits, which may not appear in traditional cost-benefit analysis.

Railway

3.9   In the railway subsector, TRP-I and II financed the rehabilitation of some railway tracks, rolling stock, and equipment. However, the projects' effect on the condition and efficiency of the railway system is negligible. The support and attention provided to the railways was not commensurate with the daunting problem the railways were facing at the start of the transport rehabilitation program. Unlike in the road subsector, the railway component lacked a comprehensive and strategic program to bring about a fundamental change in the physical condition and management of the railway system.

3.10   The railway component suffered from a lack of adequate attention early in the project cycle. Supervision missions did not provide enough attention to this component, and there was not much substantive policy dialogue to improve the railway system. Most of the Bank-GOG

dialogue centered on the roads component, while railways were largely neglected. The policy dialogue substantially improved toward the end of TRP-II when the Bank began attending to this component more closely and entered into more intensive dialogue with the client. As a consequence of this action, the client is now poised to introduce private sector participation in the subsector. In retrospect, having a separate railway project would have focussed stronger attention on the problems of the railways.

Institutional and Policy Development

Road Subsector
3.11   The audited projects provided substantial support to enhance the capacity of the sector organizations through a combination of market-oriented reforms, technical assistance, and training programs. At the start of the TRP, both GHA and DFR carried out most of the civil works through direct labor force, and had very limited use of private contractors. Today, however, both these agencies extensively use the private sector to design and carry out most of the civil works. This has resulted in a thriving domestic construction and consultancy industry in Ghana. The Bank's support in this area came in two forms. First, through its policy dialogue, the Bank encouraged the client to increase its use of private contractors to undertake civil works and reduce its unskilled labor force. At the same time, the Bank arranged for a comprehensive training program for domestic contractors, with a particular focus on labor-based construction methods. These efforts have paid off, and Ghana's construction industry is now among the most vibrant and well-organized in the region.

3.12   The technical assistance and training programs extended to GHA and DFR have substantially improved the capacities of these agencies to manage projects and to plan and prioritize road maintenance programs. The advance pavement management systems introduced in DFR and GHA are helping in rationalizing the expenditure and work programs of these agencies.

Railway Subsector
3.13   In the railways subsector, institutional development efforts had a negligible effect in improving the capacity and managerial culture of the railways. Technical assistance proved ineffectual. Because policy dialogue to reform the railways did not start in earnest until toward the end of the second TRP, no meaningful reforms have yet been taken to improve the operations and management of the railways. The experience of the Ghana railways suggests that support for organizational strengthening and improvement is more effective when the railway operates in a conducive institutional environment with appropriate incentive structures. Organizational and system improvements need to be accompanied (or preceded) by reforms directed at improving the incentive structure and the institutional environment governing railway operations.

Technical Assistance

3.14   The technical assistance program in Ghana has provided significant benefits in the areas of project management, and has improved sector agencies' managerial and organizational capacities to maintain and improve the road network. However, it has also created dependency on costly expatriate staff, and disguised Ghana's institutional weaknesses. The Bank needs to work with the GOG and other donors to develop a process to minimize the use of technical assistance.

Monitoring and Evaluation

3.15   As the management and financing of the transport sector becomes more complex and many actors are involved, the monitoring and evaluation function of the agencies needs to be strengthened and strategically organized to evaluate the many-faceted performance requirements of the transport sector. Currently, there is a Directorate for Monitoring and Evaluation in the

MORT. The road agencies and Road Fund Secretariat also carry out some monitoring and evaluation. Nevertheless, there is inadequate capacity within the sector institutions, and the economic and institutional values of evaluation are not widely appreciated. There is a need to increase the evaluation capacity of the agencies, and develop a process to allow them to learn from evaluations.

4. Ratings

Outcome

4.1 The PAR rates project outcome for TRP-I and II as *"satisfactory,"* and the outcome for the National Feeder Roads project as *"highly satisfactory."* The outcome of the roads component under all of these projects is deemed highly satisfactory. The projects substantially achieved their objectives to remove the transport bottlenecks in support of the economic recovery program. They also promoted market-oriented reforms, improved public sector management, and improved resource allocation. The projects' relevance to the economic recovery program and poverty reduction in the rural areas was highly significant. Project objectives were achieved with high economic rate of return. There were some cost and time overruns, but these did not affect the projects' outcome.

4.2 The outcome of the railway component, on the other hand, which made up 22 and 33 percent of the credit amount for TRP I and II respectively is judged as unsatisfactory. The projects failed to bring improvement in the operations of the Ghana railways. A recalculation of the economic rate of return for the railway component of TRP II showed that the project had a zero percent ERR (versus 29 percent at appraisal), while the ERR for TRP-I was not reestimated.

Sustainability

4.3 The sustainability for TRP-I and TRP-II is rated as *"uncertain."* While the sustainability of the roads component is guaranteed by the reformed Road Fund and the improved sector capacity, the sustainability of the railway is unlikely without significant institutional changes, which have yet to materialize. Therefore, the overall sustainability of the project is uncertain.

4.4 The sustainability of the National Feeder Roads project is rated as *"likely."* Resource allocation for feeder road maintenance has significantly improved since the establishment of the reformed Road Fund. However, the decentralization process has introduced a new variable whose effect on the management and financing of the roads is not yet known. In particular, district assemblies have yet to make a political commitment to maintain the improved feeder roads and establish an institutional arrangement to carry out the maintenance and improvement of the roads.

Institutional Development

4.5 The institutional development impact of all three projects is rated as *"substantial."* Market-oriented reforms and organizational strengthening efforts have significantly improved public sector management and resource allocation in the road subsector. The introduction of advanced pavement management systems in GHA and DFR has helped the agencies to improve their work programming. Training extended under these projects has increased the skills of staff in GHA, DFR, and the MORT. Technical assistance and training to private sector contractors have improved the industry, which has in turn encouraged the agencies to use the private sector more in the design and implementation of civil works.

4.6   In the railway subsector, technical assistance and training programs were carried out, but they were unsuccessful in improving the operation and management of the railway system.

Bank Performance

4.7   Bank performance is rated as "*satisfactory*" for TRP-I and TRP-II, and "*highly satisfactory*" for the National Feeder Roads project. The Bank's project management style and policy dialogue with the client were exemplary and represent a "best practice" in the road subsector. The Bank provided timely and relevant sector assistance. It responded to the needs of the economic recovery program early on, and proceeded to design projects to address both the emergency needs of the ERP and the long-term needs of the sector. The policy dialogues in the road subsector were in particular highly beneficial to the outcome of the projects and to the improved sector organization.

4.8   The Bank continues to provide support for the road subsector through the ongoing *Highway Sector Investment* project and the *Village Infrastructure* Project, which has a feeder roads component. The Bank, however, does not have an investment project focused on feeder roads, although policy dialogue continues with the GOG under the umbrella of the *Rural Transport and Travel program* (RTTP) of the Sub-Sahara Africa Transport Policy program (SSATP). The policy dialogue is designed to promote, *inter alia,* a national strategy for rural transport, improve financing and management of feeder roads, articulate the decentralization program, address gender issues in rural transport, and improve income-generation opportunity of the rural population.

4.9   In the railway subsector, project management and policy dialogue were deficient, but improved toward the end of TRP-II.

Borrower Performance

4.10   Borrower performance for all three projects is rated as "*satisfactory*." Both GHA and DFR excelled in implementing the projects and showed strong "ownership" during all stages of the project cycle. However, the client was slow in meeting the counterpart funding requirements for these projects, and needed to improve its contract management processes.

4.11   The Ghana Railway Corporation, and its line ministry, failed to implement the project expeditiously and improve the management of the system.

5.   Outstanding Issues and Challenges Ahead

5.1   The Bank has made significant contributions in improving Ghana's transport sector, especially the road subsector. Ghana's road network is better managed and maintained today than it was at the start of the transport rehabilitation program. Notwithstanding these successes, there are still some outstanding issues and challenges ahead. In fact, the Bank's work from here on will be more difficult, as the issues are getting finer and more sophisticated. This section outlines three topics the Bank is likely to be engaged in while providing continuing support to Ghana's transport sector: contract management, decentralization, and road fund.

Contract Management

5.2   Private contractors currently carry out the majority of road works in Ghana, including maintenance and rehabilitation. This has brought significant development in the domestic construction and consultancy industry and a reduction in unit costs when contracts are competitively let. However, the benefits of contracting out with the private sector have not been fully realized, because of the institutional weaknesses on the part of the public road agencies to manage contracts and reduce the transaction costs embedded in obtaining and supervising contracts.

5.3   The GHA and DFR have not yet reoriented their institutional arrangements to enhance their capacity to manage contracts and to meet the demands of an industry dominated by the private sector. Both agencies are organized under a deficient institutional environment, dominated by the traditional roles of road agencies. Their wage structure and compensation packages are, for example, not competitive enough with the private sector to allow them to attract and retain a skilled labor force to improve their institutional capacity to manage contracts. Many trained engineers and other skilled staff instead opt to go to the private sector, creating an asymmetry of skills between the contracting agencies and the contractor. The contractor staff is more sophisticated and has better knowledge of what needs to be done than the staff in the contracting agencies. This gap in skills between the agencies and the private contractors increases the transaction costs of contracting and hinders the effective management of contracts.

5.4   Using outside consultants and contractors to design and implement civil works incurs *ex-ante* and *ex-post* transaction costs. Before the contract is awarded, the contracting agency needs to draw the contract, determine the tasks that need to be done, and develop a mechanism to supervise the works and resolve disputes. After contract award, the transaction costs of contract management include the costs incurred in supervising the private contractor, to make changes and adapt to unforeseen circumstance, and the haggling costs to resolve disputes between the government and the contractor.

5.5   Therefore, the contracting agencies need to develop an efficient institutional arrangement to minimize the transaction costs of contract management. In particular, contracting agencies need a specialized managerial and organizational capacity to draw and supervise the contract and develop a mechanism to make sequential changes when unforeseen contingencies arise,and resolve disputes between the government and the private party. This makes the institutional capacity requirement to carry out the design and implementation of civil works by contract unique, and in many ways, more complex than if these tasks were done in-house.

5.6   The inadequate skilled labor force and deficient incentive structures in GHA and DFR have, however, prevented the emergence of an institutional mechanism to minimize the transaction costs of managing contracts.[11] If these conditions persist, the problems with contract management are unlikely to improve. Therefore, the institutional framework within which the contracting agencies are organized needs a fundamental reorganization. The road agencies need to be corporatized to allow them to develop incentive structures akin to that of the private sector, so that they can attract and retain qualified staff. Parliament has enacted a legislation to provide autonomy to GHA. However, its implementation has not yet taken place and needs to be expedited.

5.7   Having autonomy is a necessary, but not a sufficient, condition to improve contract management. A number of other measures need to be taken concurrently. First, the procurement process in Ghana needs to be streamlined and strengthened. Second, an institutional mechanism has to be developed to ensure transparency and efficiency in adapting and making changes to

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11. Rent-seeking and patronage politics are also major problems that complicate the efficient management of contracts. These topics are not treated here, as they are beyond the scope of the audit.

variation orders and other unforeseen circumstances. Finally, an improved and institutionalized arbitration mechanism has to be developed to resolve disputes between the government and private parties.

Decentralization

5.8   As part of the ongoing political and economic decentralization program in Ghana, the management of feeder roads is slated for decentralization to the district level. Ten districts are already decentralized as part of a pilot scheme. The experience thus far suggests that the capacity at the district level is extremely low, and management and financing of roads is significantly more political at the district level than it is at the central level.

5.9   Decentralization is a political decision governments adopt to delegate power to lower-level governments. If done properly, it can increase democratic governance and allow greater participation by the polity. Decentralization also has some economic advantages. It enhances the use of local knowledge in the decision-making process, and encourages competition and the transfer of "best practices" among jurisdictions. Hence, policy decisions and resource allocations reflect the needs and constraints of the local people.

5.10   The decentralization program in Ghana is still evolving, and many of the intended benefits have yet to materialize, without eroding the achievements made thus far in improving sector institutions. The early indication of the decentralization program in Ghana is that the program (i) is excessively political and orchestrated by a powerful central government ministry, (ii) does not delegate the accountability dimension of decentralization to local constituents, and (iii) suffers from weak organizational capacity at the district level.

5.11   The central government, through the Ministry of Local Government, exerts substantial control on district governments. Many important executive positions and one-third of the seats in the district assemblies are appointed by the President under the recommendation of the Ministry of Local Government. This erodes the benefits of decentralization, as the arrangement makes the appointed officials and members of the district assembly more responsive and accountable to the central government than to their local constituents. Moreover, the appointment and promotion process in the district sector departments is vulnerable to political influences, and does not give adequate attention to technical qualifications.

5.12   In feeder roads, the DFR is required to transfer its technical responsibilities to district governments, but the Ministry of Local Government controls administration and funding issues of district governments. In effect, MOLG contradicts the decentralization process by engaging in what could be regarded as re-centralization. This contradiction between the decentralization of technical responsibilities and the tightly controlled MOLG direction of administration and funding is the core problem in the decentralization process that frustrates institutional development efforts at the district level.

5.13   Notwithstanding the above, the weak organizational capacity at the district level also hampers the effectiveness of a decentralized system of governance. The 110 districts in Ghana that are supposed to assume responsibilities for their own feeder roads suffer from a severe shortage of skilled workers and lack the organizational capacity to carry out with efficiency and economy the maintenance and improvement of feeder roads. Their small size prevents them from exploiting economies of scale, and because of their inability to get qualified engineers, they are not able to adequately plan and manage the maintenance and improvement of the feeder roads.

5.14   There is now a proposal to combine feeder roads with two other departments (Department of Rural Housing and Public Works Department) to create a Works Department at

the district level. Another proposal is to combine three to four districts into a "district road area" with a district engineer looking after feeder roads in those districts. Both models of organization have some strengths and weaknesses. The first proposal allows districts to exploit economies of scope in the management of district infrastructure, and maintain their political identity. The problem with this arrangement is the danger that the management of feeder roads will be vulnerable to political and bureaucratic problems, akin to the problems faced when the management of trunk roads was organized under the Ministry of Public Works in the 1970s.

5.15   The second proposal to have "district road area" comes from the current practices of DFR to have field engineers to be responsible for a group of districts. This arrangement has allowed DFR to use its scarce resources more efficiently. However, under a decentralized system, the "district road area" concept conflicts with the political and administrative identity of districts. Under the Constitution, each district is intended to have its own identity and be responsible for its own affairs. Developing district areas, therefore, entails stepping on district prerogatives and may prove politically difficult to achieve.

5.16   The Ghana reality however suggests that it is not possible (or economical) to have a dedicated road department for each district. Therefore, there is a need to reconcile the economic realities with the political constraints. One way to do this is to de-politicize the management of feeder roads by making the "district road areas" autonomous road departments, analogous to what is being done with the GHA. The district road departments then could be governed by a board drawn from officials and representatives of the private sector and users in the respective districts.

5.17   An autonomous district-area road department can address both the political concerns of districts and the economic constraints in the management of feeder roads. The membership in the board provides district officials with a forum to reflect their needs and goals in the programming and management of feeder roads. But the arrangement also minimizes political and bureaucratic interference in the day-to-day management of feeder roads. In addition, the fact that the road department will be an amalgamation of different districts will allow districts to exploit economies of scale in the maintenance and improvement of feeder roads. Moreover, having private sector and user representation in the board will encourage more transparency and accountability, and decisions will reflect more the needs and constraints of the constituency.

5.18   Whatever organizational model is chosen, the setup must be accompanied by a clear functional and administrative classification of the road network to know who is responsible. Concurrent to hammering out this agreement, transparent methods should be developed for allocating the funds between different functional and administrative classes and between regions. In addition, the roles and responsibilities of the regional and district tender boards in procuring contractors need to be clarified and the bidding process aligned with their jurisdictional responsibilities. The bidding process needs to reflect the management of the road network, where the entity responsible for the management of the road should be responsible for the bidding process.

Road Fund

5.19   Ghana has had a Road Fund since 1985 when it was first established under the terms of Credit Agreement for the Road Rehabilitation and Maintenance Project (Credit 1610-GH). The Road Fund, however, proved ineffectual, as were many of the so called "first generation" road funds in Africa. The Ghana Road Fund failed to provide a stable flow of funds for maintenance, and the revenues were not adequately collected or appropriately allocated. An audit report[2] on

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12. **Commercializing of Roads: Annex 4: Extracts from Audit Reports Carried Out on Conventional Road Funds** http://www.worldbank.org/html/fpd/transport/roads/rd_fnds.htm

the Ghana road fund revealed that "(i) certain vehicle examination and licensing fees have been paid to unauthorized accounts; (ii) transfers from certain commercial banks have failed to appear in the bank statement; and (iii) payments made to district treasuries and commercial banks have not been transmitted to the Fund Account". In addition, the audit revealed that control of the toll collection on some of the toll roads was inadequate and susceptible to revenue leakage.

5.20   Many of the problems with the first generation of road fund in Ghana and elsewhere in Africa are attributable to the lack of oversight and accountability; government's discretionary power to divert road funds for other use; deficient revenue generation and collection mechanisms; and lack of an independent secretariat to manage the funds.

5.21   In addition to its internal management problems, the Ghana Road Fund was criticized by the IMF as inconsistent with effective expenditure control, as distorting the allocation of public sector resources, and as incompatible with efficient financial management. The IMF staff proposed abolishing the user tax on fuel by merging it with a new excise duty on fuel, which would indirectly cause the termination of the Road Fund. The Bank responded strongly to this criticism by arguing that the road fund was a means to put roads on a fee-for-service basis, and not to earmark tax revenues for road expenditure.[13]

5.22   The combination of the weaknesses in the first-generation road fund and the IMF challenge led the Bank to promote a reform of the road fund in Ghana.[14] Under the terms of the Highway Sector Investment Credit (C2858-GH), the government agreed to take measures to reform the road fund. The measures included enacting the creation of an autonomous road board, drawn from the government and representatives of the business community and user groups, and establishing an independent secretariat to manage the funds. In addition, the act allowed for improved revenue sources and an annual increment on the fuel levy.

5.23   The reformed road fund went into effect on January 1997. Since then, cost recovery and allocation of the fund for road maintenance have vastly improved. The revenue of the road fund increased from 62 billion *cedis* in 1996 to 180 billion *cedis* in 1998[15]. The 1999 projection is for 219 billion *cedis*.

5.24   The challenge for the road fund from now is to ensure that (i) government's discretionary power continues to be checked; (ii) the allocation of resources is aligned with the decentralizing and liberalizing economy of Ghana; and (ii) the revenues keep up with the increasing needs of the road network.

Sustaining the Road Fund

5.25   The passage of an act by Parliament to establish an autonomous Road Fund Board is intended to limit the government's discretionary power to divert funds for other uses, to improve the oversight of the road fund, and to encourage stakeholder participation. When the earlier road fund was managed by the MOF, MORH, and the Accounts General, the executive branch of the government enjoyed substantial discretionary power to divert the funds for other use. The 1997 act, on the other hand, limits executive branch's power by establishing an institutional mechanism that is independent of the executive branch. However, whether the limit on the government's discretionary power is sustainable has yet to be tested.

13. **Ghana Road Fund: Discussion with the IMF.** World Bank Office Memorandum, October 23, 1986.
14. Elsewhere in Africa, the Bank also encouraged the establishment of the "second generation" road funds under the Road Maintenance Initiative in Africa to redress the problems in the "first generation" road funds and to respond to the challenges of the IMF and some macroeconomists in the Bank.
15 .Ghana Road Fund Secretariat. **Financial Statement and Commentary.** January 1999.

5.26   The paradox in Ghana's political economy is that the government is both strong enough to pass an act limiting its power, and equally strong enough to reverse this act. This is because the party that controls the executive branch of the government also commands a sizeable majority in parliament, making the constitutional checks-and-balances system inadequate to veto the discretionary behavior of the executive. The executive could always guarantee the passage of a bill to either reverse the act or erode some of its statutes. The political process therefore does not guarantee the sustainability of the Road Fund in Ghana.[16]

5.27   The sustainability of the Road Fund in Ghana depends on favorable public opinion and a healthy macroeconomic environment. If there were an adverse macroeconomic shock, the Road Fund would be highly vulnerable from government incursions. In particular, fiscal problems and declining government revenues could tempt the government to find ways to use the Road Fund for other purposes (e.g. social services) that it sees should get priority over road maintenance. In these situations, some ad hoc mechanisms have to be found to ensure that resources are available for road maintenance during macroeconomic shocks.

Rationalizing the Allocation of Resources

5.28   The Road Fund in Ghana is allocated to the different Regions and Districts based on predetermined criteria and the work program of the three recipient road agencies (GHA, DFR, DUR), subject to availability of funds and approval by the Board. The allocation does not take into account each region's contribution to the Fund, nor does it explicitly address regional disparities that may have arisen because of past under investment in the region. The current practice is in some ways contrary to a fee-for-service road system. The establishment of a Road Fund is only the first step in managing roads in a decentralized market economy. To truly commercialize roads, resource generation needs to be aligned with resource allocation. If there is a mismatch between the two, an explicit arrangement has to be made to set aside a part of the fund to pay for regions and districts that do not generate enough resources to meet their expenditure requirement.

Increasing Road Fund Revenue

5.29   The allocation of resources for road maintenance has significantly increased since the establishment of the reformed Road Fund. However, there is still a large unmet need, and this will increase when the entire road network is brought to a maintainable condition. For example, in 1997 GHA, DFR, and DUR proposed a program for routine and periodic road maintenance totaling US$119 million, but the approved budget was US$82 million (69 % of the proposal). The final releases were US$52 million, representing only 44 % percent of the planned program. Similarly, in 1998 the approved budget only covered 81% of the total maintenance program (although it covered 100% of routine maintenance) of the three road agencies (Table 5.1).

Table 5.1   Road Maintenance: Planned vs. Actual Allocation (In US$ Millions)

	Planned Program	Approved Program	Actual Releases
1997	119	82 (69%)*	52 (44%)*
1998**	120	98 (81%) *	N/A

Source: MORT: Road Subsector Strategy and Investment Programme. 1998 Review Report
* As % of planned program
** As of September 1998

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16. The Board could presumably sue the government, but Judiciary decisions could also be reversed by an act of parliament.

5.30   The foregoing shows that there is a need to find additional means to augment the Road Fund. GOG is planning to expand its road and bridge toll program to increase the revenue base for the maintenance of roads. These and other public-private partnership arrangements should be encouraged.

6.   Lessons Learned

6.1   The following lessons emerge from the projects:

- *The transaction costs of contract management need to be adequately considered when moving to a private-sector dominated institutional arrangement for the design and implementation of civil works.* The benefits of contracting out with the private sector are eroded if the public road agencies lack adequate capacity to manage contracts and minimize the transaction costs embedded when the design and implementation of civil works are carried out by contract.

- *The corporatization of road agencies and the establishment of a dispute resolution mechanism need to precede (or be done alongside) the institutional change to contract out with the private sector.*

- *The decentralization of feeder road management to the district level needs to be preceded by a clear definition of ownership and a classification of feeder roads, and requires a coherent strategy to devolve power and accountability for resource allocation and generation to the district level.*

- *Road Funds can be an important step in managing roads in a market economy.* To complete the commercialization of roads, the Fund should generally allocate funds in proportion with a region's contribution to the Fund, but should also have a mechanism to explicitly address regional disparities and inequity because of unbalanced allocation of resources in the past.

- *The Second Generation Road Funds are an important improvement over the First Generation Road Fund in improving the oversight responsibility and limiting the government's discretionary power to divert funds for other use.*

Basic Data Sheet

TRANSPORT REHABILITATION PROJECT (CREDIT 1858-UG)

Key Project Data *(amounts in US$ million)*

	Appraisal estimate	Actual or current estimate
Total project costs	222	200
Loan amount	46.9	60
Cofinancing	100.5	85.97
Cancellation	-	-
Date physical components completed	Dec. 31, 1993	June 30, 1995
Economic rate of return	61	42
Institutional performance	-	-

Cumulative Estimated and Actual Disbursements

	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96
Appraisal estimate (US$ thousands)	3.87	27.87	48.60	54.82	58.04	59.65	60.00	0.00	0.00
Actual (US$ thousands)	2.80	6.72	10.80	23.50	30.93	44.85	52.94	58.75	65.8
Actual as % of estimate	72.4%	24.1%	22.2%	42.9%	53.3%	75.2%	88.2%	97.9%	109.7%
Date of final disbursement:	April 24, 1995								

Project Dates

Steps in project cycle	Date planned/	Date actual
Identification	NA	September 1986
Preparation	NA	March 1986
Pre-Appraisal	November 1986	November 1986
Appraisal	February 1987	April 1987
Negotiations	October 1987	October 1987
Board presentation	November 1987	December 1987
Signing	February 1988	February, 1988
Effectiveness	May 1988	May 1988
Project completion	December 1993	June 1995
Credit closing	June 1994	December 1995

Staff Inputs (staff weeks)

Stage of project cycle	Actual	
	Weeks	US$
Through appraisal	78.4	156.2
Appraisal-Board	86.5	203.1
Board-Effectiveness	12.8	34.4
Supervision	169.7	429.1
Completion	0.4	0.6
Total	347.8	823.4

Annex A
Mission Data

Stage of project cycle	Month/year	No. of persons	Staff days in field	Specializationed staff skills represented a/	Performance rating [b]		Types of problems
					Impplementation Status	Development Objectives	
Through appraisal	Feb. 1986	4	15	FA,EC,STS,RE	n.a.	n.a.	
	May 1986	4	16	SEC,RE,HE,CONS	n.a.	n.a.	
	Nov 1986	7	19	SEC,SFA, STS, WES CONS,RDCONS,RR	n.a.	n.a.	
	Jan 1987	4	9	HE,RR, 2-CONS	n.a.	n.a.	
Appraisal through Board approval	Apr. 1987	10	15	SEC,SRE,SFA,STA,	n.a.	n.a.	
	Aug.1987	1	10	STS,HE,3-CONS,OA			
	Nov. 1987	1	3	STS	n.a.	n.a.	
				SEC	n.a.	n.a.	
Board approval thru' effectiveness	Mar 1988	2	8	SEC,SFA	n.a.	n.a.	
Supervision 1	Jun 1988	4	9	SEC,SFA,2-CONS	1	1	AF,PMP
Supervision 3	Feb. 1989	1	5	TRS	--	--	
Supervision 4	Mar 1989	3	21	SEC 2 HE	1	1	
Supervision 5	Oct. 1989	3	10	SEC, RE, HE	2	1	
Supervision 6	Apr.1990	3	9	SEC, HE, TS	2	1	
Supervision 7	Oct. 1990	4	10	SEC, TS, 2 HE	2	1	
Supervision 8	Jan 1991	5	10	TS,HE,RE,2-CONS	2	1	
Supervision 9	Apr 1991	1	7	SEC	--	--	
Supervision 10	May 1991	5	6	DC,TS,HE,RE,PTS	2	1	
Supervision 11	Oct. 1991	1	8	RE	--	--	
Supervision 12	Dec 1991	1	17	PTS	--	--	
Supervision 13	May 1992	1	8	PTS	--	--	
Supervision 14	Jun 1992	3	10	DC,HE,TS	2	1	
Supervision 15	Dec 1992	2	12	STS, CONS	2	2	PP
Supervision 16	Feb 1993	1	7	RE	--	--	
Supervision 17	Jun 1993	3	7	STS,CONS,YP	2	2	AF,PP
Supervision 18	Nov. 1993	1	7	STS	2	2	AF,PP
Supervision 19	Feb 1994	1	5	STS	2	1	AF
Supervision 20	Jul. 1994	1	6	STS	S	S	
Supervision 21	Oct. 1994	2	10	STE, MUNE	S	S	PP
Supervision 22 Completion	Mar 1995	2	5	STE, MUNE	S	S	

a/ Key to Specialization

FA = Financial Analyst	DC = Division Chief	STA = Senior Training Advisor
EC = Economist	STS = Senior Transport Specialist	STS = Principal Transport Specialist
RE = Railways Engineer	SEC = Senior Economist	TRS = Training Specialist
HE = Highway Engineer	SHE = Senior Highway Engineer	CONS = Consultant
RR = Resident Rep.	SFA = Senior Financial Analyst	STE = Senior Transport Engineer
OA = Operations Assistant	WES = Workshop Equipment Specialist	MUNE = Municipal Engineer
TS = Transport Specialist	SRE = Senior Railway Engineer	RDCONS = Road Safety Consultant

b/ Probem free; 2 – Moderate problems; S-Satisfactory

1= Problem Free	2 = Moderate problems	3 = Major Problems
HS = Highly Satisfactory	S = Satisfactory	U = Unsatisfactory

c/ Key to Problems

CLC = Compliance with Legal Cov.	PMP = Project Management Perf.	AF = Availability of Funds
PP = Procurement Progress	TP = Training Progress	TAP = Technical Asst. Progress
SP = Studies Progress	EA = Environmental Aspects	FP = Financial Performance

Basic Data Sheet

SECOND TRANSPORT REHABILITATION PROJECT (CREDIT 2192-GH)

Key Project Data *(amounts in US$ million)*

	Appraisal estimate	Actual or Current estimate
Total project costs	230	223
Loan amount	96	97.98
Cofinancing	65.99	96.87
Cancellation	-	1.2
Date physical components completed	March 31, 1996	June 30, 1997
Economic rate of return	38	16
Institutional performance	-	-

Cumulative Estimated and Actual Disbursements

	FY91	FY92	FY93	FY94	FY95	FY96	FY98	FY99
Appraisal estimate (US$ thousands)	2.88	14.40	29.76	56.64	83.53	96.00	0.00	0.00
Actual (US$ thousands)	0.0	4.77	12.55	30.33	56.14	80.45	91.99	97.98
Actual as % of estimate	0%	33.1%	42.2%	53.5%	67.2%	83.8%	95.8%	102.1%

Date of final disbursement May 14, 1998

Project Dates

Steps in project cycle	Date planned/	Date actual
Identification		Aprril 22, 1988
Preparation		October 15, 1998
Pre-Appraisal	October 1989	October 10, 1989
Appraisal	March 1990	April 18, 1990
Negotiations		October 9, 1990
Board presentation	August 1990	December 13, 1990
Signing		December 21, 1990
Effectiveness	March 1991	June 18, 1991
Project completion	March 31, 1996	June 30, 1997
Credit closing	September 30, 1996	December 31, 1997

Staff Inputs (staff weeks)

Stage of project cycle	Actual	
	Weeks	US$
Through appraisal	56.1	145.2
Appraisal-Board	106.1	261.0
Board-Effectiveness	19.4	47.1
Supervision	125.6	321.1
Completion	9.1	16.7
Total	316.3	791.1

Mission Data

Stage of project cycle	Month/year	No. of persons	Staff days in field	Specializationed staff skills represented	Performance rating Implementation Status	Performance rating Development Objectives	Types of problems
Through appraisal	Oct-88	1	5	SEC			
	Mar-89	3	5	SEC, Cons			
	Jun-89	3	12	SEC, SFA, Cons			
	Oct-89	5	9	SEC, SFA, RE, OA, Cons			
Appraisal through Board approval	Apr-90	8	12	SEC,SFA,TS,HE,RE TrS,OA, Cons.			
Board approval thru' effectiveness	Feb-91	3	6	TS,HE, RE	1	1	
Supervision 1	July 91	4	4	TS, PTS, HE, RE	1	1	
ARPP	Sept-92	N/A			2	1	
ARPP	Sept-92	N/A			2	1	
Supervision 3	Oct-91	1	4	TS	N/A	N/A	Partial Spn
Supervision 4	May-92	1	3	PTS	N/A	N/A	Partial Spn
Supervision 5	July-92	5	5	DC, PTS, TS, HE, Cons.	1	1	
ARPP	Sept.-92	N/A			2	1	
Supervision 6	Dec-92	2	3	STS,HE	2	1	No spn found
Supervision 7	Feb-93	1	4	RE	N/A	N/A	Partial Spn
Supervision 8	June-93	4	14	STS,2 CONS, RE	2	2	AF
ARPP	Aug-93	N/A			2	1	AF
Supervision 9	Nov-93	2	12	STS,RE	2	1	AF
Supervision 10	Mar-94	2	5	STS,CONS	2	1	AF
Supervision 11	July-94	4	18	STS,RE,ME, CONS	S	S	
ARPP	Aug-94	N/A			S	S	
Supervision 12	Oct-94	2	5	STE,ME			Partial Spn
Supervision 13	Mar-95	2		STE, ME	S	S	
ARPP	June-95	N/A					
Supervision 14	Mar-96	4	12	SIE,EC,IE,HE	S	S	
Supervision 15	Sept-96	8	9	SIE,TEC,EC,IE,FA SRS,PE,SPS	S	S	
Supervision 16	Feb-97	4	5	PE,TEC,IE	N/A		Partial Spn
Supervision 17	June-97	4	5	PE,STEC,IE,PO	S	S	

a/ Key to Specialization
SEC = Senior Economist   SFA = Senior Financial Analyst   RE = Railway Engineer
HE = Highway Engineer   OA = Operations Assistant   Cons. = Consultant
PTS = Principal Transport   TS = Transport Specialist   STS = Senior Transport Specialist pecialist

ME = Mechanical Engineer   TrS = Training Specialist   EC = Economist
IE = Infrastructure Engineer   TEC = Transport Economist   FA = Financial Analyst
SIE = Senior Infrastructure Engineer   SPS = Sr. Ports Specialist   PO = Project Officer
SRS = Senior Railway Specialist   DC = Division Chief   STEC = Sr. Transport Economist

b/ Key to Status
1 = Problem Free   2 = Moderate problems   3 = Major Problems
HS = Highly Satisfactory   S = Satisfactory   U = Unsatisfactory
c/ Key to Problems
AF = Availability of Funds

Basic Data Sheet

NATIONAL FEEDER ROADS REHABILITATION AND MAINTENANCE PROJECT (CREDIT 2319-GH)

Key Project Data *(amounts in US$ million)*

	Appraisal estimate	Actual or Current estimate
Total project costs	106	102.5
Loan amount	55	54.5
Cofinancing	42.6	42.4
Cancellation	Dec. 31, 1996	Dec. 31, 1997
Date physical components completed	Dec. 31, 1996	Dec. 31, 1997
Economic rate of return	36	54
Institutional performance	-	-

Cumulative Estimated and Actual Disbursements

	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99
Appraisal estimate (US$ thousands)	0.5	12.0	26.9	41.2	51.6	55.0		
Actual (US$ thousands)	0.0	2.6	7.2	13.5	30.2	45.2	54.8	56.3
Actual as % of estimate	0%	21.7%	26.8%	32.8%	58.5%	82.2%	99.6%	102.3%*
Date of final disbursement:	November 16, 1998							

*Note: SDR Appraisal Estimate equaled SDR 40.5 million, however only SDR 39.3 million were disbursed, hence SDR 1.2 million are undisbursed and have been canceled.

Project Dates

Steps in project cycle	Date planned/	Date actual
Identification		January 31, 1990
Preparation		November 5, 1990
Pre-Appraisal	January 1991	January 15, 1991
Appraisal	June 1991	June 14, 1991
Negotiations	October 1991	October 28, 1991
Board presentation	January 1992	December 19, 1991
Signing		February 7, 1992
Effectiveness	April 1992	July 22, 1992
Project completion	December 31, 1996	December 31, 1997
Credit closing	June 30, 1997	June 30, 1998

Staff Inputs (staff weeks)

Stage of project cycle	Actual	
	Weeks	US$
Through appraisal	67.7	101.8
Appraisal-Board	24.7	54.4
Board-Effectiveness	11.8	23.5
Supervision	83.3	195.3
Completion	6	17.0
Total	193.5	392.0

Mission Data

Performance rating[1]

Stage of project cycle	Month/year	No. of persons	Staff days in field	Specializationed staff skills represented	Implementation status	Development Objectivest	Types of problems
Through appraisal	06/90	4		PTS, TE, HE, Cons	--	--	--
	09/90	1	21	Cons.	--	--	--
	10/90	3	3	PTS, TE, HE	--	--	--
	01/91	4	10	TE, HE, 2 Cons.	--	--	--
Appraisal through Board approval	06/91	5	8	TS,HE,PS,LGS,TE,	--	--	--
Board approval	02/92	3	4	TS,HE, PO	NR	NR	Initial summary
thru' effectiveness	06/92	3	5	TS, HE, PO	1	1	
Supervision 1	12/92	1	8	TS	1	1	--
Supervision 2	06/93	1	9	STS	2	1	Counterpart Fund
ARPP	08/93	--	--	--	2	1	Counterpart Fund
Supervision 3	11/93	1	20	STS	2	1	Counterpart Fund
Supervision 4	03/94	1	8	STS	2	1	Counterpart Fund
Supervision 5	07/94	1	7	STS	S	S	
Supervision 6	03/95	1	14	SME	U	S	Procurement
ARPP	06/95	--	--	--	U	S	Procurment
Supervision 7	12/95	3	11	SME, IE, labor-based Const.Spec.	U	S	Procurement
Supervision 8	2/96	2	3	EC, PO	--	--	Partial SPN
Supervision 9 Mid-Term Review	6/96	2	18	SME, IE	U	S	Procurement
Supervision 10	02/97	3	13	PE, IE, Decntr. Spec.	S	S	Financial Covenants
Supervision 11	12/97	2	4	PE, IE	S	S	Financial covenants
Supervision 12	6/98	2	4	PE, IE	S	S	Financial covenants
Completion	11/98	3	4	PE, IE, EC	S	S	Financial covenants

a/ Key to Specialization

PTS = Principal Transport Specialist	TE = Transport Engineer	HE = Highway Engineer
	PE = Principal Engineer	
Cons.= Consultant	PS = Procurement Specialist	LGS = Local Government Spec.
TS = Transport Spec.	STS=Senior Trans. Spec	SIE = Sr. Infra. Engineer
IE = Infra. Engineer	ME = Sr. Mun. Eng.	C = Economist
PE = Princ. Engineer		PO = Project Officer

b/ Key to Performance Rating

1 = Problem Free	2 = Moderate problems	3 = Major Problems
HS = Highly Satisfactory	S = Satisfactory	U = Unsatisfactory

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[1] I - Problem free; 2 - Moderate problems; S-Satisfactory