

AFRICAN DEVELOPMENT BANK GROUP



**ETHIOPIA: BANK GROUP ASSISTANCE TO THE
TRANSPORT SECTOR**

**OPERATIONS EVALUATION DEPARTMENT
(OPEV)**

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ABBREVIATIONS

AAA	Addis Ababa International Airport
APPR	Annual Portfolio Performance Review
BADEA	Arab Bank for Economic Development of Africa
CSP	Country Strategy Paper
DfID	Department for International Development (of the U.K)
DO	Development Objectives
EAC	Ethiopian Airlines Corporation
ECAA	Ethiopian Civil Aviation Authority
ERA	Ethiopian Road Authority
ESL	Ethiopian Shipping Line
EU	European Union
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
IMT	Intermediate Means of Transport
IP	Implementation Performance
JICA	Japan International Co-operation Agency
KfW	Kreditanstalt für Wiederaufbau
MEDAC	Ministry of Economic Co-operation & Development
MOTAC	Ministry of Transport and Communication
MPDE	Methodology for Design and Evaluation
NDF	Nordic Development Fund
OPEC	Organization of Petroleum Exporting Countries
PCR	Project Completion Report
PER	Post Evaluation Report
PPAR	Project Performance Audit Report
RMC	Regional Member Country
RRO	Rural Roads Organization
RSDP	Road Sector Development Programme
RTA	Road Transport Authority
RTTP	Rural Travel and Transport Programme
VOC	Vehicle Operating Cost
UNDP	United Nations Development Programme

EXECUTIVE SUMMARY

1. The objective of this desk Study is to analyze Bank Group experience in the 11 projects financed by it in the transport sector in Ethiopia and assess their relevance, efficacy, efficiency and impact, including capacity building, in achieving the overall goals and objectives of the Bank and the Government. It also seeks to assess the sustainability of impact and benefits. The Study finally identifies the principal findings and lessons of relevance, for optimization of efficiency of implementation and enhancement of development impact of the Bank Group's future operations and makes appropriate recommendations in this regard.
2. Beginning with its first project in 1977, the total Bank commitment for financing in the transport sector in Ethiopia until October 2001 amounted to UA 270 million. The Bank has thus had a long term, but not really substantial presence in the transport sector in the country. The main thrust of Bank assistance was on the dominant roads sub-sector and Bank intervention in the civil aviation sub-sector was just a single project intervention each for the Ethiopian Airlines Corporation and the Addis Ababa International Airport. The Bank has no presence in other transport sub-sectors. In its early interventions, the Bank did not have a very articulated development strategy, but introduction of a Transport Policy in 1992 and the Country Strategy Papers (CSP) in late 1990s have helped better direction and focusing of Bank assistance.
3. Objectives of the Bank assistance were nevertheless in conformity with its later CSPs and the overall transport policy. Because of general convergence of their strategies, Bank assistance was also relevant to the needs of Ethiopia in improving transport infrastructure and providing access to remote rural areas. The projects aimed to improve the efficiency and capacity of the transport system by reducing vehicle operating costs and road maintenance costs for road projects and by improving the operational efficiency of the civil aviation infrastructure. Strengthening of institutions in the roads and the civil aviation sub-sectors, though addressed only modestly, was also an objective.
4. The Bank assistance has largely been project oriented and the benefits and impacts are also largely project specific. However, in supporting selected components of the ongoing ten-year road sector development programme (RSDP), the Bank is making a positive endorsement of the government strategy and has built a partnership with the country. An explicit linking of the Bank's latest CSP with RSDP is also expected to sustain and deepen Bank's commitment to the development of this vital sector.
5. The efficacy of the projects in achieving the objectives has been mixed. Four of the completed projects were efficacious in the creation of assets and achievement of physical objectives while two others failed to do so. In the roads sub-sector, sections of a trunk road have been rehabilitated and upgraded and feeder and rural roads have been upgraded or constructed. Even though the full potential was still far from being attained, sectoral objectives of increased agricultural, cash crop and livestock production and increased

access to educational, health and governmental institutions were being achieved, though in differing degrees. The Assab Port Development project was abandoned and pre-terminated (almost 79 percent of the loan was cancelled) in 1994 after separation of Eritrea from Ethiopia, as the port remained in the territorial jurisdiction of Eritrea.

6. Among the ongoing projects, the Addis Ababa International Airport Development project is nearing completion and is likely to meet its objectives of creation of new assets such as a new runway, exit taxiways and supply, installation and commissioning of navigational aids, communication and airfield lighting systems etc. The Road Maintenance and Rehabilitation project is also nearing completion and has already met its objective of procurement of road maintenance equipment for the Alemgena and Jimma districts. The other objective of this project of rehabilitation of a section of a port access corridor was achieved, but for a shorter length of road to the Djibouti port, instead of the originally planned connection to the Assab port. The Alemgena-Butajira and the Butajira-Hossaina-Sodo Road Upgrading projects have been approved relatively recently and are still in early phases of implementation.

7. Judging on an overall basis, efficacy of Bank lending in the completed projects so far can be considered as only partial in terms of the projects achieving their primary goals of improving access, reducing transport costs and contributing to the socio-economic growth and development of the country. The performance in the currently on-going projects is, however, likely to be better.

8. Efficiency of implementation was adversely impacted by almost universal delays in project implementation, including delays in loan effectiveness even in the more recent projects. Costs of projects were generally lower than appraisal estimates. EIRR was noted to be satisfactory in 2 projects in which it was re-estimated. In the balance 4 completed projects, no re-estimation could be done because identification or collection of baseline and subsequent data was neither specified nor attempted.

9. Bank's irregular and ineffective supervision in the past also contributed to the delays and less than satisfactory performance of the projects. The Bank has now strengthened its supervision and there is greater frequency and better quality of project review in the field.

10. In the division of RSDP components between donors, the World Bank, EU and some bilateral donors have mainly financed the institutional reforms and capacity building for the road sector. The achievements and impact of assistance by such other donors in capacity building in the sector are nevertheless likely to become a cornerstone of future capacity building and a major factor in ensuring the sustainability of the investments, including those of the Bank, in the road sector. This has become possible because of (i) the Government's total commitment and ownership of the programme and (ii) a focused and co-ordinated approach by the donors, including the Bank. The Bank as a partner in the longer-term RSDP could justifiably feel satisfied with the institutional development that is being ushered in.

11. It is difficult to segregate the impact of the project roads from that of the roads constructed outside the scope of the Bank projects. Also, no monitoring or evaluation indicators were identified in those projects at appraisal. Nevertheless, some general

information about socio-economic benefits of the road projects and the direct or indirect impact on poverty alleviation has been noted. Road projects generated both direct and indirect benefits. The roads have reduced travel distances between points and the most striking example of quicker access is the Gore-Tepi road that has reduced the travel distance between those two points from over 500 km to just 143 km. The employment opportunities for the rural poor have also been increased. Poverty alleviation has been facilitated by road projects by allowing round the year access for the rural poor to markets, stimulating agriculture (both food and cash crops such as coffee) and trade, leading to increase in family incomes. Access has been possible for residents of remote habitations to health, educational, social and administrative facilities, eliminating frequent road closures during rainy season. Access of land-locked Ethiopia to a foreign seaport has also been improved.

12. An important caveat regarding the impact has, however, to be entered. The attainment of above-mentioned benefits was considerably curtailed by factors such as insufficient and poor maintenance of roads, and inadequacy of complementary investments for construction of feeder road networks and provision of agricultural and credit extension services. Similarly, high costs of motorized transport and inadequate attention to development and promotion of appropriate modes of non-motorized transport and IMT also eroded the road usage and the concomitant benefits. These were however projects of an earlier era since when a number of reforms, notably the introduction of MPDE or logical framework, have taken place to clearly identify the goals and objectives and the means to verify them. It was noted that this has resulted in better formulation of the more recent projects

13. The Ethiopian Airlines Infrastructure project and the soon-to-be completed Addis Ababa Airport Infrastructure Development are expected to upgrade the capacity and capability of the civil aviation sector to handle more air traffic. These will also modestly contribute to the institutional capacity building for civil aviation in the country. The main socio-economic contribution of these two projects has been in generation of employment during construction of civil works. In addition, larger volume of air traffic facilitated by the projects would benefit the overall trade and commerce of the country.

14. The use of animal carts and limited use of motorized transport in some regions of the country has facilitated shift away from human head or back loading and freeing of women and children from the drudgery of fetching head-loads of water, firewood and grain to grinding mills. Women were also perceived in many projects as beneficiaries of enhanced family income from increased agricultural production and other economic and commercial activities such as sale of handicrafts. An increased access to health facilities also contributed to greater availability of reproductive child health care and other medical facilities and consequent reduction in maternal and child mortality rates.

15. Road projects had the usual positive and negative environmental impacts. Better road surfaces promoted greater energy efficiency by enabling road user vehicles to travel at more fuel-efficient speeds and reduced dust pollution. However, inadequate road maintenance throughout the road network has largely negated these benefits. The negative impacts of road projects resulted from environmental damage caused by unregulated forest

clearance, increased traffic and economic activity leading to air and noise pollution and increased road accidents from the faster motorized transport.

16. The Bank, the World Bank and other donor agencies by underpinning the RSDP are supporting a significant expansion of the role of the country's nascent private sector, for construction and maintenance of trunk and rural roads. A study of the Domestic Construction Industry with assistance from World Bank was completed in January 2000 and ways are still being devised to implement the recommendations and support and enlarge the domestic industry.

17. A number of Bank financed transport projects in Ethiopia had cross border implications and impact on regional co-operation. The Road Maintenance and Rehabilitation project helped upgrade a section of a corridor providing access to a foreign seaport while some other roads provide an alternative shorter link to Kenya leading to the Cairo-Gaborone Trans-African Highway. The Ethiopian Airlines also facilitates regional co-operation by providing effective air transport services between several African countries.

18. A new ministerial rearrangement and reallocation of work was notified by the Government in October 2001, in which all the fragmented transport sub-sectors, including ERA, have been placed under a newly created Ministry of Infrastructure that will be responsible for harmonious and efficient development of all modes of transport, power and communications. The respective RROs responsible for the rural roads in their own regions continue to be under the Regional Governments and the municipalities continue to be responsible for the municipal roads in their jurisdiction.

19. Reform and the institutional development in the road sub-sector have been underway for some time now. The focus of transport development policy in recent years has been deregulation and liberalization. As a part of the reform process, the governing Board and management of ERA have been given full autonomy, responsibility and authority to take final decisions in all matters. Capacity and capability of ERA has also been strengthened. Efforts are now afoot towards capacity building in the RROs. The recommendations of a study are now in implementation phase in the pilot regions. A Road Fund established in March 1997 financed from cess on fuel, vehicle-licensing fees, over loading fines, annual allocation from the central government budget etc. is, for now, providing a steady source of funding for maintenance of all category of roads.

20. In the civil aviation sector, in fulfillment of a loan condition, in 1998/1999 Addis Ababa Bole International Airport (AAA) has been established as an operationally autonomous unit within the Ethiopian Civilian Aviation Authority (ECAA). A proposal to re-organize ECAA into an autonomous airport entity separate from the Civil Aviation Authority has also been accepted by the government, even though the legal framework is yet to be approved.

21. Capacity building in ERA, which received a special thrust under RSDP, has been impressive. But much more needs to be done. With an expanding network and increased responsibilities for implementation of an ambitious RSDP, capabilities of ERA in some critical areas need further strengthening.

22. The machinery for transport co-ordination at the apex level is also extremely weak. The set-up under the new ministerial dispensation is still not fully clear and remains untested. The apex ministry had no specialist staff for discharging the important functions of inter-modal co-ordination and prioritization of projects and formulation of overall transport strategy and guidelines. There is also need for regulatory functions with effective capability to be located in the ministry. The potential of Railways as a low-cost carrier of containerized and bulk goods in transport corridors in flatter terrain needs to be seriously explored.

23. The sustainability of road assets is a matter of concern. As noted above, institutional capacity both at the federal and regional levels is not adequate to handle the maintenance load of the existing road network and the new additions to the network.

24. ERA's road maintenance capabilities need strengthening. There is an even greater concern about institutional capacity in the RROs for construction and maintenance of roads. There is a lack of trained management and supervisory personnel with appropriate skills. There is also a dearth of functional road construction and maintenance equipment and facilities and capability to maintain them.

25. A factor that exacerbated the maintenance problems is that roads were showing signs of premature pavement stress and had deteriorated faster than their design lives as a result of overloading of vehicles beyond the pavement design loads. A government commissioned study on axle load recommended a higher legally accepted axle load and a few other measures, which are now under government review.

26. The task of maintenance of roads for the next 5 years represents a manifold increase and requires mobilization of much larger management, trained manpower and equipment resources, besides a substantial augmentation of domestic private sector capability. The problem is likely to be more acute in RROs. One of the immediate issues and an important component for strengthening the maintenance capability that needs to be addressed in Ethiopia pertains to the rehabilitation of a large fleet of road maintenance equipment that is lying in a state of disrepair, both with ERA and RROs.

27. Some of the key Recommendations are noted below.

- ◆ It is important that in future projects it is made mandatory that the sources and the data and the selected indicators for project monitoring and benefit measurement are clearly identified in a designated section of the appraisal reports. Similarly, the compulsory collection of the information by the executing agency and the Borrower needs to be covered by an appropriate condition in the Loan Agreement and regularly monitored by the Bank.
- ◆ To better monitor and evaluate the actual performance, assessment of social and poverty alleviation impact, appraisal reports could be further strengthened to provide for selection of poverty and gender related indicators and collection of baseline data of benefits.
- ◆ The Bank needs to have more intensive policy dialogues with its regional

members, backed by quality economic and sector work (ESW). Given the centrality of economic and sector work to operational activities, the Bank should intensify its ESW in Ethiopia to enhance Bank knowledge of the economy of Ethiopia and assist the country to design appropriate growth and poverty alleviation strategies.

- ◆ For environmental conservation, governmental machinery with greater awareness for environmental conservation needs to be established to control and regulate deforestation for agriculture and settlements or any other purpose alongside the road corridors.
- ◆ Bringing the sick road maintenance equipment very quickly to a state of operational worthiness should be handled on a priority basis.
- ◆ Stand-alone road maintenance projects with external funding with specific objectives of completing arrears of periodic maintenance with external inputs of machinery spares, new machinery and supervisory technical staff, in contract packages large enough to attract international contractors should be considered.
- ◆ The possibilities of inclusion in the original road construction contract of road maintenance by the construction contractor for a number of years, say 5 years, after construction should be seriously explored.
- ◆ The machinery for transport co-ordination at the apex level in the new Ministry of Infrastructure is extremely weak and needs to be strengthened. There is also need for this ministry to develop adequate capability to undertake regulatory functions in the transport sector.
- ◆ Railway projects could be considered by the Bank's Private Sector window that, even with its limited resources, could play at least a catalytic role in the development of railways.
- ◆ The rural road projects should be taken up as part of holistic and integrated rural development projects and should clearly pay attention to poverty issues, whereby specific poverty alleviation and human development components could be substantially expanded and strengthened.
- ◆ Steps should be taken to develop and promote appropriate non-motorized, motorized or intermediate means of transport (IMT) so that costs are low and freights and fares are affordable to the rural poor and promote greater usage of roads.
- ◆ The choice of investments for new rural road projects has to be based on informed judgments and for this purpose it is essential to develop appropriate poverty related analytical tools for policy making, conceptualization, selection, design and monitoring and evaluation of rural road projects.

- ◆ A robust and practical action plan and strategy is essential to satisfactorily and without detriment carry out the planned transfer of responsibility for road maintenance to the private sector.

1. **INTRODUCTION**

1.1 **Objective of Study**

1.1.1 The transport sector has an important role in the economic and social development of Regional Member Countries (RMCs) and development of roads is now increasingly recognized as an essential component of poverty alleviation programmes. The African Development Bank Group has provided a number of loans and grants to Ethiopia for the implementation of transport sector projects, a majority of which is in the road sub-sector. The projects are at different stages of completion. Some have been completed for which Project Completion Reports (PCRs) or both PCRs and Project Performance Evaluation Reports (PPERs) have been prepared, recording the outcomes. Some others are still at different stages of implementation. Useful lessons of experience, which can guide the effective intervention of the Bank Group in its future operations in the sub-sector, have been drawn from a review of these projects.

1.1.2 The Study will serve as an important element of the Bank Group's feedback mechanism. Specifically, the Study reviews the performance of Transport Sector Projects in Ethiopia and assesses:

- (i) the relevance and fulfillment of objectives, efficacy, effectiveness and impact of assistance, and sustainability of Bank Group assistance strategy to the transport sector in Ethiopia;
- (ii) the impact of the projects on Institutional Development and Capacity Building;
- (iii) the efficiency of Bank assistance through the measured or perceived benefits from the projects compared to the costs in terms of budgetary implications, aid-co-ordination and monitoring of projects;

1.1.3 The Study also draws lessons of relevance, for optimization of efficiency of implementation and enhancement of development impact of the Bank Group future operations.¹

1.2 **Scope**

1.2.1 The Bank has financed a total of 11 completed or on-going projects and 2 studies in the Transport sector in Ethiopia (for details see para. 2.3). The Study includes a review of the 11 projects.

1.2.2 In 1996 in view of the large arrears in the preparation of PCRs, a decision was made

¹ The Bank has earlier carried out a similar Study of Lessons of Experience of Road Sector Projects, for all the completed projects in all RMCs. See *African Development Fund/ African Development Bank's The Study on Bank Group Experience and Lessons from Road Sub-sector Projects and Programmes, October 2000.*

by the Bank not to prepare any more PCRs for old projects that had been completed prior to 1986. No post-completion data is thus readily available for 3 of the 7 completed projects in the Study cohort. No PCR was also prepared for the Assab Port Development project that was pre-terminated and abandoned in 1994 after the separation of Eritrea from Ethiopia. PCRs/ PPER were available in only the balance 3 completed projects. This imposed some limitation on the availability of data for the Study. Besides desk review, field visits were also undertaken to some of the projects.

2. **BANK GROUP'S STRATEGY & ASSISTANCE**

2.1 **Transport Policy**

2.1.1 Recognizing that freight and passenger transport both play fundamentally important roles, in both domestic and regional economic development, the Bank Group has been financing transport sector projects in regional member countries since 1967. A formal articulation of the Bank Group's Transport Sector Policy was, however, made only in 1992.² The Bank's policy is hinged on three major concerns: (i) continuous improvement of the standard of servicing of transport infrastructure and equipment; (ii) strengthening the efficiency of institutions responsible for the sector's administration and structures managing and running the transport networks; and (iii) liberalization of the transport market.

2.1.2 The Bank recognizes that in view of the extremely run down condition of the transport assets in most RMCs, timely investments in rehabilitation of dilapidated assets are a top priority and essential within appropriate sectoral and master plans. The Bank Group also recognizes that investments in new infrastructure in the different transport sub-sectors may be necessary in order to address the need for opening up isolated areas or completing connections within regional transport corridors and thus enhancing the regional and international trade. It considers programmes and projects that carry an acceptable economic rate of return or for which a good case can be made for meeting other social or economic objectives.

2.1.3 Infrastructure maintenance, both routine and periodic, is the responsibility of the RMCs and its financing requirements ought to be met out of internally generated revenues. However, in recognition of the severity of the transport problem caused by lack of proper maintenance in the past having resulted in ineffective, inefficient and costly use of infrastructure, the Bank group considers proposals to finance the import component of maintenance including maintenance equipment, and imported materials, bitumen, rails and equipment. The Bank also considers financing exclusive road maintenance projects. The policy document also recommends encouragement to the development and utilization of internal resources of financing for road maintenance, rehabilitation and new construction. It also recognizes the need for simplification of budgeting systems for road expenditure; the use of road funds and the application of appropriate road user charging and taxation methods to increase revenue and improve cost recovery.

² Transport Sector Policy, African Development Fund/African Development Bank, 1992. The Transport Sector Policy, including a focus on road transport, is now under review.

2.1.4 The policy documents noted the importance of improvement to priority rural roads in RMCs. It also highlighted the importance of economic integration of Africa through establishment and developmental reliable regional or international road transport systems.

2.1.5 The importance of institutional and human resource development in the attainment of transport sector objectives by RMCs is also addressed in the policy document. It recommends encouragement to policies and proposals by RMCs to review the organization and performance of Government institutions, promote necessary institutional reform, and provide for more accountability and control for services offered directly by the Government. Support to proposals to upgrade skills of professional and technical staff through formal courses of training, seminars at the international, regional, national and local levels is similarly noted as a priority area of attention. The Bank also seeks to boost the efficiency of the transport planning and co-ordination as an instrument for improved and efficient sectoral and sub-sectoral or modal allocation of resources.

2.1.6 The issue of improving road safety conditions was also identified as a matter of urgent concern for RMCs. The policy document recommended encouragement to programmes that strengthened traffic law enforcement, driver and instructor training and appropriate physical safety inspections.

2.1.7 In the railways sub-sector it was considered that as the infrastructure and rolling stock are considered to form an inseparable whole from the technical as well as management point of view, both railway infrastructure and rail transport vehicles are eligible for Bank financing. The Bank Group expects RMCs to finance maintenance of track and equipment out of internally generated resources. However, in cases where there is backlog of rehabilitation and maintenance and severe difficulties are faced by the railway organizations, the Bank Group also considers lending for maintenance equipment and for the foreign import component of the capital requirements for maintenance facilities and workshops.

2.1.8 In the civil aviation sub-sector the Bank Group recognized the importance of air transport as a means of promoting economic development and integration of member states. The Bank Group focuses its assistance to this sub-sector on actions that promote technical and administrative co-ordination between member states and improve operating efficiency in the sub-sector. It also supports institutional reforms that better define agency roles, encourage management freedom and facilitate accountability and efficient administration. The Bank Group considers financing of improvement of airport infrastructure and civil aviation facilities and for meeting air transport equipment requirements for strengthening of aircraft maintenance and ground maintenance capabilities and development of human resources and systems. However in case of purchase of aircraft the Bank encourages RMCs to utilize commercial financing as these resources are available to airlines.

2.1.9 The Bank Group is aware that significant efforts are required in the RMCs to improve the state of port and other water transport infrastructure, floating craft and cargo handling equipment. It supports projects for rehabilitation of port infrastructure and institutional and human resource development. It however does not directly finance marine vessels and craft

but plays a catalytic role in mobilizing and utilizing commercial financing for additional resources.

2.1.10 The issues identified for liberalization of the transport markets are private sector promotion on the works as well as services markets, support to process of state disinvestment and restoration of autonomy and soundness of the sector's public and parastatal enterprises, and working towards the establishment of cost based tariffs.

2.1.11 In addition to its transport policy, in 1997 the Bank Group has proposed to its member countries, bilateral and multilateral partners as well as its various stakeholders a new Vision for Development in Africa³ in the form of an action plan for supporting actions and initiatives to achieve economic performance and progress. The Vision identifies poverty as the primary development challenge facing Africa and renews the Bank Group's commitment and mission to assist the RMCs to break the vicious hold of this scourge. In order to provide a better service to its borrowing regional member countries and, thus, enhance the quality of its operations, the Bank Vision proposes to focus on three major sectoral themes, namely, agriculture and rural development, human resources and the development of the private sector. It is also increasingly recognized that rural roads have a critical role to play in the central goal to alleviate rural poverty.

2.2 Strategy in the Transport Sector in Ethiopia

2.2.1 The Ethiopian economy is confronted with a number of problems such as extreme poverty, droughts and continued land degradation and inadequate physical and social infrastructure that could hamper the attainment of sustained growth.

2.2.2 The Bank has been financing transport projects in Ethiopia since 1977 but its presence has not really been substantial. In its earlier interventions in Ethiopia, the Bank did not have a well-articulated development strategy. Country strategic papers (CSP) have largely been a recent phenomenon of the late 1990s. The main objective of the Bank's current lending strategy in Ethiopia is poverty alleviation to be achieved through accelerated growth. To maximize the impact of the Bank Group interventions in Ethiopia, the CSP for the 1996-1998 period proposed concentration of Bank financing in only three sectors namely, agriculture (40 %), transport (30 %), and social sectors of health and education (30 %). By the end of the 1996-1998 programming period, the sectoral distribution of total commitment was close to the proposed targets and assessed as 35 % for agriculture sector, 26 % for the transport sector and 39 % for the social sectors.

2.2.3 The Bank's medium-term assistance strategy in Ethiopia as per its CSP 1999-2001 continues to aim at poverty reduction and rural development. This strategy will be pursued through the promotion of increased agricultural production, provision of basic social services and development of key economic infrastructure supportive of growth. Based on the Country Performance Assessment, Ethiopia's indicative ADF-VIII allocation is UA 120 million for project lending and UA 12 million for TAF resources. The project lending will concentrate on

³ *The African Development Bank, A Re-invigorated Bank: An Agenda for Moving Forward, October, 1997*

agriculture (50 %), transport (25 %) and public utilities (25 %). The 1999-2000 CSP specifically seeks to provide additional support for the implementation of the government's 10 year (1997-2007) Road Sector Development Programme (RSDP), thereby consolidating the existing Bank Group's investment in the sector. Support will emphasize improvement and expansion of the road network (both rural and collector roads) as well as trunk roads linking the main agricultural regions with the marketing centres, thereby reinforcing the government's food security development and poverty reduction strategy. As a part of the Bank strategy to support RSDP, the Alamgena-Butajira (Bank financing of UA 18.5 million) and Butajira-Hossaina-Sodo (Bank financing of UA 41.37 million) road projects have been approved in 1998 and 2001 respectively. Similarly, the Watcha-Maji-Washa Wuha and the Woito-Omorati-Namraputh road projects are earmarked for Bank financing in phase II of RSDP (2003-2007).

2.2.4 The Bank has no presence in the Railways and the Urban Transport sub-sectors in Ethiopia. In the ports sub-sector, the Bank had earlier undertaken the Assab Port Development project but the Government of Ethiopia pulled out of it after separation of Eritrea and Assab coming within the territory of that country. Thereafter, Ethiopia is now a land-locked country and has no seaports of its own. Bank assistance in the transport sector in Ethiopia now is thus limited to the Roads and the Civil Aviation sub-sectors. Due to border conflict with Eritrea all of Ethiopia's sea-borne traffic was shifted from Assab port to Djibouti port this has revived interest in the rehabilitation of the existing Addis Ababa-Djibouti rail line and construction of new railway links. However, the current CSP does not include any provision for the Railway sub-sector. Also, no further intervention is planned in the civil aviation sub-sector.

2.3 Bank Assistance

2.3.1 Transport sector is one of the major beneficiaries of overall Bank assistance to its RMCs. Annexure 1 shows that even though the share of the transport sector has declined from the earlier levels of 26.5 percent for the 1967-1980 period and 16.2 percent for the 1981-1990 decade, the sector continues to be a major recipient having received 14.8 percent of the total Bank Group assistance during the 1991-2000 decade.

2.3.2 As far as Ethiopia is concerned, the Bank Group's total commitment in that country until August 2001 was of the order of UA 1,033 million, of which the transport sector excluding cancellations, accounted for UA 270.00 million, or 26 percent (see Annexure 2). This includes assistance in the transport sector for a total of 11 completed or on-going projects and 2 studies. These include 8 projects and 1 study in the road sub-sector for trunk, feeder and rural roads, 1 project in the port sub-sector and 2 projects and 1 study in the aviation sub-sector (for details, see Table 1).

Table 1: Transport Projects/ Studies Financed by the Bank Group in Ethiopia

	<u>Roads</u>	<u>Ports</u>	<u>Civil Aviation</u>	<u>Total</u>
Projects	8	1	2	11
Studies	1	-	1	2
Total	9	1	3	13

2.3.3 Bank assistance to the transport sector in Ethiopia was all in the form of project loans or study grants. No other lending instrument was used.

3 **GOVERNMENT STRATEGY**

3.1.1 Roads constitute the dominant mode of transport in Ethiopia carrying about 90 percent of its traffic. Railway plies only on the Addis Ababa-Djibouti corridor. Similarly, the share of air traffic is extremely limited. Ethiopia has a small shipping line that has become less relevant in the country's transport scenario after separation of Eritrea and Ethiopia completely losing its access to sea.

3.1.2 Ethiopia's road infrastructure has been identified as being crucial to the agriculture development-led industrialization and economic growth strategy for the economic development of the country. It seeks to link rural communities to the urban areas aimed at boosting the productivity of the agriculture sector. At present, a majority of the classified roads are in poor condition largely due to lack of maintenance. The resultant increases in travel time and vehicle-operating costs (VOC) impose a significant cost to the national economy, especially to the agricultural activities. The deteriorated road infrastructure is recognized as a major constraint in the implementation of the country's Economic Development Programme.

3.1.3 The Government is currently implementing the RSDP with the assistance of the international donor community. It is by far the largest of government's sector development programmes that includes policy and institutional development reforms and physical targets. The 10-year programme seeks to have the road density increased from 29 km per 1000 sq km to 65 km per 1000 sq km and from 0.48 km per 1000 population to 0.91 km per 1000 population. It also aims to have 84 percent of paved roads, 63 percent of gravel roads and 60 percent of regional roads in acceptable condition by 2007, compared with current average for all categories of 57 percent.

3.1.4 The Phase I of RSDP for the 1997-2002 period mainly encompasses key trunk, feeder and rural roads designed to support Government's development efforts in the key sectors of agriculture, and rural development. Phase I has included 2931 km of rehabilitation of trunk roads, 2540 km of upgrading of trunk roads, 1257 km of upgrading of link roads and 1439 km of construction of new link roads. The programme Project priorities were set in the following order:: access to ports; access to existing resource areas; access to new resource areas; access to food deficit areas; and balancing the distribution of road infrastructure among regions. The donors of the programme are the Bank, the World Bank, the European Commission, Japan, Germany, Ireland, Italy, the United Kingdom, BADEA, OPEC and the Nordic Development Fund (NDF).

4. **DEVELOPMENT EFFECTIVENESS OF BANK ASSISTANCE**

4.1 **Objectives**

4.1.1 Objectives of the projects financed by the Bank Group in Ethiopia are listed in Annexure 3. The 8 road projects encompass a programme of construction, upgrading

and rehabilitation of an estimated total of 2720 km of the trunk, feeder and rural roads. The Rural Roads I & II projects covered Bank financing of only procurement of road construction and workshop machinery and equipment and tools. Similarly, the Road Maintenance and Rehabilitation project also included a substantial component of financing of machinery, equipment and spares and tools for road construction as well as for maintenance of roads in the Jimma and Alemgena districts.

4.1.2 The rural and feeder road projects were to provide access to isolated rural and mountainous areas to markets thereby allowing movement of farm inputs and agricultural produce and outputs. They also aimed to provide access to residents of these areas to health, education, recreational and administrative services and facilitate socio-economic development including agricultural and livestock development. In addition, the Rural Roads Phase I and II projects also aimed at facilitating the relief and rehabilitation for the drought and war affected people in the concerned regions.

4.1.3 The projects for upgrading and rehabilitation of existing roads, in addition, aimed to provide improved and cost-effective transport services and reduce vehicle operation and road user costs. The Road Maintenance & Rehabilitation project (Semera- Elidar section of the Assab highway) included a component for improving road surface conditions of the important arterial road leading to the seaport of Assab. Its objective was to complement the then on-going development of Assab Port through improvement to the Semera-Elidar road section, thereby facilitating the movement of the import / export traffic along Addis Ababa-Assab corridor. The Assab Port Development Project aimed to improve the port handling capacity of the Assab port on the Red Sea.

4.1.4 The Addis Ababa Airport and the Ethiopian Airlines Infrastructure Development projects aimed to improve existing infrastructure and facilities at the airport and through provision of navigational aids and communications, new runways, taxiways and related ancillary works, simulator and jet engine testing facilities.

4.1.5 The transport projects also aimed to improve the institutional capacity of ERA, the Ethiopian Airlines and the Addis Ababa International Airport Authority.

4.1.6 The Bank is also actively supporting the Government's 10 year RSDP. Table 2 shows the Bank Group and World Bank's participation in rehabilitation and upgrading of trunk roads as well as upgrading and construction of link roads in the RSDP Phase I.

Table 2: Bank and World Bank Participation in RSDP I
(Birr million)

Category	Total Cost	Bank Group		World Bank	
		Cost	%	Cost	%
Rehabilitation of Trunk Roads	5336.8	214.1	4.01	2321.1	43.49
Upgrading of Trunk Roads	4342.7	234.7	5.40	1485.0	34.19
Upgrading of Link	2216.3	-	0.00	826.8	37.30

Roads					
Construction of New Link Roads	2213.9	209.1	9.44	783.6	35.39
Total	14109.7	657.9	4.66	5416.5	38.39

4.2 Relevance

4.2.1 Even though the Bank did not have a well articulated development strategy in its earlier interventions in Ethiopia, its overall objectives of expansion of the transport infrastructure and improvement of its efficiency and capacity were largely in conformity with its later Country Strategies and its overall Transport sector strategy. It has mainly been directed at construction of rural and feeder roads for opening up remote and inaccessible areas, improvement of road surface conditions of trunk roads and strengthening of an important corridor for seaport access in a neighbouring country. In its selection of projects, the Bank has emphasized both maintenance/reconstruction and new construction, and also assisting in improving road maintenance management systems. Assistance was also provided for the strengthening of infrastructure facilities in the airlines and the international airport. Strengthening of institutions in the roads and the civil aviation sub-sectors, though weakly addressed, was also an objective.

4.2.2 Because of a general convergence of their strategies, the goals and objectives of Bank Group financing in Ethiopia were also in line with the Government's policies for the sector. The projects helped socio-economic and administrative integration of the country and facilitated its overall agricultural and rural development and economic growth.

4.2.3 RSDP is an important component of the government's agricultural-led growth strategy and in supporting selected components of RSDP, the country's longer horizon sectoral master plan, the Bank is making a positive endorsement of the government strategy and has built a partnership with the country. An explicit linking of CSP with RSDP is expected to sustain and deepen Bank's commitment to the development of this vital sector.

4.2.4 The relevance of a financially and economically unviable flight simulator with an economic rate of return of only 5 percent in the Ethiopian Airlines Infrastructure Development project was questionable even at the time of appraisal.

4.2.5 Constraints of institutional capacity are a bane encountered in RMCs and Ethiopia is no exception. Even though the Bank's own direct contribution in this field is limited, the Bank supported capacity building in ERA and the rural road organizations through its support to the overall RSDP (that includes components for capacity building). Similarly, the Bank also financed a few capacity building components in its projects in the civil aviation sectors. This was in line with Bank and government strategies.

4.2.6 The Bank has directly not financed any components for promotion of private sector but encouragement to reduction in Force Account operations and promotion of domestic road construction and maintenance activities is a part of the overall Bank supported RSDP.

4.3 Efficacy

4.3.1 Seven projects have so far been completed. Information about the outcomes of some of the projects is scanty. However, from piecing together of the information that is available, it appears that while construction of some of the roads was completed and these roads provide improved accessibility, construction in some others is doubtful. As such the efficacy in achieving their objectives has been mixed.

4.3.2 The physical objectives of constructing an 83 km gravel road in the Jimma-Chida Road project, 143 km of gravel road in the Gore-Tepi Road project and 160 km gravel road in the Chida-Sodo Road project were achieved. These projects were therefore able to improve accessibility of the areas served by them. In addition, the Gore-Tepi road was able to significantly reduce the distance between Gore and Tepi from about 540 km to just 143 km.

4.3.3 The position in the Rural Roads I & II projects in achieving their physical targets seems to be very different. Tables 3 & 4 show the statistical data for roads in the administrative regions covered by the two Rural Road projects for the years 1981/82, 1985/86 and 1988/89.⁴

Table 3 All Weather Roads in Rural Roads I Project (Bale & Sidamo regions)
(in km)

Year	Gravel Roads			Asphalt Roads			Total
	Bale	Sidamo	Sub-Total	Bale	Sidamo	Sub-Total	
<u>1981/82</u>	<u>225</u>	<u>533</u>	<u>758</u>	<u>0</u>	<u>449</u>	<u>449</u>	<u>1207</u>
<u>1985/86</u>	<u>147</u>	<u>381</u>	<u>528</u>	<u>0</u>	<u>508</u>	<u>508</u>	<u>889</u>
<u>1988/89</u>	<u>230</u>	<u>490</u>	<u>720</u>	<u>0</u>	<u>508</u>	<u>508</u>	<u>1228</u>

Table 4 All Weather Roads in Rural Roads II Project (Gondar and Shoa regions)
(in km)

Year	Gravel Roads			Asphalt Roads			Total
	Gondar	Shoa	Sub-Total	Gondar	Shoa	Sub-Total	
<u>1981/82</u>	<u>812</u>	<u>1197</u>	<u>2009</u>	<u>15</u>	<u>1228</u>	<u>1243</u>	<u>3252</u>
<u>1985/86</u>	<u>695</u>	<u>127</u>	<u>1966</u>	<u>15</u>	<u>140</u>	<u>1422</u>	<u>3388</u>

⁴ Data for the later years is rearranged by the Regional States (and not administrative regions as was done in earlier years) and is not comparable.

<u>6</u>		<u>1</u>			<u>7</u>		
<u>1988/8</u>	<u>695</u>	<u>132</u>	<u>2016</u>	<u>15</u>	<u>150</u>	<u>1520</u>	<u>3536</u>
<u>9</u>		<u>1</u>			<u>5</u>		

Source: Statistical Data of Government of Ethiopia

4.3.4 It is seen from the above tables that during the project implementation period of both the projects of 8 years until 1989, there has been no increase in the length of gravel roads in both Rural Roads I (Bale and Sidamo regions) and Rural Roads II (Gondar and Shoa regions) projects. On the other hand the PCR for the Gore-Tepi road project states that 750 km of roads were constructed in Rural roads I project compared with the 960 km envisaged at appraisal and 325 km were constructed in Rural roads II project compared with the 930 km envisaged at appraisal. While the statistical data is conflicting, it is fairly evident that the projects were not fully efficacious in realization of their physical objectives. Also little data was available regarding the whereabouts, condition and usage of the large equipment, plant and machinery that was supplied to the country under these projects.

4.3.5 Since the physical targets were not achieved in the Rural Roads I & II projects, it would not be unreasonable to assume that these projects were at best only partially able to attain their sectoral objective of improved accessibility. Similarly, increased farm and livestock production have been achieved in some places but not in others such as the Sidamo district (see para 6.2.4). The achievement of sectoral objectives was also severely constrained in these and the Gore-Tepi Road projects by factors such as lack of adequate maintenance of the assets, inadequacy of the envisaged complementary investments for hinterland road networks and agricultural extension services. In addition, the fulfillment of sectoral objectives has been constrained by the slow development and limited availability of motorized transport services in the rural areas due to low loads (and resultant financial non-viability of such operations) and the low capacity of local rural populace to bear the cost of motorized transport etc.⁵ These were however projects of an earlier era since when a number of reforms, notably the introduction of MPDE or logical framework, have taken place to clearly identify the goals and objectives and the means to verify them; this has resulted in better formulation of the more recent projects (see para 5.4.2).

4.3.6 In the Ethiopian Airlines Infrastructure project even though the jet engine test cell is economically viable and operationally useful, the flight simulator is under utilized and financially and economically unviable. The project was thus able to only partially achieve its objective of improvement in EACs operational efficiency and technical capability. The Addis Ababa International Airport Development Project which is due to be completed next year is likely to meet its objectives of improving existing infrastructure and facilities at the country's premier international airport.

4.3.7 The Assab Port Development project was not able to meet its sectoral or physical objectives as it was pre-terminated and abandoned in 1994.

4.3.8 Among the ongoing projects, the Addis Ababa International Airport Development

⁵ For details, see Section 6.2- Socio-economic Impact.

project is nearing completion and is likely to meet its objectives of construction of a new runway, exit taxiways, supply, installation and commissioning of Airside equipment, navigational aids, communication and airfield lighting systems, construction of a new rigid apron, and strengthening overlay of existing pavements. The additional objective of increase in scope of the project by re-carpeting of the existing runway and taxiways and inclusion of procurement and installation of an Instrument Landing System (ILS) is also likely to be achieved.

4.3.9 The Road Maintenance and Rehabilitation project is also nearing completion and has already met its objective of procurement of road maintenance equipment for the road maintenance work in the Alemgena and Jimma districts. The other objective of rehabilitation of the 134 km of bituminous paved Semera-Dobbi-Elidar is likely to be met only partially as the section beyond Dobbi, to Elidar, was not rehabilitated after separation of Eritrea and Assab port remaining in that territory. Instead, the shorter Dobbi-Galafi section was rehabilitated to provide a connection to the road leading to the Djibouti port; resulting in a reduction of the overall road length by about 40 km to only 95 km. Implementation on the Alemgena-Butajira Road and the Butajira-Hossaina-Sodo Road projects has commenced only recently and it is too early to assess their efficacy.

4.3.10 In totality, efficacy of Bank lending can be considered to be only partial in terms of the projects achieving their primary goals of improving access, reducing transport costs and contributing to the socio-economic growth and development of the country.

5 **EFFICIENCY OF IMPLEMENTATION**

5.1

Implementation Schedules

5.1.1 All the projects had substantial delays. The estimated and actual implementation schedules of the completed projects are shown in Annexure 4.

5.1.2 Right at the start, there were delays in loan effectiveness. The Gore-Tepi Road project was approved in June 1983 but the loan agreement was signed only in February 1984 and the project ultimately had a delay of 21 months in achieving loan effectiveness. Loan effectiveness was delayed in the Chido-Sodo road project by 20 months while it was delayed by 11 months in the Road Maintenance and Rehabilitation project. The Ethiopian Airlines Infrastructure Development project had a delay of 18 months to achieve effectiveness. Even the recent Alemgena-Butajira project approved in June 1998 achieved loan effectiveness only after almost 20 months in February 2000. Projects approved even in the Bank's post-restructuring phase continue to experience delays in loan effectiveness. Some of these were because of time required for the approval of funding by the country's parliament. The Bank needs to address this entire issue afresh to find an effective solution to an endemic problem.

5.1.3 Borrower and executing agency's inadequate knowledge and exposure to Bank's procurement guidelines and international contracting often resulted in delays in procurement of goods and recruitment of consultants. The other main causes were unrealistic initial schedules, changes in designs due to initial faulty design or due to surprises in soil

characteristics, inadequate management capability and slow mobilization by contractors, delays in release of imported equipment at the customs⁶, delayed availability of equipment and spares, weather related delays, insufficient domestic construction capability and security situation. There were also delays as a result of limitations of the supervision capacity of executing agencies and Bank's irregular and ineffective supervision (see para. 5.4.6).

5.1.4 For example, completion of the Ethiopian Airlines Infrastructure Development project scheduled for completion in two years suffered a cumulative delay of 5 years because of a change in government; longer than anticipated time taken by the government for issue of proclamation for on-lending procedures; delays in bid evaluation, negotiations and approvals; fire damage to computers and instruments of Jet Engine Test Cell; late certification (by UK government) and acceptance (by EAC) of the flight simulator; delays in customs clearance of imported goods/ equipment; adverse weather conditions; and, shortage of building materials for some time.

5.1.5 Most of the road projects were implemented by brigades of ERA acting as the construction entity. Construction in the Gondar region in the Rural Roads II Project and the Road Maintenance and Rehabilitation project was seriously affected by the security situation. The Gore-Tepi road project suffered a delay of 29 months because of design changes; delays in effectiveness, receipt of newly purchased equipment, installation of crushing plant for sub-base and surface materials; and abnormal rainfall in 1986. Implementation of the Chido-Sodo road project was delayed by 28 months because of late mobilization by contractor, delay in finalization of engineering design, adverse weather conditions, and additional work required to be done due to realignment and landslides in the project area.

5.1.6 In the ongoing projects, the Road Maintenance and Rehabilitation project implementation was delayed as the executing agency was not conversant with the evaluation procedures of the Bank for purchase of machinery and equipment and selection of consultants and it was also not able to deploy the required second construction brigade to speed up implementation. There were also problems related to the difficult terrain and the encountering of an earthquake fault zone necessitating a realignment of a section of the road. In November 2001, the implementation of the Addis Ababa International Airport Development project was nearing completion but had already been delayed by about 29 months because of a too optimistic an implementation schedule, design changes for foundation treatment, inadequacies in management of manpower and machinery by the contractor in the early stages of implementation, constraints of working in an operational airport and the unusually long rains in one year. The addition of additional components of an instrument landing system and overlay for the existing runway and taxiways has further stretched the completion date.

⁶ The Customs authority has now prepared a Manual that provides a clear step-by-step instruction pertaining to each process of improving the clearance procedure that has been made available to the contractors. The government has also approved the establishment of bonded warehouses and a special clearing desk for road sector projects to expedite customs clearance.

5.1.7 In view of the persisting problem of delays because of executing agencies' lack of full familiarity with the Bank' systems and procedures, in August 2001 steps were underway to arrange training for the agency staff. It is hoped that this will minimize delays in loan effectiveness and procurement of goods and selection and recruitment of consultants. The recent reopening of Bank's resident office in Ethiopia could also provide timely and expeditious advice and guidance to the executing agencies in all implementation related matters and is expected to minimize such delays in future.

5.2 Cost Variations and Loan Utilisation

5.2.1 Annexure 5 shows project costs and approved loan amounts. Project costs ranged from UA 9.68 million for the Jimma-Chida Road project approved in 1977 to UA 60.12 for the Assab Port development project approved in 1989; the average cost for all the 11 transport projects between 1977 and 2001 is UA 35.90 million. Final cost data was available in only a few cases. It was noted that in the Gore-Tepi Road and the Ethiopian Airlines Infrastructure projects, there was a cost underrun of 30 % and 15 % respectively in UA denominated costs. The underrun in the projects was on account of a depreciation of the local currency vis-a-vis the UA for disbursements occurring after 1992. In the Chida-Sodo road project also there was a cost under run of 17.7 percent in the UA denominated costs, but there was an escalation and overrun of about 10.5 percent in the Birr denominated project costs as a result of currency depreciation and the resultant escalation in local costs of materials and labour.

5.2.2 A statement of approved loan amounts and the actual disbursements until 31 July 2001 is at Annexure 6. It is noted that among the 7 completed projects, in all cases except the Jimma-Chida Road Construction project where the full loan amount was disbursed, there were savings that had to be or are being cancelled. The notable savings were 30 percent in the Gore-Tepi Road, and 13 percent each in the Road Maintenance and Rehabilitation, the Chida-Sodo Road and the Ethiopian Airlines Infrastructure Development projects.⁷ There was unnecessary blockage and idling of Bank's scarce resources, particularly the ADF funds, which could have been better utilized for development assistance in other projects and/or countries. At appraisal, there is need for better assessment of project costs and the quantum of Bank assistance.

5.3 Economic Rates of Return

5.3.1 At appraisal, economic internal rates of return (EIRR) were calculated in 9 of the 11 projects. In the Rural Roads I & II projects, no EIRRs were calculated and the appraisal reports stated that the projects were justified on "... a broader analysis approach..". At completion, post completion EIRRs have been calculated in only 2 of the 7 completed projects viz., the Gore-Tepi Road and the Ethiopian Airlines Infrastructure Development

⁷ In the Assab Port Development project, there was cancellation of an amount of UA 32.44 million or 79 percent out of an original loan amount of UA 41.02 million but this was necessitated when that project had to be pre-terminated and abandoned in 1994 after the separation of Eritrea.

projects (for details, see Annexure 7).

5.3.2 In the Gore-Tepi Road project, the feeder road has opened up and helped administrative and social integration of the inaccessible forest hinterland areas with the rest of the country. The road facilitated the establishment of some extension and development stations and services in the area by the Ministries of Agriculture and the Coffee and Tea Development. However, the benefits were limited by lack of a programme of simultaneous and co-ordinated construction of access roads and provision of adequate agricultural extension services for the interior areas, envisaged at the time of appraisal. The PCR has re-estimated an EIRR of 15.25 percent for that project compared with an appraisal estimate of 22 percent but has noted that the calculation suffers from a serious infirmity in that it is still based on assumed incremental agricultural and cash crop production after an access road network for the hinterland is constructed in future and full agricultural potential of the areas is achieved.

5.3.3 In the Ethiopian Airlines Infrastructure Development Project, based on the actual costs of the project, actual utilization of both test cell and the simulator and forecast levels of utilization, the revised overall project EIRR was re-estimated at 20.10 percent compared with the appraisal estimate of 17.53 percent. When assessed individually, EIRR for the test cell is 31 percent and for the simulator is a low 4 percent, compared with 5 and 28 percent respectively at appraisal. The low utilization of the simulator is a matter of concern and EAC is looking for opportunities for outsourcing the excess capacity.

5.3.4 In the other completed road projects viz., the Jimma-Chida road, the Rural Roads I & II and the Chida-Sodo road projects no data for quantification of benefits of increased agricultural and/ or livestock production arising in the served by the new gravel surfaced roads was separately maintained. Also the appraisal reports do not clearly document the baseline data. Similarly, the formats in which the executing agency or the Borrower were to monitor and maintain information on selected indicators that would facilitate compilation of counterfactual position as well as the incremental benefits were not specified. As a result, the relevant information was not readily available with the executing agency or the Borrower and the Post Evaluation Mission was also not in a position to re-estimate the rates of return in these projects. It is important that in future projects it is made mandatory that the sources and the data and the selected indicators for project monitoring and benefit measurement are clearly identified and specified in a designated section of the appraisal reports. Similarly, the compulsory collection of the information by the executing agency and the Borrower needs to be covered by an appropriate condition in the Loan Agreement and regularly monitored by the Bank.

5.4 Bank Performance

5.4.1 The Rural Roads I & II projects were appraised and approved in 1980 and 1981. The physical objectives were left open ended by attaching a list of roads from which a certain total length was to be constructed. At the time of the Evaluation mission, because of successive reorganizations in ERA in the intervening period and lapse of considerable time it was difficult to ascertain whether the objectives of

the projects were achieved or which roads were actually constructed under those projects. In the Ethiopian Airlines Infrastructure Development project, the Bank agreed to finance the economically and financially unviable flight simulator piggybacked on the unrelated Jet engine test facility. This has resulted in EAC being saddled with an un-remunerative investment. The PCR for the project also notes that no performance indicators had been identified to evaluate the achievement of the appraisal objective of “improvement of operational efficiency and technical capability of the airline”.

5.4.2 The Bank’s appraisal procedures and practices have however changed for the better since that time. The quality of appraisal in the ongoing and recently approved Alamgena-Butajira and Butajira-Hossaina-Sodo road projects, approved in 1998 and 2001 respectively, is far superior. The use of a Logical Framework has helped in clear formulation and identification of goals, objectives, inputs, activities and outputs. Verifiable indicators and means of their verification have also been selected and are likely to facilitate monitoring and evaluation during implementation and operational phases.

5.4.3 It is explained in the Appraisal reports how the projects are relevant to the Bank’s Country Strategy and the Government’s overall economic and social development and sectoral strategies. In the Butajira-Hossaina-Sodo project there is also an indication of a participatory approach- the views of the beneficiaries are noted. The performance of the completed and ongoing projects has been reviewed. Based on lessons drawn from the past projects, remedial measures have been adopted to minimize the chances of the same problems recurring. As both the projects were not located in or close to environmentally sensitive areas such as wetlands, flood plains or protected wildlife habitat, they were classified in Category II and Environmental Assessments were carried out as part of feasibility studies. Mitigation measures have been incorporated in the construction contract documents.

5.4.4 The appraisal reports also discuss the likely social impact or impact of the projects on poverty and the gender issues. These are narrative descriptions of the likely benefits but this could be further strengthened to provide for selection of poverty and gender related indicators and collection of baseline data of benefits such as increased agricultural production, increased household incomes, attendance at health clinics, attendance at schools (including gender split), average distances to fetch water or fuel wood etc., which could be used to monitor and evaluate the actual performance. Similarly, development of transport related poverty indicators could also significantly strengthen and improve the quality of poverty and social impact analysis (for details see para. 9.1.8 below).

5.4.5 Economic internal rates of return have been estimated. Sensitivity analyses have also been carried out. It is however noted that, in the earlier projects, the sensitivity analyses are often related to assumed level of variations in only individual parameters, without testing the robustness of the projects in the event of a likely combination of variations that often arise in real life. For example, the sensitivity is tested for a fall in traffic

or an increase in implementation time or an increase in costs but not for a plausible combination of two or more of the key parameters. In the earlier projects in the road sub-sector in Ethiopia, projects have almost universally had a combination of implementation delays, slower traffic growth and an increase in local currency denominated costs. The economic analysis will be considerably strengthened if the robustness of the project is tested under actual conditions likely to be encountered in real life i.e., a combination of variations in the key parameters.⁸

5.4.6 The frequency of Bank supervision in the earlier projects was erratic. The Gore-Tepi Road project approved in 1983 had a delay of 21 months in achieving loan effectiveness. In this project, the first and the only Bank supervision mission was fielded in March 1990; there was no launching mission also. The Chida-Sodo road project had only two supervision missions between its approval in June 1992 and closure in December 2000. The Ethiopia Road Maintenance and Rehabilitation project had 4 missions between its approval in November 1989 and December 2000⁹; the project is still to be closed. The Bank has now strengthened its supervision and there is greater frequency and better quality of project review in the field. For example, there was a transport sector supervision mission in July-August 2001 and another one was already expected in Addis Ababa in December, 2001.

5.4.7 There was a general concern expressed by executing agencies about the lack or delay in timely response from the Bank even on important matters concerning procurement of works and consultants and contract administration. This significantly hindered efficient and timely implementation of projects. The agencies hoped that the recent re-establishment of the Country Office would be able to establish a mechanism for timely advice and responses from the Bank, provided the office is adequately staffed and empowered.

5.4.8 More specific concerns were also expressed about (i) the delay in payment of bills of consultants and contractors by the Bank that attracted payment of interest charges for the delay beyond the contractual periods, and (ii) non-despatch of Loan Disbursement Voucher to the executing agency, for check and accounting at their end. The Government/ERA have to unjustifiably bear an avoidable item of interest expenditure even when the delay is caused in the Bank. A reference was made by ERA of the Master Special Account procedure followed by the World Bank to speed up disbursements for purchase of goods. A detailed study of the arrangement may be fruitful in determining how Bank's systems could be made more efficient and responsive.

5.4.9 A similar concern was also expressed about the ambiguity in some of the provisions of the Bank's procurement guidelines regarding issues such as interest

⁸ The need for sensitivity analysis on the basis of actual variance spreads for each of the key parameters and a combination of such parameters as experienced in the country and sector is also stressed in *African Development Fund/ African Development Bank's The Study on Bank Group Experience and Lessons from Road Sub-sector Projects and Programmes, October 2000, pp 12, para. 5.1.5.*

⁹ Based on information extracted from the APPR data base.

payments when delayed by the Bank, sub-contracting in works and consultant's contracts etc., that resulted in different interpretations and avoidable confusions, correspondence and delays. Such concerns should be addressed by an open discussion with the executing agencies.

5.4.10 The Bank's effective leverage in policy matters in RMCs is ordinarily small, as its resources under ADF are limited. As has actually happened in the RSDP, with its much larger resources the lead role inevitably rests with the World Bank. However, intrinsically, RMCs could be expected to repose greater trust in and feel more comfortable with their own regional Bank and this needs to be leveraged. For this, the Bank has to develop itself as a quality resource base particularly on matters unique to Africa and its RMCs, for them to look up to it for advice. It needs to have more intensive policy dialogues with its regional members, backed by quality economic and sector work (ESW). Given the centrality of economic and sector work to operational activities, it is recommended that the Bank should intensify its ESW efforts and activities in its RMCs. Such ESW would enhance Bank knowledge of the economy of RMCs in a way that the Bank would be able to develop its own effective strategies to underpin its Vision and also assist the countries to design appropriate development and poverty alleviation strategies.

5.5 Borrower Performance

5.5.1 Construction work in the completed road projects except in the Chida-Sodo Road project was carried out by Force Account brigades of ERA¹⁰. ERA generally maintained a close working relationship with the Bank and supervisory consultants and carried out project control and co-ordination efforts satisfactorily. There were, however, problems of inadequate mobilization of Force Account brigades that resulted in delay in completion of most road projects.

5.5.2 In the Ethiopian Air Lines Infrastructure Development Project, the Ethiopian Airlines Corporation (EAC) was the executing agency and had a close working relationship with the Government and the Bank during project implementation. The performance of EAC was noted in the PCR to be generally satisfactory. The Ethiopian Civil Aviation Authority (ECAA) is the executing agency for the Addis Ababa International Airport Development Project. It has established a separate Project Co-ordination Unit for the implementation of the project. An ICAO expert financed by UNDP also supported it in the earlier stages of implementation. The performance of ECAA in monitoring and control of project implementation is generally satisfactory.

5.5.3 There was a problem of delay in selection of consultants in most of the projects because of lack of familiarity of the executing agencies with the Bank's procedures and guidelines. However, with the capacity building programmes under the RSDP, capabilities of ERA in procurement of goods and selection of consultants have been significantly strengthened. ERA has also developed some capacity in contract formulation and management. ERA also has a well-organised Planning & Programming Division (for

¹⁰ ICB procedures have now been/ will be followed in the Alemgena-Butajira and the Butajira-Hossaina-Sodo Road projects.

details see para. 7.2.3).

5.5.4 There were also significant delays in the Borrower meeting conditions of loan effectiveness that contributed to delays in project implementation (see para 5.1.2).

5.5.5 There were no major problems of counterpart funding of the Borrower contribution in the projects.

5.6 **Co-financing and Donor Co-ordination**

5.6.1 Except for the Addis Ababa Airport Infrastructure Development Project, the Bank financed all other projects and Studies without any co-financing. The international Airport project was co-financed with the OPEC, Kuwait Fund, BADEA, European Investment Bank, NDF and the UNDP. In addition, the composite RSDP with a total donor contribution of US \$ 509.22 million is being parallelly financed by the Bank, the World Bank, EU, DfID, KfW, NDF and JICA.

5.6.2 The government in the Ministry of Economic Development (erstwhile MEDAC) has been responsible for management and co-ordination of aid resources and has handled and led it effectively. A consultative group of donor agencies has been assisting the government. Consultative Group meetings have provided a useful forum for bilateral and multilateral donors to periodically review Ethiopia's development programme as well as co-ordinate their development assistance. It holds high-level meetings, sometimes at ambassadorial levels, to review development co-ordination issues. There is also informal level co-ordination between development group agencies led by the World Bank. Most importantly, periodic review meetings of the RSDP with effective participation of all the key players including the donor agencies have been very fruitful. A mid-term review of the RSDP Phase I was last undertaken in February 2001 that provided a forum for frank exchange of views and helped draw lessons for effective delivery of programme inputs and outputs and for formulation of the Phase II programme. The Bank has been regularly participating in the inter-agency co-ordination meetings for a review of the RSDP. The satisfactory implementation of RSDP has been greatly facilitated by the country ownership of the programme and the co-ordinated approach of all donor agencies in selection, financing and implementation and monitoring of the programme components.

6 **IMPACT OF BANK ASSISTANCE**

6.1 **Project Outcomes**

6.1.1 Six projects have so far been completed. Of these, information about the outcomes of the Jimma-Chida Road and the Rural Roads I & II projects is scanty. The Evaluation Mission visited the Jimma-Chida gravel road and noted the continued availability of the road for use, albeit with some deterioration in road surface. Though the benefits have neither been measured nor quantified, it could be assumed that with the continued availability of road, it has facilitated the realization of some of the projected economic benefits of increased agricultural production in the potentially rich agricultural area and the outcome of this project

could be assumed to be generally satisfactory. In the rural roads projects the roads to be constructed were not specified in the project appraisal reports but were to be constructed from a shelf of rural road projects in the Sidamo, Bale, Gondar and Shoa regions. In the absence of PCRs for these projects, information was not readily available either in the Bank or ERA as to which sections were actually constructed. There is conflicting data about actual construction of roads in these two projects but it is clear from para. 4.3.4 above that either little road construction took place until 1988/89 or, even if some roads were indeed constructed, the accomplishment was far short of the projects' physical objectives. Purely on the basis of achievement of physical targets, it would not be unreasonable to conclude that the impact and outcome of these two projects was unsatisfactory.

6.1.2 The Assab Port Development project was abandoned and pre-terminated (almost 79 percent of the loan cancelled) in 1994 after separation of Eritrea from Ethiopia and the port remained in the territorial jurisdiction of Eritrea. The outcome could without doubt be classified as Unsatisfactory. The outcome of the Gore-Tepi Road and the Ethiopian Airlines Infrastructure projects has been rated as Satisfactory in their respective PCRs. The outcome of the Gore-Tepi Road project has also been rated as Satisfactory in the subsequent PPAR. The Chida-Sodo Road project has been completed but its PCR is still under preparation. However, in the current Annual Portfolio Performance Review (APPR) database, the project is assigned Implementation Performance (IP) and Development Objectives (DO) ratings of 2.69 and 2.50 respectively and could be assumed to have a satisfactory outcome at completion.

6.1.3 On an overall basis, 4 of the 7 projects or 57 percent had a satisfactory outcome. Of the balance 3, the Assab Port Development project was affected by unanticipated factors beyond the control of the Bank or the executing agency.

6.1.4 Among the ongoing projects, the Addis Ababa Airport Development project had suffered substantial implementation delays but is now almost completed. The project has a current APPR rating of 2.69 for IP and 2.50 for DO and could be expected to have a satisfactory outcome. The Road Maintenance and Rehabilitation project is also nearing completion and carries present APPR ratings of 1.85 for IP and 2.00 for DO. However, the original objective of providing connection to Assab port had to be modified and instead the rehabilitation of road from Dobbi to Elidar has been substituted by a shorter connection from Dobbi to Galafi to connect to another road that goes to the Djibouti port. The objective has changed and quantification of benefits on the basis of revised estimates of traffic expected on the new alignment would need to be reworked out. The rating of the project, and particularly the DO rating at the time of preparation of PCR and PPAR would need a critical review on the basis of reassessment of benefits. The Alemgena-Butajira Road project was approved in 1998 and Consultant and contractor have mobilized and works activities had gained considerable momentum and progress. The progress of the project so far seems to be satisfactory even though implementation is behind schedule largely because of a delay of 20 months in loan effectiveness. The Butajira-Hossaina-Sodo Road project was approved in October 2001 and is yet to achieve loan effectiveness.

6.2 **Socio-economic Impact and Poverty Alleviation**

6.2.1 Transport has a significant impact on the socio-economic well being of the

population in general and poverty alleviation in particular (also see Section 9.1). In the projects appraised prior to 1992 poverty alleviation was not included as a specific project objective. No monitoring or evaluation indicators were also identified in those projects at appraisal. It is also difficult to segregate the impact of the project roads from that of the roads constructed outside the scope of the Bank projects. In the circumstances, a full analysis of the socio-economic impact of the Bank interventions can be determined only by a detailed independent study. Nevertheless, some general information about socio-economic benefits of the projects and the direct or indirect impact on poverty alleviation has been noted in the PCRs and PAPR or at the time of the field visits of the Evaluation Mission. To the extent that the roads were constructed, isolated and inaccessible areas have been opened up and head-load transportation or with pack animals is gradually being replaced by animal drawn carts and non-motorised and/or motorised transport. Public transport has connected most of the places and even though such transport is still scarce, generally speaking there is at least one bus visiting the interior rural areas every day. Introduction of motorized transport is however slow because of its non-viability for small volumes of initial custom and inability of the rural poor to bear the high cost related fares and freights. In many places, the villagers still preferred to walk long distances in the absence of any affordable means of motorized or semi-motorized transport. Moreover, undisciplined movement of pedestrians and cattle on the roads posed a safety hazard for the both vehicles and people.

6.2.2 The improved transport links have nevertheless unleashed the potential of lowered transportation costs and could progressively contribute to increased income to poor and disadvantaged. The roads have also reduced travel distances between points and facilitated access for the rural poor to markets, schools, hospitals and other social and recreational facilities. The most striking example of quicker access is the Gore-Tepi road that has reduced the travel distance between those two points from over 500 km to just 143 km.

6.2.3 The Evaluation Mission gathered that the constructed roads have brought about an all round improvement and growth in production in the agricultural and the livestock sectors. Production of cash crops such as coffee and other food crops is believed to have been stimulated and their marketing and trade is also facilitated but complete hard statistical data is not available to quantify this benefit or even to realistically judge the broad extent of the benefit.

6.2.4 Some statistical data of agricultural production extracted from available published data in respect of some administrative regions covered by the Rural roads I & II projects is included in Annexure 8. From this data it would seem that agricultural production in Sidamo region covered by the Rural roads I project has in fact progressively declined from 1,314,000 quintals in 1978/79 (as noted in the appraisal report) to only 400,000 quintals in 1999/2000. In the Bale region also covered by the same project, the agricultural production initially declined from 1,729,100 quintals in 1978/79 to 1,231,130 quintals in 1984/85 but later increased to 3,447,980 quintals in 1999/2000. Similarly, in Rural roads II project the agricultural production in the Gondar region initially declined from 5,655,600 quintals in

1978/79 to 4,4573,440 quintals in 1984/85 but later increased to 6,534,970 quintals in 1999/2000. Interpretation of this data has to be done very carefully because roads are only one of the factors that influence agricultural production. In addition, Ethiopia is a drought-prone country and droughts could easily negate the impact of any positive factors. Nevertheless, this data covering a period of over a decade, in which year-to-year fluctuations are expected to largely even out, would seem to at least broadly suggest that (i) consistent with the data in para 4.3.4 possibly little construction of rural roads was undertaken under the two Bank projects until 1988/89, and (ii) lack of adequate complementary investments resulted in negligible or no benefits of increased agricultural production from the two projects; the increased production later could be attributable to subsequent inputs.

6.2.5 The Bale and Sidamo regions covered by the Rural Roads I project and the Gondar and Shoa regions in the Rural Roads II projects had earlier suffered draught and severe famine conditions. Wherever roads were constructed, whether under the Bank projects or later, they facilitated easier and timely supply of relief material in times of famine thereby considerably reducing the ill effects of droughts in these draught and famine prone regions of the country. In the recent past, supply of food to interior areas during the last three years of drought (1998-2000) was similarly greatly facilitated by the rural roads. During construction period, employment was also provided to large number of jobless poor.

6.2.6 In general the rural roads also provided round the year access eliminating frequent road closures during rainy season and helped integrate rural populations living in remote areas to the mainstream of country's economic and social fabric. The constructed roads, particularly the rural roads, provided social and administrative integration of the largely poor inhabitants of the hitherto isolated areas with the rest of the country. The rural roads have facilitated more effective local governance as governmental officials are able to more regularly visit as well as man their respective offices for administrative, health, educational and agricultural and livestock extension services at the district, *Wereda* and village levels. In the past the government had difficulty recruiting and retaining qualified staff for its social and administrative services because of their isolated location, remoteness and inaccessibility in the remote rural areas, but this has now become easier after construction of the roads. This was recognized to be helping even a very recent successful countrywide Polio immunization campaign in November- Decemeber 2001.

6.2.7 The rural roads facilitated establishment of health, educational and recreational facilities and markets, providing better access to the inhabitants . During its field visits the Evaluation Mission noted that a number of functional schools, clinics, government offices, restaurants, shops, markets, etc. had newly sprung up. Local weekly markets were active in the villages and towns in the vicinity of the roads.¹¹ The roads have also created beneficial impact on women and girls in areas of increased family incomes and better

11. The Evaluation Mission was able see three different weekly markets in rural areas at Genager in Shoa region and a market about 20 kms from Sodo and another at Butajira in the Haykoch Butajira region.

health and maternity care and reduced morbidity and mortality rates (see para 6.3.3). In some cases, the facilitation of movement of border traffic and trade by the roads contributed to the welfare of the poor border communities.

6.2.8 In the areas served by the Jimma-Chida, the Chida-Sodo and the Gore-Tepi roads there has been an increase in the coffee production and trading. Similarly, other economic activities related to increase in trade, small business and enterprises, transport vehicles and related infrastructure have also grown. In some of these places farmers have also taken up tea plantations. Most of these towns now have more frequent and regular means of intra and inter regional transport and communication and are better connected with Addis Ababa and other commercially important cities. It is however difficult to attribute all the positive impacts to only the project roads as a much bigger programme of rural road construction was under implementation outside Bank financing as well. Moreover, the benefits in some cases were limited by lack of timely and adequate maintenance, complementary investments for construction of access roads and provision of agricultural extension services for the interior areas (see para 5.3.2).

6.2.9 The Road Maintenance and Rehabilitation project helped upgrade 95 km of one of the main highway corridors and has generated benefits of reduced VOC and reduced maintenance costs besides savings in passenger travel time. These ultimately get reflected in an increased availability of transport services and lower cost transportation through reduced fares and freights, all benefiting the common man.

6.2.10 The main socio-economic contribution of the two projects in the civil aviation sector has been in generation of employment during construction of civil works. In addition, larger volume of air traffic facilitated by the projects would benefit the overall trade and commerce and the economy. Both organizations i.e., EAC and the Ethiopian Airport Authority are also likely to significantly benefit from increase in the revenue earnings.

6.2.11 The Government of Ethiopia has prepared a Poverty Reduction Strategy Paper (PRSP). Under this strategy, a Rural Travel and Transport sub-Programme (RTTP) has been designed with the objective of providing all transport infrastructure to address the transport burden of the rural population that is currently dominantly using walking, head loading and animal transport as the only means of transport. In general under the RTTP a series of activities encompassing the development of over 30,000 km of low level rural roads, the provision and expansion of conventional and intermediate means of transport, expansion of facilities and optimization of facility siting and the facilitation of the development of rural household income level will be undertaken during the rest of RSDP. The integrated *wereda* development plan of the Government of Ethiopia, encompassing all the sectors having a complementarity with rural roads, is expected to help in reformulation of the programme documentation for RTTP for submission to potential donors.¹²

¹² As a first step in implementing the programme, pilot studies on rural travel and transport in selected *weredas*/ districts have been commenced in which one *wereda* from each regional state has been selected. ERA is working as the lead agency for the study. Consultants have been fielded with financial assistance from the World Bank and the Government of Ireland for preparation of working manuals in the fields of project

6.2.12 The Bank Group is also now paying more focused attention to poverty reduction and reflecting poverty related indicators in CSPs, appraisal reports, PCRs and PPARs. It would however require better integration of poverty alleviation concerns in the overall project conceptualization and design that could also facilitate more effective monitoring and evaluation. (for details see Section 9.1)

6.3 Impact on Women

6.3.1 At the time of project conception or preparation of the Study projects there was no clear-cut strategy to target women. Impact of development projects on women was generally not separately addressed at the time of preparation of the projects. The PCRs/ PPARs and the Evaluation Mission nevertheless noted some benefits.

6.3.2 Improved roads have allowed use of animal carts and limited use of motorized transport that has facilitated shift away from human head or back loading and freeing of women and children from the drudgery of fetching head-loads of water, firewood and grain to grinding mills. Women were also perceived in many projects as beneficiaries of enhanced family income from increased agricultural production and other economic and commercial activities such as sale of handicrafts. Establishment of markets and trade centers has helped increase in business and trading activities by women and girls as well. There is likely to be much more impact on the women as the number of vehicles plying in the vicinity and their affordability improves with time. The increased employment opportunities during and after construction phase of all projects benefited women also.

6.3.3 An increased access to health facilities generally contributed to greater availability of reproductive child health care and other medical facilities and consequent reduction in maternal and child mortality rates. It also allowed extension of the reach of a countrywide Polio immunization programme to the interior areas. Roads also assisted greater penetration and expansion of educational facilities and improved enrolment of girls at schools as a result of reduction of their heavier chores of fetching water and firewood.

6.3.4 In the more recent projects approved in 1998 and 2001, impact of the project on women is stated but only in general terms. There is need for better understanding of men and women's needs and the different gender dimensions of poverty. Gender sensitive development strategies can contribute significantly to economic growth and equity objectives. The Bank should focus on integrating gender analysis into poverty diagnosis in its assistance to transport projects. It should commence with the CSPs. It is expected that new Bank Guidelines on the subject under preparation will be able to effectively delineate the analytical

formulation and implementation framework; planning; evaluation and monitoring; rural transport and development; maintenance; and, resource mobilization and management of transport. In the next phase this study will be expanded to cover 55 *weredas* and thereafter all the 500 *weredas*. To ensure local ownership and sustainability the pilot project will have a community base of self-help approach and only activities that are identified as priority by the villagers in the formulation of *wereda* travel and transport plan (WTTP) will be undertaken.

tools and methods of monitoring and evaluation of impact of projects on women.

6.4 Environmental Impact

6.4.1 The completed projects included in the Study, were all appraised and approved prior to the issue in May 1992 of the Bank's comprehensive Environment Impact Assessment Guidelines for projects financed by it. The analysis of environmental issues in the design of these projects was thus ad hoc and isolated. Similarly monitoring and control of environmental damage did not receive any focused attention of either project authorities or Borrowers. However, a scrutiny of the appraisal reports of projects approved by the Bank Group since 1992 indicates (see para 5.4.3) that generally environmental issues are now being addressed more systematically and road sub-sector projects are generally preceded by EIAs. Mitigation measures are also identified and generally incorporated in project design and implementation.

6.4.2 Road projects inevitably had both positive and negative environmental impacts. On the positive side, better road surfaces promoted greater energy efficiency by enabling road user vehicles to travel at more fuel-efficient speeds. There is reduced dust pollution as a result of gravel surface replacing dust tracks and bituminous surfaces replacing gravel surfaces. Fewer potholes, repairs of shoulders and provision of roadside edges contributed to a reduction in the frequency of accidents. Improved drainage alongside the roads reduced soil erosion and nearby residents benefited from cleaner air. However, inadequate road maintenance throughout the road network has largely negated these benefits.

6.4.3 The negative impacts of road projects resulted from increased traffic and economic activity leading to air and noise pollution and increased road accidents. A number of projects and particularly the Gore-Tepi road, during construction required forest clearance along their alignment. In addition, as economic activity and settlements and hutments along the road alignment increased, the new settlers resort to slash and burn methods and indiscriminate cutting and felling of trees for forest clearance. No active mitigation technology such as tree plantation along the roads had been specified or implemented; wherever some plantation has taken place, it has been done by the inhabitants at their own initiative in their own land, to cater to their requirement of the fuel wood. There is thus continuing deforestation of the areas covered by the roads. There is no effective governmental awareness or machinery to check indiscriminate forest clearance and environmental damage or to protect the forest wealth. For environmental conservation, governmental machinery with greater awareness for environmental conservation needs to be established to control and regulate deforestation for agriculture and settlements or any other purpose alongside the road corridors. In some cases of non-provision or inadequate maintenance of side drains, the resultant high incidence of soil erosion was already threatening the roads and had also resulted in formation of water swamps, contributing to an increased incidence of water borne diseases. Greater mobility provided by the roads also resulted in increased availability and use of environmentally harmful chemicals fertilizers and pesticides.

6.4.4 In the Ethiopian Airlines Infrastructure Development project, the likely negative impacts of the jet engine test cell of noise and oil leakage pollution have been mitigated

through construction of heavy type reinforced concrete walls for the building and exhaust stack, with acoustic shielding to attenuate noise generated during testing. Industrial waste manholes have been provided to dispose of the oil leakages.

6.4.5 At the Addis Ababa International Airport many new unauthorized habitations have come up along the outer perimeter wall and attract scavenger birds. These pose a severe hazard of bird hits and serious damage to planes landing and taking off at the airport. There is urgent need to remove the illegal habitations and take effective measures to keep the area free of habitation.

6.5 Private Sector Participation

6.5.1 Earlier, due to a weak domestic construction industry, all road works of construction and maintenance were done either by ERA's Force Account or by international contractors participating in ICB tenders. The latter found it economically and financially viable to come in only for large construction contracts. Now the Bank, the World Bank and other donor agencies by underpinning the RSDP are supporting a significant expansion of the role of the private sector in construction and maintenance of trunk and rural roads. A study of the Domestic Construction Industry with assistance from World Bank has been completed in January 2000 and ways are being devised to implement the recommendations and support and enlarge the domestic industry.

6.5.2 Based on the recommendations of the study, a central co-ordination office and a technical committee with representatives from the public and private sector to follow-up the implementation of the findings of the study have been established in the erstwhile Ministry of Works and Urban Development. ERA with assistance from ILO is also planning to devise and run training programmes for local contractors. ERA's vision is to completely exit from the road maintenance work by substituting the Force Account more and more with contracted works. RROs have also committed to award during FY 2001-2002 about 60 % of their periodic maintenance works to private contractors. The transition is, however, not easy because of the limited capacity in the fledgling domestic construction industry that lacks managerial, supervisory, technical and planning capabilities. The Department for International Development (DfID) of the United Kingdom is assisting ERA in drafting a strategy for decentralizing and commercializing the road maintenance work.

6.6 Regional Economic Integration

6.6.1 Regional economic integration can contribute to integrated development of resources shared by two or more neighbouring RMCs. If jointly managed, these can bring additional benefits to the poor and can help in poverty reduction. Cross-border initiatives can help trade facilitation, employment generation, improving sub-regional gross national product and deepening economic fabric of the concerned countries that can all result in poverty reduction and equitable development. In addition, sustained economic co-operation among neighbouring countries builds trust and helps minimizing conflict that could translate into reduced costs of maintaining borders. According to its charter, the Bank Group is committed to the promotion of regional economic integration.

6.6.2 Even though there were no projects involving investments in cross-border projects, a number of Bank financed transport projects in Ethiopia had cross border implications and impact. The Road Maintenance and Rehabilitation project included a component for strengthening and reconstruction and improving the road surface conditions of the important Semera-Elidar corridor leading to the Red Sea port of Assab in Eritrea. Because of the border conflict between the two neighbours, the project scope had to be curtailed to the section up to Dobi and the road connection to Assab beyond the Ethiopian border into Eritrea was abandoned. Instead the connection from Dobi to Galafi was strengthened to provide access to the Djibouti port that now handles almost the entire sea-borne traffic of Ethiopia. The Jimma-Chida and Chida-Sodo roads and the ongoing or recently approved Alemgena-Butajira and the Butajira-Hossaina-Sodo roads also provide an alternative shorter link to Kenya leading to the Cairo-Gaborone Trans-African Highway. The completion of this link will provide an important corridor for mutual trade through export of agricultural commodities from the hinterland of these roads to Kenya and carriage of commodities from Kenya.

6.6.3 The Ethiopian Airlines also facilitates regional co-operation by providing effective air transport services between several African countries.

6.6.4 Other Bank road projects did not have any roads that enabled regional integration of Ethiopia with the road network of its neighbours. However, ERA is separately having plans and projects in different stages of planning and implementation, mostly with financing from EU, to strengthen Ethiopia's road connections with Sudan in the West, Kenya in the South and Somalia in the East.

7. INSTITUTIONAL DEVELOPMENT AND CAPACITY BUILDING

7.1 Background

7.1.1 Institutions have a critical influence on the performance and sustainability of projects in all sectors/ sub-sectors and the road sub-sector is no exception. As government's role in the commercial activities is reduced, stronger public sector institutions will have to increasingly switch over to a role that promotes development activities and also enhance their regulatory effectiveness. Stronger public sector institutions are also essential for efficient absorption of external assistance.

7.1.2 With more than 95 percent of the motorized transport and passenger transport being carried by it, the road transport is by far the most dominant means of transport in Ethiopia. In the road sub-sector, the responsibility for management and development of roads is allocated on a functional or usage basis. ERA is responsible for the federal, feeder and link road network. Until the ministerial reorganization, the erstwhile Minister for Economic Development & Co-operation (MEDAC) headed the ERA Board of 6 ministers or minister rank officials. The

respective regional rural road organizations (RROs) under the Regional Governments are responsible for the rural roads in their respective regions and the municipalities are responsible for the municipal roads in their jurisdiction. However, ERA is the focal authority responsible for harmonizing of the country's entire road network, providing technical advice and support for all roads and arranging donor co-ordination.

7.1.3 During the Derg period until 1991, all commercial road transport was under state control but the new government decontrolled it in 1992. Road transport is now almost completely deregulated. The government owned Ethiopian Freight Transport Corporation has been split into 4 separate corporations that are in the process of being privatized. The government has also encouraged private truckers by providing 75 % financing for truck acquisition and it has helped add 1000 multi-axle 40-ton trucks in 1999-2000 and 2000-2001. Freight rates vary seasonally but are decontrolled, except for fuel for which government administered prices are applicable.

7.1.4 The 781 km single corridor railway line is managed and operated by the Chemin de Fer Djibouto-Ethiopien, jointly owned by the governments of Ethiopia and Djibouti. This was constructed about 90 years ago and badly needs rehabilitation and upgrading. The two governments plan to licence the company to a private operator for management and operation and terms of reference for a concession plan are now under finalization. In the meanwhile the French government is financing some immediate rehabilitation of rolling stock to make the concession attractive.

7.1.5 In the aviation transport, the ECAA manages the international and local airports, other than the seasonal airstrips. Air transport services are provided by the state owned EAC that operates on both domestic and international routes. A few private airlines have also been licensed for domestic routes and a couple of them have also started operating. In maritime transport, Ethiopia has no seaport of its own. Its main sea-borne international trade earlier passing through the Assab port is currently routed through the port of Djibouti. The Ethiopian Shipping Lines (ESL) is a government parastatal operating with 12 ocean-going vessels on international routes. In 1997, freight forwarding and shipping industry was liberalized and is now open to private as well as government companies.

7.1.6 The Ministry of Transport and Communications (MOTAC) was responsible for planning of all other transport modes as well as the overall co-ordination for all transport agencies, other than ERA that is managed by its own Board. The Ministry of Works and Urban Development oversaw the development of urban transport and construction industry. Co-ordination of transport strategies, provision of guidelines for sectoral development plans and setting of overall levels of investment for each of the sub-sector plans was done by MEDAC.

7.2 Recent Capacity Building Efforts

7.2.1 In the new ministerial rearrangement and reallocation notified in October 2001, all the

transport sub-sectors including ERA have now been placed under a newly created Ministry of Infrastructure. This Ministry will be responsible for harmonious and efficient development of all modes of transport, power and communications. The respective RROs responsible for the rural roads in their own regions organizations continue to be under the Regional Governments and the municipalities continue to be responsible for the municipal roads in their jurisdiction. The arrangements in the new Infrastructure Ministry had still not become fully functional at the time of the Evaluation mission but it was expected that it would bring about greater inter-modal co-ordination in planning and speedier development of all modes of transport.

7.2.2 Even though the reforms at the apex level are of very recent origin, reform and the institutional development in the road sub-sector has been underway for some time now. The focus of transport development policy in recent years has been deregulation and liberalization. At a donors' conference held in 1996 to consider RSDP, it was agreed to restructure ERA and transform it from a supplier of road infrastructure to a manager and purchaser of services and works for the development and maintenance of road network. A capacity building programme for ERA has been included in the RSDP but is mainly financed by the World Bank, EU and bilateral sources. Bank lending had minimal direct impact on capacity building, being limited to provision of road maintenance machinery and equipment to improve ERA's capacity to maintain roads and provision of audit services in some of the later projects.

7.2.3 As a part of the reform process, the governing Board and management of ERA have been given full autonomy, responsibility and authority to take final decisions in all matters on matters relating to the Road sector, including those relating to award of contracts and procurement of goods, services and works of any size. As a result of the other overall capacity building efforts under the RSDP, ERA now has a well-organized Planning & Programming Division staffed with qualified economists, engineers, statisticians, traffic experts and budget analysts. ERA has also developed some capacity in contract formulation and management. In addition, recently, a new Environmental Management Branch with a complement of engineers, a sociologist, an ecologist and a hydro-geologist has also been added to plan and implement ERA's programme of Environmental and Social Impact Assessment, Mitigation and Monitoring, and to develop and implement an HIV-AIDS mitigation strategy.¹³ ERA has developed its own in-house and on-the-job training capability and programmes, for all levels of its personnel. A number of its personnel have also been trained overseas. ERA has also received TA and training consultancy services for training its staff in critical areas of legal and technical aspects of contract administration, maintenance management etc. A Road Maintenance Action Plan, 2001 has been prepared and ERA is committed to commercializing its 10 maintenance districts responsible for maintenance and administration of federal roads. Reforms have also been undertaken in the areas of recruitment of personnel, payment of competitive salaries, training etc.

¹³ The recent road projects seek to minimize the danger of HIV/AIDS and other sexually transmitted diseases by using where possible local rather than imported work force during construction. In addition, a social expert/ local administrator is required to be employed in the contractor's team to ensure that the construction workers housed in camps are informed about the sexually transmitted diseases, and condoms are distributed freely.

7.2.4 Institutional capacity in RROs has traditionally been weak and RROs in different regions are at different stages of development. A Rural Roads Technical Support Branch within ERA (which provides technical support to RROs) has been strengthened to provide needed technical assistance and training to RROs. Efforts are now afoot towards capacity building in the RROs. The Nordic Development Fund has agreed to provide financing for technical assistance and capacity building of RROs in 4 regions. The German Government has also been financing a reform study of ERA and RROs. A standardized approach for strengthening RROs, one for bigger regions and the other for smaller regions is being followed. In the ongoing Reform Study, a pilot study in the Amhara and Benishangul-Gumuz regions has identified the problems and made recommendations for introduction of appropriate management techniques, recruitment of sufficient skilled manpower, procurement of equipment and materials and for improving planning and work execution. The recommendations are now in implementation phase in the pilot regions.

7.2.5 Inadequacy of financial resources for maintenance of road assets has been noted in most RMCs. In Ethiopia, the creation of a Road Fund established in March 1997 financed from levies on fuel, vehicle licensing fees, overloading fines, annual allocation from the central government budget etc. has since then provided a steady source of funding for maintenance of all category of roads. A Board of 16 members chaired by the Minister of Works & Urban Development manages the Fund and includes high-level representatives (Ministers, Vice Ministers and General Managers) of the erstwhile MEDAC, the regional governments, ERA and freight and passenger carrier representatives. The Board functions independently of the federal, regional or municipal road authorities and it currently allocates funds in the following proportion:

Federal roads	70 %
Rural Roads	20 %
Selected Municipal Roads	10 %

7.2.6 Details of sources of funds and the distributive percentages and actual allocations for the last 3 years for ERA, the RROs and the municipalities is included in Annexure 9. To ensure transparency and value for money, road agencies are advised and instructed to keep separate financial records for independent audit. The Road Fund plans to develop a financial and technical audit system so that road maintenance is cost-effective. In this connection, the Government has requested the World Bank for possible support to the Road Fund Administration for developing road maintenance performance evaluation and audits. The creation of the Road Fund has at least temporarily removed a major constraint of inadequacy of funds that often impedes maintenance efforts. The revenues of the Fund may, however, have to be augmented as and when new roads constructed under the RSDP enter the road network and the maintenance cycle.¹⁴

¹⁴ The Government has agreed that in case revenues from user charging accruing to the road fund fall below projections that are to be reviewed annually, the short-fall will be made by increasing Government contributions to the fund so as to obtain the required maintenance expenditure level.

7.2.7 In the civil aviation sector, in fulfillment of a loan condition, in 1998/1999 Addis Ababa Bole International Airport (AAA) has been established as an operationally autonomous unit within ECAA. A proposal to re-organize ECAA into an autonomous airport entity separate from the Civil Aviation Authority has also been accepted by the government but the legal framework is yet to be approved. Delay in implementation of the separation could adversely impact the effectiveness of the regulatory and safety supervision functions of the Civil Aviation Authority and independence and operational efficiency of AAA.

7.3 Future Capacity Building

7.3.1 Capacity building in ERA, which received a special thrust under RSDP, has been impressive. But much more needs to be done. With an expanding network and increased responsibilities for implementation of an ambitious RSDP, capabilities of ERA in the fields of highway design (pavement and materials), rural roads, preparation of documents, evaluation of bids, contract administration, financial management including bill payments and claims and arbitration, engineering and planning and donor co-ordination are being tested and stretched. These need to be further strengthened.

7.3.2 Similarly, ERA's road maintenance capabilities also need strengthening. A large portion of the fleet is lying idle because of inadequate maintenance arising from a lack of adequate fleet management, availability of necessary workshop equipment, accessories and the associated spare parts for the existing equipment. There is also shortage of trained operators and technicians. Preventive maintenance of equipment has fallen in substantial arrears, adding to the problems. This has even hindered full utilization of maintenance funds made available by the Road Fund. For example, the Road Fund at the time of the Evaluation Mission had a surplus of over Birr 400 million and in the FY 2000-2001, ERA utilised only Birr 105.9 million from out of the Birr 169.75 million allocated to it. In addition, construction and maintenance activities are being offloaded to private sector as more and more Force Account brigades are being disbanded. Unless this is matched by a corresponding enhancement in the capacity of the yet nascent private sector, road maintenance in both its volume and quality would continue to suffer. A robust and practical action plan and strategy is therefore essential to satisfactorily and without detriment carry out the planned transfer of responsibility for road maintenance to the private sector. ERA has to be adequately equipped to effectively discharge its added responsibilities in its new planning, purchasing (of services) and regulatory role.

7.3.3 There is an even greater concern about institutional capacity in the RROs for construction and maintenance of roads. Most of them lack both capacity and capability. There is a lack of trained management and supervisory personnel with appropriate skills. Recruitment of qualified staff and their retention in distant or remote locations is a major problem. In December 2001, the Bank has approved a TAF grant for UA 519,171 for training of staff of federal ministries and Regional Bureaux in Ethiopia but it is limited to capacity building to coordinate, monitor and implement the development projects; it does not cover strengthening the maintenance capability. There is also a dearth of functional construction and maintenance equipment and facilities to maintain them. Most of the available equipment is in dilapidated condition because of lack of maintenance capability and non-availability of spares.

7.3.4 Capacity building in RROs may still take time. A major rural and feeder roads construction programme under the RSDP and maintenance of the existing already run down roads and the newly added road assets are going to add to the responsibilities of the RROs for which they are ill-equipped. This could seriously jeopardize the sustainability of the investments and assets. The Reform Study of RROs needs to be completed quickly so that the recommended reforms could be implemented with least delay.

7.3.5 The machinery for transport co-ordination at the apex level is also extremely weak. The set-up under the new ministerial dispensation is still not fully clear and remains untested. Under the old arrangement, even though MEDAC was responsible for overall co-ordination of transport strategies, for providing guidelines for sectoral development plans and for setting overall levels of investments for each of the sub-sector plans, it had no specialist staff for discharging these important functions.

7.3.6 For example, even though railway at present carries a very small proportion of the total traffic in the country, its potential as a low-cost carrier of containerized and bulk goods in transport corridors in flatter terrain is still to be seriously explored. Viability of projects based on thorough feasibility studies to compare costs of alternative modes should be examined. Such projects could be considered by the Bank's Private Sector window as well; even with its limited resources it could play at least a catalytic role in the development of railways.

7.3.7 In order to discharge its responsibilities of transport co-ordination effectively, the new Ministry of Infrastructure would need to adequately address the past institutional inadequacies. It will need qualified staff to be responsible for informed formulation of overall transport strategy and guidelines, co-ordination and prioritization of projects. There is also need for regulatory functions with effective capability to be located in the ministry.

7.3.8 The existing railway line is operating at much below its potential. In fact its capacity has come down from 350,000 tons a year in 1996-1997 to a current capacity of 240,000 tons a year. This is less than 10 percent of the total international cargo of Ethiopia handled at Djibouti port. More efficient carriage of a much larger volume could provide substantial savings for the Ethiopian economy. Fresh infusion of funds is essential to get full benefits of the existing railway line. It is important for such infusion of funds and efficient operation and management of the company that leasing of the assets to a private concessionaire is expedited.

7.3.9 In the civil aviation sector, the semi-autonomous airport authority is still within the organizational structure of ECAA. The government has already been accepted in principle to establish a legal framework for re-organizing ECAA into an autonomous airport entity separate from the Civil Aviation Authority. Implementation of this decision has been delayed and needs to be expedited. The severance of the organizational link with the ECAA is essential for AAA to have operational independence and efficiently discharge its airport operation and management functions. This will also enable ECAA to independently and credibly discharge its regulatory and safety supervision functions.

8. SUSTAINABILITY

8.1.1 Sustainability of projects is often jeopardized because of a number of factors. These are inadequate government commitment or ownership of the projects and programmes, lack of socio-political support, institutional, organizational and management weaknesses, technical inadequacies, lack of financial and manpower resources for maintenance and exogenous factors such as civil strife and wars. The three most important factors noted to be impacting the sustainability of projects in the roads sub-sector in RMCs were the lack of provision of adequate financial resources for maintenance; institutional and staffing inadequacies inhibiting timely maintenance even within the availability of funds; and inability of the authorities to check overloading of goods transport vehicles beyond permissible axle loads.¹⁵

8.1.2 In Ethiopia, the government's ownership and strong commitment to the RSDP and the institutional reform process set in motion by it in the transport sector augurs well for the future sustainability of investments in this sector in Ethiopia. There is also general socio-political support for the government's agriculture-led industrial growth strategy and the major investment programme in the road sub-sector and the accompanying major institutional reforms. The reforms are also likely to improve overall transport coordination and in particular substantially enhance the organization and management capability in the dominant road sub-sector. Asset maintenance had suffered in the past because of lack of financial resources and adequate maintenance capability and programming. The creation of a Road Fund will ensure sustained funding of maintenance programmes and remove one of these constraints, at least in the short term.

8.1.3 On the other hand, serious concerns persist regarding adequate and timely maintenance of roads at the federal as well as the regional levels because of institutional and staffing weaknesses i.e., inadequate capacity and capability. ERA's institutional capacity has been substantially augmented in certain areas but is still likely to be inadequate for the maintenance of the expanding road network. The position of RROs is even weaker. Availability of adequate operational road maintenance equipment is another serious constraint. The present level of resource generation for the Road Fund is also likely to soon become inadequate for the expanded network (for details see para 7.2.6).

8.1.4 In some cases, particularly for rural roads, inadequate arrangements for assured complementary investments by other than project agencies such as supportive network of roads in the area and agricultural extension services and credit facilities retard the anticipated benefits, economic viability and sustainability of projects. The introduction of composite projects under the government's Poverty Reduction Strategy starting with the lowest administrative unit of *Wereda* is expected to lead to formulation of integrated development projects in which complementary investments are covered by the project itself.

9 KEY ISSUES FOR ENHANCEMENT OF DEVELOPMENT EFFECTIVENESS

9.1 Rural Roads

¹⁵ "Study on Bank Group Experience and Lessons From Road Sub-sector Projects & Programmes", para. 4.1.13, African Development Fund/African Development Bank, October 2000.

9.1.1 Transport is now an integral part of daily lives of the entire populations. For the poor it even affects their daily subsistence and social activities even more. They have to transport their food, water and fuel. It is needed for getting to work, health stations and markets. Reliable transport services increase the possibility of children and particularly girls of poor attending schools. In poor rural areas, unreliable and inadequate transport penalizes inhabitants. Those engaged in food or cash crop farming are disadvantaged by delay in timely evacuation and sale of produce and resultant higher input and lower farm-gate prices and difficult access to markets. Their incomes are unstable. Moreover, there is denial of non-farm employment opportunities and access to social, recreational and administrative services. Studies in Bangladesh, India and Morocco suggest that villages with better access were found to be significantly better off in a number of areas including agricultural production, household incomes, wage incomes of landless labour, health and participation of women in the economy.¹⁶

9.1.2 Poverty reduction is now the principal theme of the Bank Group's Vision Statement and is a core mission of the Bank. Similarly, it is the focus of development strategy of the RMC governments as well. There is need to fully comprehend and factor in the Bank's transport interventions, the needs of the poor and the impact of interventions on them.

9.1.3 Addressing the issue of rural access in isolation in the past has not been very effective and there is now greater recognition of the importance of adoption of a more holistic approach. The benefits of improved access are optimized when construction of rural roads is taken up as a component of holistic poverty reduction programmes in social sectors such as education, health, nutrition programmes, agricultural extension and employment/ income enhancement projects. Similarly, the benefits of transport projects start flowing only when such other sectoral interventions are in place. For example, it was noted in the Gore-Tepi Road project that because of lack of complementary investments in the supporting network of roads, agriculture and livestock extension services, credit facilities for farmers etc., the full benefits for the inhabitants of the remote areas were not attained.

9.1.4 It is also noted that benefits of investments in rural roads are similarly greatly constrained by non-availability of affordable means of transport that could put such roads to effective use. These investments have been caught up in a vicious circle of low traffic volume causing high transportation costs on the one hand and high costs inhibiting increase in traffic volumes on the other. Steps should be taken to develop and promote appropriate non-motorized, motorized or intermediate means of transport (IMT) to keep costs down such that they are affordable to the rural poor and promote greater usage of roads. In addition, to prevent accidents, rural communities in the vicinity of roads need to be trained and sensitized on safety measures and traffic rules, including restrictions on frequent movement of cattle and other animals.

9.1.5 Basic transport access is highly valued by the poor and transport thus becomes a critical component of any poverty reduction initiative. Affordable and reliable transport services are essential in the drive for removal of poverty and for achieving the human development objectives for poor people i.e., to their acquiring human, physical, financial and social assets

¹⁶ Colin Gannon & Zhi Liu, Poverty and Transport, September, 1997.

to improve their condition and rise above the poverty line. There is now increasing appreciation of the critical role of rural access in removing the deprivation and enhancing the income of poor.

9.1.6 Traditionally, transport projects have been assessed in terms of reducing costs, improving efficiency and promoting growth. The usual tools such as the EIRR for judging merit of projects are not adequate, as qualitative benefits such as impact on poverty alleviation are not captured. Such qualitative benefits are not quantified and are rarely a factor influencing prioritization of transport projects. As a consequence, the rural roads projects are often pushed down the priority listing. There is no balancing between efficiency and macroeconomic growth on the one hand and human development objectives on the other. There is no measurable assessment of the positive impacts on the poor.

9.1.7 The exclusive focus on efficiency tends to neglect the interests of the poor and efficiency oriented transport development may benefit the rich more than the poor. It may increase income of some groups but may not result in enhancement of income of the poorest groups, and in some cases even hurt the poor. Such projects could add to the poverty and the deprivation of the poorest groups. For example, commercialization of transport sector may lead to higher prices for services that were previously affordable to the poor or efficiency criteria leading to increasing switchover to unaffordable motorized transport displacing the affordable non-motorized transport, ironically reducing the mobility of the poor and diminution in employment opportunities.

9.1.8 The rural road projects should be taken up as part of holistic and integrated rural development projects and should visibly pay attention to poverty issues so that specific poverty alleviation and human development components could be substantially expanded and strengthened. The choice of investments for new rural road projects has to be based on informed judgments and for this purpose it is essential to develop appropriate poverty related analytical tools. There is need for better integration of poverty alleviation concerns in policy making, conceptualization, selection, design and monitoring and evaluation of rural road projects.¹⁷ Indicators such as increase in agricultural and cash crop production and household incomes, access to potable water, access to market and food deficit areas, ease of access to educational, health, recreational and administrative facilities, additional employment opportunities etc., could be some of the components. It is hoped that some of these may be covered by the Bank's ongoing efforts to prepare guidelines for social impact assessment, poverty assessment and gender mainstreaming. It was learnt that the World Bank has already proposed, as a part of RSDP II, a study that would measure the direct role of transport interventions in poverty alleviation and build a data and knowledge base to establish best practice guidelines in this regard. As this would be of considerable interest to the Bank in its poverty alleviation interventions in Ethiopia as well as other RMCs, it should effectively participate and contribute in the early development of such indicators.

¹⁷ A similar recommendation is made in "A Study on Bank Group Experience and Lessons From Road Sub-sector Projects & Programmes", pp 20, para. 6.3.4, African Development Fund/ African Development Bank, October 2000.

9.2 Road Maintenance

9.2.1 There is need for effective maintenance if project benefits are to be sustained. There is heavy economic cost of inadequate maintenance (see Box below).

Economic Costs of Inadequately Maintained Roads

"The inadequate maintenance seriously undermines the sustainability of the Bank financed assets or the benefits from them. Economic cost of poorly maintained roads is heavy and borne primarily by the road users. When a road is not maintained and allowed to deteriorate by saving on maintenance expenditure, it hurts the economy in two ways. In the short run, it increases the vehicle operating costs. The increase in vehicle operating costs is two to three times higher than the avoided maintenance cost. According to a World Bank estimate, the extra costs of insufficient maintenance in Sub-Saharan Africa amount to about \$1.2 billion per year or 0.85 percent of the regional Gross Domestic Product (GDP). In the longer term, "rehabilitating paved roads every ten to twenty years is more than three times as expensive for the government, in cash terms, as maintaining them on a regular basis, and 35 percent more expensive in terms of net present value (NPV) discounted at 12 percent per year."

(Excerpt from "Study on Bank Group Experience and Lessons From Road Sub-sector Projects &

9.2.2 The Bank is aware that a backlog of road maintenance has built up not only in Ethiopia but also in most member countries. PCRs and PPERs regularly note the rapid deterioration of project roads in RMCs because of inadequacy of maintenance arising from lack of both human and financial resources. The absence of an appropriate maintenance policy, hence the inadequate maintenance programming, is at the root of the problem and is linked to the shortage of skilled human resources and equipment needed for designing and implementing a maintenance strategy. In addition, financial resource allocation has in the past been inadequate and maintenance equipment needs are not met.

9.2.3 It is also noted in an OPEV study of the 1996-97 appraisal reports that recurrent cost funding or cost recovery analysis is inadequate even in a large proportion of the projects approved in late nineties in the transport sector. There is a resultant lack of any real assessment or commitment for post-commissioning maintenance expenditure at the time of Loan Agreement.

9.2.4 In Ethiopia, road maintenance has been in heavy arrears. This is reflected in worn out and rough road surfaces and heavy potholes in most of the system. Because of lack of regular cleaning and maintenance, in many stretches of the Jimma–Chida, the Chida–Sodo and the Gore-Tepi roads visited by the Evaluation Mission, the side drains no longer existed. This was already leading to soil erosion thus threatening the roads. At places the embankment slopes had not been grassed or stabilization with gabions or stone pitching bridges had not been done or maintained to protect the retaining walls. This also increased the risk of soil erosion on the embankments and inlets and outlets of culverts on sandy soils.

9.2.5 The Bank and the Ethiopian government now recognize that significantly greater returns on investments can be obtained from preserving existing roads rather than from

investing the same resources in new ones. Realizing the importance of road maintenance, ERA has now undertaken road maintenance initiatives under the RSDP. But their success and sustainability depends upon the continuing commitment of the government for a steady flow of funds. Establishment of a Road Fund is a positive step forward but its funding needs are likely to increase substantially as more road assets are added to the network and the RSDP moves forward. The level of fuel levies and vehicle license fee and the regular budgetary allocations to the Fund would need to be kept under continuous review for ensuring stable and adequate flow of funds for road maintenance.

9.2.6 A factor that exacerbated the maintenance problems is that roads were showing signs of premature pavement stress and had deteriorated faster than their design lives as a result of overloading of vehicles beyond the pavement design loads. This is because the vehicle operators find that loading the vehicles in excess of their normal capacity and the design loads is more profitable. On the other hand, the governments and local authorities are not in a position to enforce the prescribed axle loads, because of inadequate, lax or corrupt enforcement machinery. As a first step to improve the axle load control, during RSDP I the government transferred the task to enforce axle load control from the Road Transport Authority (RTA) to ERA. The government also commissioned a study on axle load with the objective of providing a basis for review of legislation and regulations and to explore the mechanism to properly enforce them has been carried out. It recommended a higher legally accepted axle load, which is being reviewed by the Government. It has also suggested effective use of existing weighbridge stations and imposition of realistic fines; changes in vehicle taxation, customs and investment regulations to encourage more effective utilization of the haulage fleet; and in the longer term, use of vehicle type regulations to encourage use of vehicles that carry loads more efficiently and to discourage those that do not. The Government now plans to revise axle load legislation and strengthen the enforcement of the axle load control. Quick implementation of the recommendations needs to be monitored by the Bank.

9.2.7 As noted earlier, ERA has prepared a Road Maintenance Action Plan, 2001 that involves decentralizing maintenance districts to effectively maintain and administer the road network. Commercialization has commenced and maintenance districts have started to work based on performance agreement. It is proposed to introduce a similar process for the RROs. Efforts at developing local capability are centred on finding solutions in the districts themselves by mobilization of the community and other resources there. However, routine and periodic maintenance of 154,215 km of roads at federal, regional and municipal levels at an estimated cost of Birr 2,068.4 million is involved (see Table 5 below).

Table 5 : Summary of Maintenance Work (2000/01-2004/05)

No.	Component	Length (km)	Estimated Cost (Birr million)
1	Routine Maintenance (Federal)	71,608	887.2
2	Periodic Maintenance (Federal)	2,748	725.2
3	Routine Maintenance (Regional)	71,459	300.5
4	Routine Maintenance (City)	8,400	155.5

	Total	154,215	2068.4
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Source: Maintenance Action Plan (2001-2005), Ethiopian Road Authority, January 2001

9.2.8 It is noted that the actual expenditure for the three years 1997/1998 to 1999/2000 was only Birr 331.6 million on routine maintenance and Birr 43.7 million for periodic maintenance or a total of Birr 375.3 million.¹⁸ The task for the next 5 years, representing a manifold increase, is mammoth and requires mobilization of much larger management, trained manpower and equipment resources, besides a substantial augmentation of domestic private sector capability. The problem is likely to be more acute in RROs. The current level of financial resources available from the Road Fund will also need considerable augmentation.

9.2.9 One of the immediate issues and an important component for strengthening the maintenance capability that needs to be addressed in Ethiopia pertains to the rehabilitation of a large fleet of road maintenance equipment that is lying in a state of disrepair, both with ERA and RROs. Bringing this equipment very quickly to a state of operational worthiness should be handled on a priority basis. It will possibly require import of components and spares and external funding could well be necessary. The Evaluation Mission was advised that such a project was indeed being proposed for World Bank financing. This should be expedited.

9.2.10 The above approach could be extended further for making a serious major dent in the large backlog of requirements of maintenance. Maintenance projects with specific objectives of completing arrears of periodic maintenance with external inputs of machinery spares, new machinery and supervisory technical staff in contract packages large enough to attract international contractors could be proposed for funding with external assistance. The idea was briefly discussed with MEDAC during the wrap up meeting of the Evaluation Mission but it had some reservations about it, possibly because of apprehensions of the likelihood of this funding substituting the funding for new road construction projects. In view of the considerable benefits and returns, this matter deserves further pursuit and the Bank could even consider the possibility of providing this relatively small requirement as additional funding outside the indicative commitments so far made.

9.2.11 Another possibility that needs to be seriously considered is the idea of inclusion in the original road construction contract of road maintenance by the construction contractor for a number of years- say 5 years- after construction. This may have the additional benefit of promoting better quality of construction and assured maintenance at competitive rates. The option should be seriously explored.

9.2.12 It is also important that when undertaking any new road construction or rehabilitation projects, the Bank should insist on an assessment of maintenance funding needs and for regular annual budgetary allocations of that order or for raising of resources through other mechanisms such as the Road Funds.¹⁹ Equally important is the need to monitor, on a

¹⁸ Source: ERA-Mid-Term Review and Revised implementation Plan for RSDP I, January 2001.

¹⁹ This has been done in both the recent road sub-sector projects e.g., Alemgena-Butajira and Butajira-Hossaina-Sodo roads.

regular basis, such allocations during Bank's follow-up, supervision and country missions.

10 **CONCLUSION, LESSONS AND RECOMMENDATIONS**

10.1 **Conclusion**

10.1.1 The Bank Group has had a long term, but not really substantial presence in the dominant road sub sector in Ethiopia. Its intervention in the civil aviation sub-sector was in the form of single project intervention for the Ethiopian Airlines Corporation and the Addis Ababa International Air Port each. It has no presence in other transport sub-sectors. In its early interventions, the Bank did not have a very articulated development strategy, but introduction of country strategy papers in late 1990s has helped better direction and focusing of Bank assistance.

10.1.2 Objectives of the Bank assistance were nevertheless relevant to the needs of the country in improving transport infrastructure and providing access to remote rural areas. They aimed to improve the efficiency and capacity of the transport system by reducing vehicle operating costs and road maintenance costs for road projects and by improving the operational efficiency of the civil aviation infrastructure. However, the efficacy of the projects in achieving the objectives has been mixed. Five completed projects were efficacious in the creation of assets and achievement of physical objectives while two others failed to do so. Sectoral objectives of increased agricultural and livestock production and increased access to educational, health and governmental institutions were similarly attained in some projects but not in others. However, the impact and benefits were constrained and the pace is much slower than expected.

10.1.3 Efficiency of implementation was adversely impacted by almost universal delays in project implementation, including delays in loan effectiveness. Costs of projects were generally lower than appraisal estimates. EIRR was noted to be satisfactory in 2 projects in which it was re-estimated but in the balance 5 projects no re-estimation was done.

10.1.4 The Bank assistance has largely been project oriented and the benefits and impacts are also project specific. However, in supporting selected components of RSDP, the Bank is making a positive endorsement of the government strategy and has built a partnership with the country. An explicit linking of the latest CSP with RSDP is expected to sustain and deepen Bank's commitment to the development of this vital sector.

10.1.5 At the sector level, in the division of RSDP components between donors, the institutional reforms and capacity building for the road sector have been mainly financed by the World Bank, EU and some bilateral donors. The achievements and impact of assistance by other donors in capacity building in the sector are nevertheless likely to become a cornerstone of future capacity building and a major factor in ensuring the sustainability of the investments, including those of the Bank, in the road sector. This has become possible because of (i) the Government's total commitment and ownership of the programme and (ii) a focused and co-ordinated approach by the donors, including the Bank. The Bank as a partner in the longer-term RSDP can justifiably feel satisfied with the institutional development that is being ushered in.

10.1.6 Some general information about socio-economic benefits of the road projects and the direct or indirect impact on poverty alleviation has been noted. The new or improved roads have acted as catalysts for social and economic growth and development. Road projects generated both direct and indirect benefits. The projects stimulated agriculture and trade leading to increase in family incomes. The employment opportunities for the rural poor have also been increased. Poverty alleviation has been facilitated by road projects by allowing round the year access to remote habitations to health, educational, social and administrative facilities. Access to sea has also been improved. It was however noted that the attainment of benefits was severely constrained by factors such as lack of maintenance of roads and inadequacy of complementary investments for construction of hinterland road networks and provision of agricultural and credit extension services. Similarly, high costs of motorized transport and inadequate attention to development and promotion of appropriate modes of non-motorized transport and IMT also eroded the road usage and benefits.

10.1.7 The Ethiopian Airlines Infrastructure project and the soon-to-be completed Addis Ababa Airport Infrastructure Development are expected to upgrade the capacity and capability of the civil aviation sector to handle more air traffic. These will also contribute to the institutional capacity building for civil aviation in the country.

10.1.8 The sustainability of road assets is however a matter of concern. The institutional capacity both at the federal and regional levels is not adequate to handle the maintenance load of the existing and the new accretions to the road network. Efforts already apace for enhancing the capacity at both the federal and the regional levels need to be redoubled and supplemented by special externally funded stand-alone maintenance projects.

10.2 What Have We Learned- Findings and Lessons

10.2.1 Several lessons can be drawn from the Study. Some of the important findings and lessons are noted below:

- i. Projects approved even in the Bank's post-restructuring phase continue to experience delays in loan effectiveness (para. 5.1.2).
- ii. Loan savings in a number of projects resulted in unnecessary blockage and idling of Bank's scarce resources, particularly the ADF funds, that could have been better utilised for development assistance in other projects and/or countries (para. 5.2.2).
- iii. Re-estimation of rates of return of Bank projects becomes difficult when the appraisal reports do not document the baseline data or specify the formats in which the executing agency and the Borrower are to monitor and maintain data and information (para. 5.3.4).
- iv. ESW would enhance Bank knowledge of the economy of RMCs in a way that the Bank would be able to develop its own effective strategies to underpin its Vision and also assist the countries to design appropriate development and poverty alleviation

strategies (para. 5.4.10).

- v. Gender sensitive development strategies can contribute significantly to economic growth and equity objectives.
- vi. There is continuing deforestation of the areas of coverage of rural roads and there is no effective governmental awareness or machinery to check indiscriminate forest clearance and environmental damage (para. 6.4.3).
- vii. Delay in implementation of the separation of AAA from ECAA could adversely impact the effectiveness of the regulatory and safety supervision functions of the ECAA and independence and operational efficiency of AAA (para. 7.2.7).
- viii. With an expanding network and increased responsibilities for implementation of an ambitious road sector development programme, institutional capabilities of ERA in certain fields are being tested and stretched (para. 7.3.1).
- ix. There is great concern about lack of institutional capacity in the RROs for construction and maintenance of roads (para. 7.3.3).
- x. The machinery for transport co-ordination at the apex level is extremely weak and the set-up under the new ministerial dispensation is still not fully clear and remains untested (para. 7.3.5).
- xi. Even though the existing railway line in Ethiopia carries a very small proportion of the total traffic in the country, the railways have considerable potential as a low-cost carrier of containerised and bulk goods in transport corridors in flat terrain (para. 7.3.6).
- xii. There is need to strengthen the assessment of likely social, poverty alleviation and gender impact of projects in the appraisal reports (para. 5.4.4).
- xiii. Addressing the issue of rural access in isolation in the past has not been very effective in addressing poverty alleviation and there is now greater recognition that to maximise the benefits of improved access and poverty alleviation, a more holistic approach is essential for investments in rural roads (para. 9.1.3).
- xiv. Introduction of motorized transport is slow because of its non-viability for small volumes of initial custom and inability of the rural poor to bear the high cost related fares and freights. Non-availability of affordable means of transport hampers the benefits of investments in rural roads (para. 9.1.4).
- xv. The usual tools such as the EIRR for judging merit of rural road projects are not adequate, as important qualitative benefits such as impact on poverty alleviation are not captured (para. 9.1.6).
- xvi. Demands for funds for maintenance on the Road Fund do not remain static particularly when more road assets are added to the network under an ambitious

road sector development programme (para. 9.2.5).

- xvii. One of the important reasons why road maintenance capability in Ethiopia is inadequate is because a large fleet of road maintenance equipment lying with ERA and RROs is in a bad state of repair (9.2.9).
- xviii. Inadequate maintenance arising from a lack of adequate fleet management, shortage of appropriate workshop equipment and spare parts and shortage of trained operators and technicians has rendered a large portion of the existing road maintenance equipment and machinery idle (para. 7.3.2).
- xix. Road maintenance would continue to suffer unless offloading of construction and maintenance activities to private sector is matched by a corresponding enhancement in the capacity of the yet nascent private sector (para. 7.3.2).

10.3 The Way Forward- Recommendations

10.3.1 Several recommendations also emerge from the Study that could help in the future formulation and implementation of projects, particularly in the transport sector, in the country and other RMCs. Some of the key recommendations are listed below.

- i. The Bank needs to address the entire issue of delays in loan effectiveness afresh to find an effective solution to an endemic problem (para. 5.1.2).
- ii. At appraisal, there is need for better assessment of project costs and the quantum of Bank assistance (para. 5.2.2).
- iii. It is important that in future projects it is made mandatory that the sources and the data and the selected indicators for project monitoring and benefit measurement are clearly identified in a designated section of the appraisal reports. Similarly, the compulsory collection of the information by the executing agency and the Borrower needs to be covered by an appropriate condition in the Loan Agreement and regularly monitored by the Bank (para. 5.3.4).
- iv. Given the centrality of economic and sector work to operational activities, it is recommended that the Bank should intensify its ESW in Ethiopia. Such ESW would enhance Bank knowledge of the economy of Ethiopia and help in the Bank to assist the country to design appropriate growth and poverty alleviation strategies (para. 5.4.10).
- v. There is need for better understanding of the different gender dimensions of poverty. The Bank should focus on integrating gender analysis into poverty diagnosis in its assistance to transport projects and that it should commence with the CSPs (para. 6.3.4).
- vi. For environmental conservation, governmental machinery with greater awareness for environmental conservation needs to be established to control and regulate

deforestation for agriculture and settlements or any other purpose alongside the road corridors (para. 6.4.3).

- vii. ERA's capacity in the fields of highway design (pavement and materials), rural roads, preparation of documents, evaluation of bids, contract administration, financial management including bill payments and claims and arbitration, engineering and planning and donor co-ordination needs to be strengthened (para. 7.3.1).
- viii. ERA has to be adequately equipped to effectively discharge its added responsibilities in its new planning, purchasing (of services) and regulatory role (para. 7.3.2).
- ix. The Reform Study of RROs needs to be completed quickly so that the recommended reforms could be implemented with least delay (para. 7.3.4).
- x. Railway projects could be considered by the Bank's Private Sector window that, even with its limited resources, could play at least a catalytic role in the development of railways (para. 7.3.6).
- xi. In order to discharge its responsibilities of transport co-ordination effectively, the new Ministry of Infrastructure would need to adequately address the past institutional inadequacies. There is also need for this ministry to develop adequate capability to undertake regulatory functions in the transport sector (para. 7.3.7).
- xii. The severance of AAA's organizational link with the ECAA is essential to enable ECAA to independently and credibly discharge its regulatory and safety supervision functions while AAA has operational independence to efficiently discharge its airport operation and management functions (para. 7.3.9).
- xiii. To better monitor and evaluate the actual performance, assessment of social and poverty alleviation impact in appraisal reports could be further strengthened to provide for selection of poverty and gender related indicators and collection of baseline data of benefits such as increased agricultural production, increased household incomes, attendance at health clinics, attendance at schools (including gender split), average distances to fetch water or fuel wood etc (para. 5.4.4).
- xiv. The rural road projects should be taken up as part of holistic and integrated rural development projects and should clearly pay attention to poverty issues, whereby specific poverty alleviation and human development components could be substantially expanded and strengthened (para. 9.1.8).
- xv. The choice of investments for new rural road projects has to be based on informed judgments and for this purpose it is essential to develop appropriate poverty related analytical tools for policy making, conceptualization, selection, design and monitoring and evaluation of rural road projects (para. 9.1.8).
- xvi. Steps should be taken to develop and promote appropriate non-motorized,

motorized or intermediate means of transport (IMT) so that costs are low and freights and fares are affordable to the rural poor and promote greater usage of roads (para. 9.1.4).

- xvii. The Government needs to continuously review level of fuel levies and vehicle license fees and the regular budgetary allocations to the Road Fund so that there is stable and adequate flow of funds for the increasing requirements of road maintenance (para. 9.2.5).
- xviii. Bringing the sick road maintenance equipment very quickly to a state of operational worthiness should be handled on a priority basis (para. 9.2.9).
- xix. Stand-alone road maintenance projects with external funding with specific objectives of completing arrears of periodic maintenance with external inputs of machinery spares, new machinery and supervisory technical staff, in contract packages large enough to attract international contractors should be considered (para. 9.2.10).
- xx. The possibilities of inclusion in the original road construction contract of road maintenance by the construction contractor for a number of years, say 5 years, after construction should be seriously explored (para. 9.2.11).
- xxi. When undertaking any new road construction or rehabilitation projects, the Bank should insist on an assessment of maintenance funding needs and for regular annual budgetary allocations of that order or for raising of resources through other mechanisms such as the Road Funds, and such allocations should be regularly monitored during Bank's follow-up, supervision and country missions (para. 9.2.12).
- xxii. A robust and practical action plan and strategy is essential to satisfactorily and without detriment carry out the planned transfer of responsibility for road maintenance to the private sector (para. 7.3.2).

10.4.1 The juxtaposed list of findings/ lessons and recommendations are included in Annexure 10.

LIST OF ANNEXURES

Annex	Subject	Reference in Para.
1	Bank Assistance to Transport Sector	2.3.1
2	Summary of Bank Group Operations as at 31 July 2001	2.3.2
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BANK ASSISTANCE TO TRANSPORT SECTOR

		TRANSPORT SECTOR		ALL OTHER SECTORS		TOTAL	
		Amount (FUA)	%	Amount (FUA)	%	Amount (FUA)	%
ADB	1991-2000	1,124,997,402	14.4	6,708,513,302	85.6	7,833,510,704	100.0
	1981-1990	1,145,800,000	14.2	6,933,781,000	85.8	8,079,581,000	100.0
	1967-1980	277,133,000	25.8	798,389,000	74.2	1,075,522,000	100.0
ADF	1991-2000	687,599,302	15.1	3,864,302,531	84.9	4,551,901,833	100.0
	1981-1990	922,735,175	19.3	3,868,157,651	80.7	4,790,892,826	100.0
	1967-1980	225,906,422	27.2	603,534,060	72.8	829,440,482	100.0
NTF	1991-2000	28,350,000	39.1	44,140,000	60.9	72,490,000	100.0
	1981-1990	39,150,000	35.0	72,836,000	65.0	111,986,000	100.0
	1967-1980	18,369,670	28.1	47,000,000	71.9	65,369,670	100.0
TOTAL	1991-2000	1,840,946,704	14.8	10,616,955,833	85.2	12,457,902,537	100.0
	1981-1990	2,107,685,175	16.2	10,874,774,651	83.8	12,982,459,826	100.0

	1967- 1980	521,409,092	26.5	1,448,923,06 0	73.5	1,970,32,152	100.0
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ETHIOPIA
SUMMARY OF BANK GROUP OPERATIONS AS AT 31 July 01

No.	Year Approved	Project	Source of Funds	Date signed	Net Loan Amount Million UA
AGRICULTURE					
1	1975	Southern Rangeland Livestock	ADF	20-02-1976	4.59
2	1977	Amibara Irrigation	ADF	18-08-1977	4.25
3	1979	Finchaa Sugar Study	ADB	16-05-1979	4.85
4	1980	Wush Wush Tea	ADF	12-12-1980	7.36
5	1981	Addis Ababa Fuekwood*	ADF	25-06-1982	6.62
6	1982	Bebeka Coffee Plantation	ADB	06-05-1982	10.00
7	1982	Agricultural Line of Credit	ADF	02-08-1983	7.33
8	1984	Gelena Irrigation	TAA	05-11-1984	1.10
9	1984	Dairy Rehabilitation & Dev*	ADF	28-01-1985	5.01
10	1985	Small Scale Irrigation	ADF	09-05-1985	5.36
11	1985	Awash Basin Water Supply	TAA	09-05-1985	1.19
12	1985	PA/DEP {Sidamo} Gamol Foga)*	ADF	07-05-1986	5.44
13	1986	Tepi Coffee Development	ADB	24-04-1987	4.68
			ADF	24-04-1987	16.16
14	1987	Ambara Drainage	ADF	27-08-1987	14.94
15	1988	Finchaa Sugar	ADB	25-04-1989	80.00
			ADF	14-02-1989	14.46
16	1989	South East Rangelands	ADB	01-12-1989	20.77
17	1989	EVDSA Institutional	TAF	01-12-	2.56

		Building		1989	
18	1989	Wush Wush II	ADF	14-02-1990	10.13
19	1990	Meat Plant Feasibility Study	TAF	21-02-1991	1.07
20	1991	Omo-Ghibe Master Plan Study	TAF	31-12-1991	5.07
21	1991	Birr-Koga Irrigation Study	TAF	24-12-1991	2.48
22	1992	Ambara Drainage II study	TAF	22-01-1993	0.54
23	1997	National Fertilizer Project	ADF	21-02-1998	28.00
24	1998	National Livestock Project	ADF	21-11-1998	27.00
25	2000	Pastoral Area Development Study	TAF	15-12-2000	0.71
26	2001	Kogalrrigation & Watershed Mgmt.	ADF	19-07-2001	32.59
			TAF	19-07-2001	1.33
TRANSPORT (Up to SEPTEMBER, 2001)					
<u>27</u>	1977	Jimma-Chida Road	ADF	13-12-1977	6.45
28	1980	Rural Roads (Sidam, Bale)	ADF	22-06-1980	7.11
29	1981	Rural Roads (Gondar and Shoa)	ADF	30-12-1981	10.94
30	1984	Gore-Tepi Roads	ADF	10-02-1984	15.69
31	1989	Assab Port Development	ADF	29-05-1989	8.58
32	1989	Road Maintenance & Rehab	ADF	01-12-1990	43.75
33	1990	Ethiopian Airlines Int. Dev	ADF	14-03-1991	24.55
34	1992	Addis Ababa Airport Study	TAF	22-06-1992	1.93
35	1992	Chida Soda Road	ADF	14-04-1993	23.95
36	1996	Addis Ababa Airport Infra. Dev.	ADF	20-12-1996	19.50
37	1998	Allemgena-Butaira	ADF	21-07-	18.50

		Road Upgrading		1998	
38	1998	Seven Roads Study	TAF	17-12-1998	3.4
39	2001	Butajira-Hossaina-Sodo Road Upgrading	ADF	10.2001	41.37
PUBLIC UTILITIES					
40	1975	Addis Ababa Sewerage I	ADF	16-01-1976	4.60
41	1979	Rural Electricity	ADB	16-05-1979	1.50
			NTF	16-05-1979	5.00
42	1979	Assab Water Supply	ADF	27-02-1980	6.13
43	1986	Power Transmission Lines	ADB	24-04-1987	10.00
		(Electricity I)	ADF	24-04-1987	25.02
44	1979	Addis Ababa Sewerage II	ADB	16-05-1979	6.63
45	1982	Six Centers Water Supply	ADF	02-03-1983	13.58
46	1983	Eight Centers Water Supply	ADF	04-05-1984	11.60
47	1984	Telecommunciations I	ADF	05-11-1984	24.01
48	1985	Chemoga Yeda Hydro Study	ADF	07-05-1986	0.55
49	1989	Five Towns Water Supply	ADB	29-05-1989	1.44
50	1989	Addis Ababa kMaster Plan	TAA	01-12-1989	1.09
51	1990	Aleltu Hydro Feasib. Study	TAF	21-02-1991	1.64
52	1991	12 Towns Water Supply Study	TAF	19-03-1992	1.79
53	1992	Addis Ababa Water III Study	TAF	12-05-1993	2.95
			ADF	12-05-1993	3.13
54	1992	Telecommunications II	ADB	14-04-1993	32.40
			ADF	14-04-1993	14.32
55	1992	Northern Ethiopian	ADB	14-04-	20.84

		Power Trans		1993	
			ADF	19-04-1993	27.25
56	1993	Hydro-Power Feasibility Study	TAF	06-09-1994	4.25
SOCIAL					
57	1983	Primary Teachers & Sec. Education	ADF	13-06-1983	14.98
58	1992	Basic Educ. Tech & Voc Training	ADF	22-01-1993	10.94
59	1998	Education III Project	ADF	21-11-1998	32.00
			TAF	21-11-1998	0.30
60	1998	Primary Health Care	ADF	17-12-1998	29.67
INDUSTRY AND MINING					
61	1987	Lega Dembi Gold	ADB	19-11-1987	16.55
62	1989	Lega Dembi Gold Study	TAF	30-01-1990	2.11
63	1993	Biklal Phosphate Study	TAF	26-01-1994	2.60
64	2000	Privatisation T/A Project	TAF	15-12-2000	3.00
MULTI-SECTOR					
65	1992	ERRP	ADF	14-05-1992	86.62
66	1993	SAL	ADF	09-07-1993	63.54
67	1998	Supplementary Financing Mechanism	ADF		0.00
Total					1033.34

OBJECTIVES AND PROJECT COMPONENTS

S. No	PROJECT TITLE	OBJECTIVES AND PHYSICAL COMPONENTS
01	JIMMA-CHIDA ROAD	<p>The objective was to provide a better road service in supporting agricultural development and to facilitate installation of two Minimum Package Programmes for provision of inputs, loans to farmers for fertilizer, cattle, etc. in the area.</p> <p>The project comprised construction of 83 km of gravel surfaced road between Jimma and Chida.</p>
02	RURAL ROADS I	<p>The objective was to construct over an 8 year period approx. 960 km of rural access roads in Bale and Sidamo regions</p> <p>The components were purchase of machinery and equipment for 1RR50 and 2RR30 construction units and 2 maintenance units. The ADF financing was only for the machinery & equipment only.</p>
03	RURAL ROADS II	<p>The objective was construction over an 8 year period of approx. 930 km of rural access roads in Shoa and Gondar regions. (At another place in the report, the length of roads is mentioned as 1411 km)</p> <p>The components were purchase of machinery and equipment for 2RR50 and 2RR30 construction units, 4 maintenance units and purchase of workshop equipment and tools and transport for 2 survey crews. The ADF financing was only for this machinery & equipment only.</p>
04	GORE-TEPI ROAD	<p>The objective was to provide the south-west region with access to the national road network; (ii) facilitate increased agricultural development in the region; and (iii) facilitate social service coverage in the area.</p> <p>Scope was construction of 143.23 km of gravel surfaced road</p>
05	ROAD MAINTENANCE &	<p>The objective was to (I) improve the capacity of ERA to maintain roads; and (ii) improve road surface conditions of an important corridor leading to the Red sea port of Assab. The components were (I) Procurement of new equipment,</p>

	REHABILITATION	including spare parts, for road maintenance in Jimma and Alemgena districts; (ii) procurement of spare parts for rehabilitation of existing equipment; (iii) pavement strengthening and reconstruction, widening and reconstruction of shoulders and improvement of drainage structures of the 134 km Semera-Elidar road to 2-lane bituminous surfaced road (7 m wide with gravelled shoulders); and (iv) Consultancy services for supervision of construction works of item iii. The project scope was later reduced because of border conflict between Eritrea and Ethiopia that led to suspension of rehabilitation works from Dobb/Galafi to Elidar along the Assab corridor.
06	CHIDA-SODO ROAD	<p>The main objective was to provide improved access to the South-Western region of the country by construction of an all weather road linking Chida and Sodo towns. The project road traversing a difficult and mountainous region connects area's hinterland activities and helps in the development of rich agricultural land and enhancing the economic and social integration of the rural communities located in those remote areas.</p> <p>The main components were (i) Construction of 2 lane gravel surfaced road (6.0 m wide shoulder to shoulder) for a total length of 160 km between Chida and Sodo; and (ii) Consultancy services for review of design, pre-construction contract services and supervision of construction works for (i) above.</p>
07	ALEMEGENA-BUTAJIRA ROAD	<p>The objective of the project is to improve the road transport services in the project zone of influence of Oromiya and Southern regions, by reduction of road maintenance and VOC and to promote rural urban integration within Ethiopia.</p> <p>Major components are: (I) Construction works for the upgrading of gravel surfaced road to bitumen standard with 7.0 m carriageway, with 1.5 m shoulders on each side for a total length of 120 km between Alemgena and Butajira; (ii) Supervision consultant services; and (iii) Audit services</p>
08	BUTAJIRA-HOSSAINA-SODO ROAD	<p>The sectoral objective of the project is to improve the efficiency and capacity of the transport system to support the economic development of Ethiopia. The project objective is to reduce transport cost between Butajira and Sodo and to promote market integration between rural and urban areas of the country.</p>

		<p>The project components are upgrading of the 189.0 km gravel road to bitumen standard and consultancy services for supervision of civil works and for Project Audit</p>
09	SEVEN ROADS STUDY	<p>i) the objectives of the studies are to determine the technical feasibility and economic viability of improving the seven roads in order to lower the transport costs sufficiently to meet the needs of existing planned and future economic and social development in these areas</p> <p>ii) The studies also aim at the preparation of detailed engineering designs and tender documents for the viable options for execution by contract of the (a) Konso-Yabello (b) Woito-Omo Rate (c) Keyafer-Namraputh and (d) Sawla- Kako road sections.</p>
10	ASSAB PORT DEVELOPMENT	<p>The objective of the project was to increase the capacity of the port to handle the forecast traffic through to the early years of the “next” century and reduce the need to divert through other foreign ports to the minimum.</p> <p>The components were construction of 2 deep-water berths of 12 m depth and a quay wall of 450 m length, a 30 m long ro-ro ramp, buildings for a transit shed, a berth office and other ancillary works and supervision consultancy services.</p> <p>The project was pre-terminated in 1994 after Eritrea separated from Ethiopia.</p>
11	ETHIOPIAN AIRLINES INFRASTRUCTURE	<p>The objective of the project was (i) to increase Ethiopian Airlines Corporation’s revenue in foreign currency earnings; and (ii) to improve its operational efficiency and technical capability through the construction of a jet engine test cell and a flight training simulator.</p> <p>The components comprised (i) the procurement and installation of jet engine test cell equipment and construction of related buildings; (ii) the procurement and installation of flight training simulator equipment and construction of related buildings; and (iii) consultancy services for review of an existing feasibility study for a cargo handling terminal, preparation of a feasibility study for a maintenance hanger and for preliminary and detailed engineering design including cost estimates, preparation of tender documents, bills of quantities and pre-qualification documents for the cargo terminal and the maintenance</p>

		hangar.
12	ADDIS ABABA AIRPORT INFRASTRUCTURE STUDY	The study comprised Stage I for Review and updating of the existing ICAO outline Master Plan plus Environmental Impact Statement and Stage II for detailed engineering design and preparation of Tender Documents separately for Airside Works package and Terminal Area works package, including Airport Special Systems.
13	ADDIS ABABA INTERNATIONAL AIRPORT DEVELOPMENT	The project components are; (i) Civil works for construction of a new 3800 m long runway, 5 exit taxiways, airfield drainage and top soiling, security fencing and perimeter road; (ii) Supply, installation and commissioning of Airside equipment, navigational aid, communication and airfield lighting systems; (iii) Construction of a new rigid 70000 sq. m apron; (iv) Construction works for strengthening of existing pavements (overlay); (v) Institutional support to Project management; and Consultancy Services for (i) to (iv) above and audit of (i) above. Under a modification, ADF will also finance the overlay of the existing runways and taxiways and supply new ILS.

Annexure 4**PROJECT IMPLEMENTATION SCHEDULES**

S. No	Project Title	Loan approval date	Estimated completion date	Actual completion date	Delay (months)
01	JIMMA-CHIDA ROAD	10.77	08.81	1984	36 (approx.)
02	RURAL ROADS I	04.80	30.9.88	Data not available	-
03	RURAL ROADS II	10.81	31.10.90	Data not available	-
04	GORE-TEPI ROAD	06.83	31.07.87	31.12.89	29
05	ROAD MAINTENANCE & REHABILITATION	11.89	05.93	Ongoing	-
06	CHIDA-SODO ROAD	06.92	30.06.96	08.10.98	25
07	ALEMEGENA-BUTAJIRA ROAD	06.98	02.02	Ongoing	-
08	BUTAJIRA-HOSSAINA-SODO ROAD	10.01	02.05	Ongoing	-
09	SEVEN ROADS STUDY	12.98	-	Ongoing	-
10	ASSAB PORT DEVELOPMENT	04.89	11.92	Project pre-terminated in 1994	-
11	ETHIOPIAN AIRLINES INFRASTRUCTURE	10.90	04.93	10.97	54
12	ADDIS ABABA AIRPORT INFRASTRUCTURE STUDY	11.91		12.94	

13	ADDIS ABABA INTERNATIONAL AIRPORT DEVELOPMENT	10.96	-	Ongoing	-
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PROJECT COSTS
(UA million)

S. N	PROJECT TITLE	ADF/ ADB/ NTF	APPROVED LOAN	ESTIMATED COST	ACTUAL COST	% VAR COST
01	JIMMA-CHIDA ROAD	ADF	6.45	9.68	Data not available	-
02	RURAL ROADS I	ADF	7.37	29.774 (Plant & machinery cost was estimated as UA 8.960 million)	Data not available	-
03	RURAL ROADS II	ADF	11.05	31.693 (Plant & machinery cost was estimated as UA 12.274 million)	Data not available	-
04	GORE-TEPI ROAD	ADF	22.43	28.03	19.54	-30.29
05	ROAD MAINTENANCE & REHABILITATION	ADF	43.75	50.16	Ongoing	-
06	CHIDA-SODO ROAD	ADF	23.95	33.63	27.67**	-17.7
07	ALEMEGENA-BUTAJIRA ROAD	ADF	18.50	25.00	Ongoing	-
08	BUTAJIRA-HOSSAINA-SODO ROAD	ADF	41.31	45.90	Loan approved in October 2001	-
09	SEVEN ROADS STUDY	Grant	3.40	3.62	Ongoing	-

10	ASSAB PORT DEVELOPMENT	ADF	41.02 (32.44 million cancelled in 1994 after separation of Eritrea)	60.12	Project pre-terminated	-
11	ETHIOPIAN AIRLINES INFRASTRUCTURE	ADB	28.20	31.40	26.60	-5.29
12	ADDIS ABABA AIRPORT INFRASTRUCTURE STUDY	Grant	3.30	3.30	1.96	-40.6
13	ADDIS ABABA INTERNATIONAL AIRPORT DEVELOPMENT	ADF	19.50	49.55	Ongoing	-

** This figure from ERAs PCR could undergo an upward change as the UA denominated figure of cost of the project is arrived at in the PCR by a conversion of actual costs in Ethiopian Birr to UA at a uniform 2000-2001 rate of 1 UA= Birr 8.94 for all the years of implementation. The currency conversion rates have fluctuated significantly from year to year during project implementation and conversion of expenditure in each earlier year by the usual method of applying the average rate of the year is likely to give a higher UA denominated figure.

LOAN AMOUNTS AND DISBURSEMENTS

(UA)

	[1]	[2]	[3]	[4]	[5]
Num	Project name	Approved	Amt	Amt	%
		Loan Amt	Disbursed	Cancelled	[5]=[3]/[2]
1	ETHIOPIAN AIRLINES INFRASTRUCTURES DEVT.	28,200,000	24,545,467	3,654,533	0.87
2	JIMA CHIDA ROAD CONSTRUCTION	6,447,364	6,447,364	0	1.00
3	RURAL ROAD I	7,368,416	7,114,730	253,686	0.97
4	RURAL ROAD II	11,052,624	10,943,384	109,240	0.99
5	GORE TEPI ROAD CONSTRUCTION	22,427,616	15,686,425	0	0.70
6	ASAB PORT DEVELOPMENT PROJECT	41,023,656	8,578,926	32,444,730	0.21
7	ROAD MAINTENANCE AND REHA. PROJECT	43,749,970	38,108,847	5,641,123	0.87
8	CHIDA-SODO ROAD PROJECT	23,947,352	20,763,520	3,183,832	0.87
9	ADDIS ABABA INTERNATIONAL AIRPORT DEVT	19,500,000	13,397,829	6,102,172	0.69
10	ALEMGENA-BUTAJIRA SODO ROAD PROJECT	18,500,000	3,601,065	14,898,935	0.19
11	ADDIS ABABA INTERNATIONAL AIRPORT STUDY	3,300,000	1,963,831	1,336,169	0.60
12	TRANSPORT SECTOR STUDIES	3,400,000	0	3,400,000	0.00
13	BUTAJIRA HOSSAINA SODO ROAD	41,310,000	0	41,310,000	0.00
	TOTAL	270,226,998	151,151,388	119,075,610	0.56

Annexure 7**ECONOMIC INTERNAL RATES OF RETURN**

(Percent)

S. N	PROJECT TITLE	APPRAISAL ESTIMATE	PCR/ PPER EST
01	JIMMA-CHIDA ROAD	13.00	n.c.
02	RURAL ROADS I	N.C. (Project justified on the basis of a “broader system analysis approach”)	n.c.
03	RURAL ROADS II	N.C. (Project justified on the basis of a “broader system analysis approach”)	n.c.
04	GORE-TEPI ROAD	22.0	15.25 (PCR) Not recalculated in PPAR
05	ROAD MAINTENANCE & REHABILITATION	12.00 to 229.00 for road maintenance component and 23.15 for rehabilitation component	Ongoing
06	CHIDA-SODO ROAD	20.70	n.c.
07	ALEMEGENA-BUTAJIRA ROAD	22.1	Ongoing
08	BUTAJIRA-HOSSAINA-SODO ROAD	18.46	Ongoing
09	SEVEN ROADS STUDY	Not applicable	-
10	ASSAB PORT DEVELOPMENT	19.74	n.c.
11	ETHIOPIAN AIRLINES INFRASTRUCTURE	17.53	20.10
12	ADDIS ABABA AIRPORT INFRASTRUCTURE STUDY	Not applicable	-
13	ADDIS ABABA INTERNATIONAL AIRPORT	EIRR-23.3 FIRR-23.00	Ongoing

	DEVELOPMENT		
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AGRICULTURAL PRODUCTION
IN
DISTRICTS COVERED BY RURAL ROADS I & II PROJECTS

Year	Total area 000 Ha	Total Production 000 Quintals
<u>Rural Roads I Project</u>		
<u>Bale</u>		
1978-79 (Appraisal Report)		1729.1
1984-85 (PPH)	66.72	575.61
1984-85 (Total)	110.26	1231.13
1999-2000	246.66	3447.98
<u>Sidamo</u>		
1978-79 (Appraisal Report)		1314.9
1984-85 (Private Peasants Holdings)	125.55	1360.11
1984-85 (Total)	147.31	1639.99
1999-2000	34.92	400.00
<u>Rural Roads II Project</u>		
<u>Shoa</u>		
1978-79 (Appraisal Report)		11069
1984-85 (PPH)	1331.14	11770.14
1984-85 (Total)	1372.60	12349.71
1999-2000	246.66	3447.98
<u>Gondar</u>		
1978-79 (Appraisal Report)		5655.6
1984-85 (PPH)	651.33	4540.85
1984-85 (Total)	658.64	4573.44
1999-2000	505.14(N) +390.62(S) =895.76	3746.98 +2787.97 =6534.95

Source: Statistics of Government of Ethiopia

ALLOCATIONS AND EXPENDITURE FROM THE ROAD FUND (in Birr)
1990, 1991 & 1992 E.F.Y
(1997/98, 1998/99 & 1999/2000/2001)

Beneficiary/Road Agency	Budget Share %		1990 E.F.Y. (1997/98)	1991 E.F.Y (1998/99)	1992 E.F.Y (1999/2000)	1993 E.F.Y (2000/01)
	From Total	Regional Municipality				
Ethiopian Roads Authority	70%*					
Regular			105,000,000	140,000,000	140,000,000	169,750.00
Supplementary			12,957,800	12,297,368	54,240,287	0
Sub-Total (Federal)			117,957,800	152,297,368	194,240,287	169,750,000
Tigray	1.49%	7.44%	1,688,226	2,250,967	2,250,967	3,606,856
Afar	0.43%	2.17%	752,902	1,003,869	1,003,869	1,050,856
Amhara	3.97%	19.83%	6,351,575	8,468,767	8,468,767	9,615,173
Oromiya	7.52%	37.59%	13,038,143	17,384,190	17,384,190	18,231,384
Somalie	0.60%	2.99%	331,675	442,234	442,234	1,450,589
Benshangul Gumz	0.39%	1.93%	331,675	442,234	442,234	937,589
S.N.N.P.S.	4.89%	24.44%	6,842,454	9,123,272	9,123,272	11,852,359
Gambelea	0.36%	1.82%	331,675	442,234	442,234	880,639
Hararie	0.36%	1.80%	331,675	442,233	442,233	874,667
Sub-Total (Regional)	20%	100.00%	30,000,000	40,000,000	40,000,000	48,500,000
Addis Ababa	5.00%	50.00%	7,500,000	10,000,000	10,000,000	12,125,000
Dire Dawa	0.88%	8.80%	1,000,000	1,334,000	1,334,000	2,134,786
Mekele	0.59%	5.86%	1,000,000	1,334,000	1,334,000	1,421,827
Awassa	0.47%	4.66%	1,000,000	1,334,000	1,334,000	1,130,307
Adama	0.72%	7.20%	1,000,000	1,334,000	1,334,000	1,746,259
Bahir Dar	0.58%	5.83%	1,000,000	1,334,000	1,334,000	1,413,450
Djimma	0.38%	3.85%	500,000	666,000	666,000	932,931
Shashamene	0.23%	2.85%	500,000	666,000	666,000	546,739
Gonder	0.49%	4.86%	500,000	666,000	666,000	1,178,397
Kombolecha	0.17%	1.71%	500,000	666,000	666,000	414,317
Harar	0.50%	4.97%	500,000	666,000	666,000	1,205,987
Sub-Total (Municipality)	10%	100.00%	15,000,000	20,000,000	20,000,000	24,250,000
Grand Total			150,000,000	20,000,000	20,000,000	242,500,000
Total after			162,957.80	212,297,36	254,240,287	

supplementary budget			0	8		
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- Approved allocation for Road agencies for the year 1992E.F.Y.(1999/2000) is same as that of 1991 E.F.Y.(1998/99)
- Br. 7,500,000 is earmarked for Road Safety measure for 1993 E.F.Y.(2000/2001)

Source: Road Fund Administration

KEY LESSONS AND RECOMMENDATIONS

No.	Findings/Lessons	Recommendations	Action By
1.	Projects approved even in the Bank's post-restructuring phase continue to experience delays in loan effectiveness (para. 5.1.2).	The Bank needs to address the entire issue of delays in loan effectiveness afresh to find an effective solution to an endemic problem (para. 5.1.2).	POPR , GECL, ONCF
2.	Loan savings in a number of projects resulted in unnecessary blockage and idling of Bank's scarce resources, particularly the ADF funds, that could have been better utilised for development assistance in other projects and/or countries (para. 5.2.2).	At appraisal, there is need for better assessment of project costs and the quantum of Bank assistance (para. 5.2.2).	ONIN, POPR
3.	Re-estimation of rates of return of Bank projects becomes difficult when the appraisal reports do not document the baseline data or specify the formats in which the executing agency and the Borrower are to monitor and maintain data and information (para. 5.3.4).	It is important that in future projects it is made mandatory that the sources and the data and the selected indicators for project monitoring and benefit measurement are clearly identified in a designated section of the appraisal reports. Similarly, the compulsory collection of the information by the executing agency and the Borrower needs to be covered by an appropriate condition in the Loan Agreement and regularly monitored by the Bank (para. 5.3.4).	POPR , GECL, ONCF
4.	There is need to strengthen the assessment of likely social, poverty alleviation and gender impact of projects in the appraisal reports (para. 5.4.4).	To better monitor and evaluate the actual performance, assessment of social and poverty alleviation impact in appraisal reports could be further strengthened to provide for selection of poverty and gender related indicators and collection of baseline data of benefits such as increased agricultural production, increased household incomes, attendance at health clinics, attendance at schools (including gender split), average distances to fetch water or fuel wood etc (para. 5.4.4).	PSDU , POPR , ONIN, OPEV
5.	ESW would enhance Bank knowledge of the economy of RMCs in a way that the Bank	Given the centrality of economic and sector work to operational activities, it is recommended that the Bank should	POPR , ONCF

	would be able to develop its own effective strategies to underpin its Vision and also assist the countries to design appropriate development and poverty alleviation strategies (para. 5.4.10).	intensify its ESW in Ethiopia. Such ESW would enhance Bank knowledge of the economy of Ethiopia and help the Bank to assist the country to design appropriate growth and poverty alleviation strategies (para. 5.4.10).	, PDRE
6.	Gender sensitive development strategies can contribute significantly to economic growth and equity objectives (para. 6.3.4).	There is need for better understanding of the often different gender dimensions of poverty. The Bank should focus on integrating gender analysis into poverty diagnosis in its assistance to transport projects and that it should commence with the CSPs (para. 6.3.4).	PSDU , ONCF
7.	There is continuing deforestation of the areas of coverage of rural roads and there is no effective governmental awareness or machinery to check indiscriminate forest clearance and environmental damage (para.6.4.3).	For environmental conservation, governmental machinery with greater awareness for environmental conservation needs to be established to control and regulate deforestation for agriculture and settlements or any other purpose alongside the road corridors (para. 6.4.3).	PSDU , GOE
8.	Delay in implementation of the separation of AAA from ECAA could adversely impact the effectiveness of the regulatory and safety supervision functions of the ECAA and independence and operational efficiency of AAA (para.7.2.7).	The severance of AAA's organizational link with the ECAA is essential to enable ECAA to independently and credibly discharge its regulatory and safety supervision functions while AAA has operational independence to efficiently discharge its airport operation and management functions (para. 7.3.9).	ONCF , GOE
9.	With an expanding network and increased responsibilities for implementation of an ambitious road sector development programme, institutional capabilities of ERA in certain fields are being tested and stretched (para.7.3.1).	ERA's capacity in the fields of highway design (pavement and materials), rural roads, preparation of documents, evaluation of bids, contract administration, financial management including bill payments and claims and arbitration, engineering and planning and donor co-ordination needs to be strengthened (para. 7.3.1). ERA has to be adequately equipped to effectively discharge its added responsibilities in its new planning, purchasing (of services) and regulatory role (para. 7.3.2).	ONIN

1 0.	<p>Inadequate maintenance arising from a lack of adequate fleet management, shortage of appropriate workshop equipment and spare parts and shortage of trained operators and technicians has rendered a large portion of the existing road maintenance equipment and machinery idle (para. 7.3.2). One of the important measures by which road maintenance capability in Ethiopia could be quickly strengthened is the rehabilitation of a large fleet of sick road maintenance equipment lying with ERA and RROs (para. 9.2.9).</p>	<p>Bringing the sick road maintenance equipment very quickly to a state of operational worthiness should be handled on a priority basis (para. 9.2.9). Stand-alone road maintenance projects with external funding with specific objectives of completing arrears of periodic maintenance with external inputs of machinery spares, new machinery and supervisory technical staff, in contract packages large enough to attract international contractors should be considered (para. 9.2.10). The possibilities of inclusion in the original road construction contract of road maintenance by the construction contractor for a number of years, say 5 years, after construction should be seriously explored (para. 9.2.11). When undertaking any new road construction or rehabilitation projects, the Bank should insist on an assessment of maintenance funding needs and for regular annual budgetary allocations of that order or for raising of resources through other mechanisms such as the Road Funds, and such allocations should be regularly monitored during Bank's follow-up, supervision and country missions (para. 9.2.12).</p>	ONIN, GOE
1 1.	<p>Road maintenance would continue to suffer unless offloading of construction and maintenance activities to private sector is matched by a corresponding enhancement in the capacity of the yet nascent private sector (para. 7.3.2).</p>	<p>A robust and practical action plan and strategy is essential to satisfactorily and without detriment carry out the planned transfer of responsibility for road maintenance to the private sector (para. 7.3.2).</p>	ONIN, ONCF
1 2.	<p>The machinery for transport co-ordination at the apex level is extremely weak and the set-up under the new ministerial dispensation is still not fully clear and remains untested (para. 7.3.5).</p>	<p>In order to discharge its responsibilities of transport co-ordination effectively, the new Ministry of Infrastructure would need to adequately address the past institutional inadequacies. There is also need for this ministry to develop adequate capability to undertake</p>	GOE

		regulatory functions in the transport sector (para. 7.3.7).	
1 3.	Even though the existing railway line in Ethiopia carries a very small proportion of the total traffic in the country, the railways have considerable potential as a low-cost carrier of containerised and bulk goods in transport, especially corridors in flat terrain (para. 7.3.6).	Railway projects could be considered by the Bank's Private Sector window that, even with its limited resources, could play at least a catalytic role in the development of railways (para. 7.3.6).	GOE
1 4.	Addressing the issue of rural access in isolation in the past has not been very effective in addressing poverty alleviation and there is now greater recognition that to maximise the benefits of improved access and poverty alleviation, a more holistic approach is essential for investments in rural roads (para. 9.1.3).	The rural road projects should be taken up as part of holistic and integrated rural development projects and should clearly pay attention to poverty issues, whereby specific poverty alleviation and human development components could be substantially expanded and strengthened (para. 9.1.8).	GOE, ONCF
1 5.	Introduction of motorized transport is slow because of its non-viability for small volumes of initial custom and inability of the rural poor to bear the high cost related fares and freights. Non-availability of affordable means of transport hampers the benefits of investments in rural roads (para. 9.1.4).	Steps should be taken to develop and promote appropriate non-motorized, motorized or intermediate means of transport (IMT) so that costs are low and freights and fares are affordable to the rural poor and promote greater usage of roads (para. 9.1.4).	GOE
1 6.	The usual tools such as the EIRR for judging merit of rural road projects are not adequate, as important qualitative benefits such as impact on poverty alleviation are not captured (para. 9.1.6).	The choice of investments for new rural road projects has to be based on informed judgements and for this purpose it is essential to develop appropriate poverty related analytical tools for policy making, conceptualisation, selection, design and monitoring and evaluation of rural road projects (para. 9.1.8).	ONIN, ONCF
1 7.	Demands for funds for maintenance on the Road Fund do not remain static particularly when more road assets are added to the network under an	The Government needs to continuously review level of fuel levies and vehicle license fee and the regular budgetary allocations to the Road Fund so that there is stable and adequate flow of	GOE

	ambitious road sector development programme (para. 9.2.5).	funds for the increasing requirements of road maintenance (para. 9.2.5).	
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