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AFRICAN DEVELOPMENT FUND

PROJECT: BEDELE – METU ROAD UPGRADING PROJECT
COUNTRY: ETHIOPIA

PROJECT APPRAISAL REPORT

Date: August 19, 2011

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Currency Equivalents

As of 18 May 2011

1 Unit of Account	=	ETB 27.2739
[1 Unit of Account	=	USD 1.624
1 USD	=	ETB 16.8258

Fiscal Year

8 July- 7 July

Weights and Measures

1metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

Acronyms and Abbreviations

AC	Asphalt Concrete	HIV	Human Immunodeficiency Virus
AC	Advanced Contracting	IDA	International Development Association
AfDB	African Development Bank	ICB	International Competitive Bidding
ADF	African Development Fund	IP/DO	Implementation Progress / Development Outcome
AADT	Average Annual Daily Traffic		
ADT	Average Daily Traffic	JICA	Japan International Cooperation Agency
AIDS	Acquired Immune Deficiency Syndrome		
BADEA	Arab Bank for Economic Development for Africa	KfW	Germany Development Bank
CBO	Community Based Organization	KF	Kuwait Fund for Arab Social and Economic Development
CSP	Country Strategy Paper		
DBST	Double Bitumen Surface Treatment	LC	Local Cost
DfID	Department for International Development	LCS	Least Costs Selection
EIRR	Economic Internal Rate of Return	MTP MDG	Medium Term Plan Millennium Development Goals
ESIA	Environmental and Social Impact Assessment	NGO NPV	Non-governmental Organization Net Present Value
ESMP	Envi. and social Management Plan	OFID	OPEC Fund for International Development
EA	Executing Agency		
ERA	Ethiopian Roads Authority	OFAG	Office of Federal Auditor General
ETB	Ethiopian Birr (Currency)	PAP	Project Affected Persons
ERAB	Ethiopian Roads Authority Board	PCR	Project Completion Report
EU	European Union	PFM	Public Financial Management
FC	Foreign Currency	QCBS	Quality and Cost Bases Selection
GNP	Gross National Product	RFP	Request for Proposals
GOE	Government of Ethiopia	RSDP	Road Sector Development Program
GPN	General Procurement Notice	RRA	Rural Roads Authority
GTP	Growth and Transformation Plan		
GTZ	German Company for International Cooperation	SPN	Specific Procurement Notice
		STI	Sexually Transmitted Infection
HDM	Highway Design and Maintenance Standard Model	TSWG	Transport Sector Working Group
		VOC	Vehicle Operating Costs

Loan Information

Client's information

BORROWER: GOVERNMENT OF THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

EXECUTING AGENCY: ETHIOPIAN ROADS AUTHORITY

Financing plan

Source	Amount (UA)	Instrument
ADF	41,060,000	LOAN
ETHIOPIAN GOVERNMENT	9,250,000	GOE CONTRIBUTION
TOTAL COST	**50,310,000**	

ADB's key financing information

Loan currency	Units of account
Interest type*	Not Applicable
Interest rate spread*	Not Applicable
Commitment fee*	0.5% per annum on the un-disbursed loan balance
Service Charge	0.75% on the amount disbursed and outstanding
Other fees*	Not Applicable
Tenor	50 years
Grace period	10 years
EIRR, NPV (base case)	14.5%, USD 17.1 m
EIRR (base case)	Not applicable

**if applicable*

Timeframe - Main Milestones (expected)

Concept Note approval	June , 2011
Project approval by the Board	November, 2011
Loan Signature	December, 2011
Effectiveness	April, 2012
Last Disbursement	December, 2017
Completion	October, 2016
Last repayment	March, 2062

Project Summary

Project Overview

The Bedele – Metu Road Upgrading Project consist in upgrading of an existing 112km road to all weather high standard road with a wide carriageway and asphaltic surfacing. The road will connect the two towns of Bedele and Metu with Addis Ababa city. The expected outcomes will include improved road network, reduced travel time, increased travel speeds and reduced vehicle operating costs. The project will cost UA 50.31 million and will be financed by an ADF loan of UA 41.06 million and a Government of Ethiopia contribution of UA 9.25 million. The project will be implemented over a period of 4 years including procurement and construction.

For the most part, the project road will serve the Illu Aba Bobra zone (covering Bedele and Metu towns) with a population of about 1.3 million people. The direct beneficiaries of the project will include small holder farmers, traders, agro-businesses and transporters. The general population will have improved access to social amenities and economic centres. The beneficiaries will participate in the project's implementation through provision of labour and other basic necessities such as food and accommodation to immigrant workers. Others will be engaged in the tree planting exercise which is part of the project.

Needs Assessment

The main economic activity within Bedele - Metu corridor is coffee farming and small scale agro-based industries including a beer brewery and a sugar factory. However, the area has not been well connected with roads to Addis Ababa, the economic centre of Ethiopia. The improved Bedele-Metu road will ease transport and enhance exploitation of the area's agricultural potential, leading to increased output and improved market conditions. At regional level, the government has initiated a program to connect Addis Ababa with the South Sudan through Metu and Bedele and the 580km road to the South Sudan/Ethiopia border is being developed by BADEA and OFID. The missing link is the 112km Bedele – Metu road, which the Bank has been requested to fund.

Bank's Added Value

The Banks 2008-12 Medium Term Strategic Plan has prioritized infrastructure development, focusing on selected key projects that have a high impact and preferably in areas where the Bank has a comparative advantage. The government has unveiled its fourth USD 7 billion Road Sector Development Program (RSDP IV) (2011-2015) in which it plans to construct 22,200 km of trunk roads, including the project road. The government has mobilized 47% of the required resources and therefore requires assistance from other development partners to cover up the gap. In this respect, the Bank, being the third largest donor in the transport sector is well positioned to continue making strategic contribution to the sector and particularly in regions where it has successfully implemented projects.

Knowledge Management

The knowledge generated during project preparation and implementation will be captured and analyzed to improve future project design particularly in the tree planting exercise and advance compensation of PAPs. Furthermore, as recommended in the current CSP, the Bank is planning a transport sector wide study to analyze all the issues pertaining to the sector, including the performance of Bank funded projects and beyond, focusing on the future transport needs and taking into consideration the government RSDP IV and the GTP (2011-2015). The objective of this study will be to capture the strengths, the weaknesses, the opportunities and threats pertaining to the sector and to build knowledge which will be shared amongst all stakeholders and use the same in the development of future projects.

Result-based Logical Framework

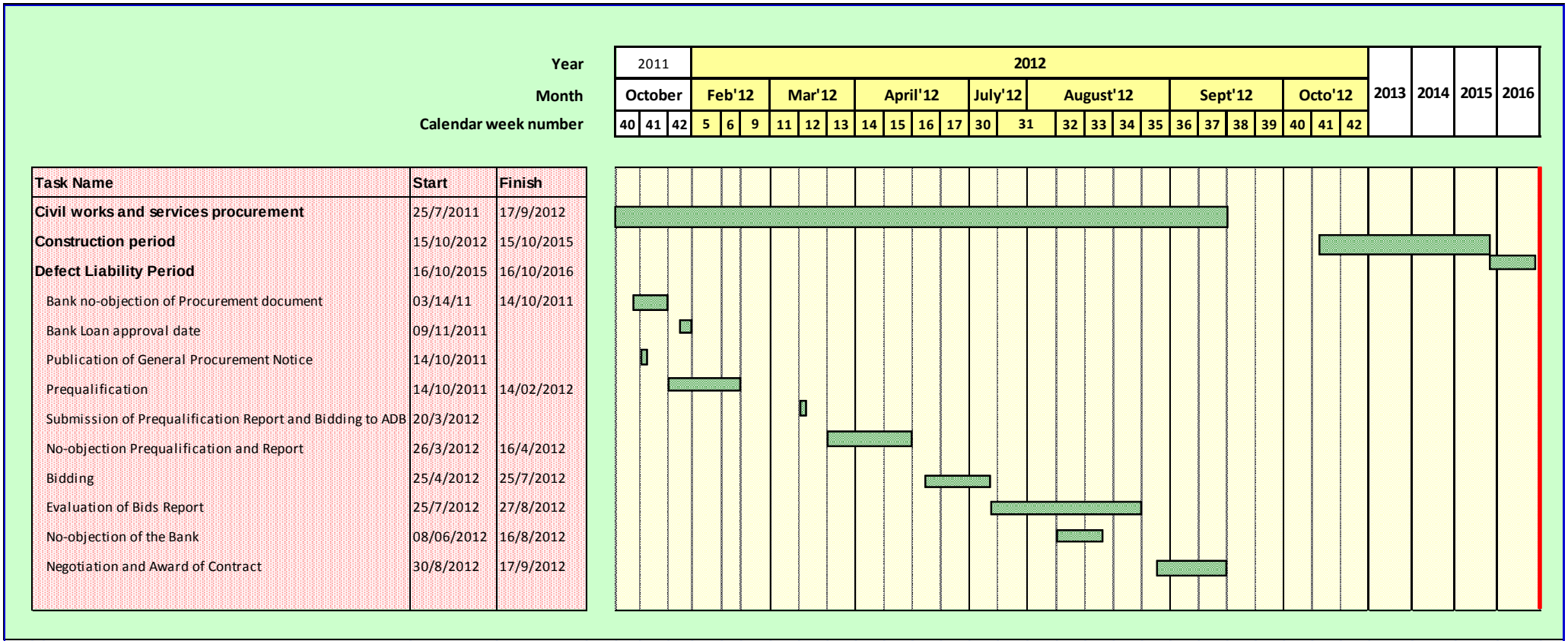
Country and project name: ETHIOPIA: BEDELE – METU ROAD UPGRADING PROJECT
Purpose of the project : To connect Bedele and Metu towns with a good all weather road and thereby connect these remote areas to Addis Ababa

	RESULTS CHAIN	PERFORMANCE INDICATORS: Indicator (including CSI)	Baseline : 2010	Target : 2015 / 2036	MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES
IMPACT	Impact • Increased agricultural productivity • Improved socio-economic status	• Annual growth in agricultural sector • Annual growth in overall economy	Agric : 8.5% pa Real GDP : 11%pa	Agric : 8.7% pa* Real GDP: 11% - 14.9%pa* (see Notes below)	National Statistics Office	**Risk/Assumption:** Increased general economic growth assumes strict implementation of the Governments 5 year plan (GTP). **Mitigation:** The GoE has demonstrated political commitment to implement the GTP and this commitment is projected to continue in the near future.
OUTCOMES	Outcome 1 Expanded / improved road net work	Road density & Road condition	44.4km/1000 sq.km & (80%**)	123.7km/1000sq.km & (87% **)	Ethiopian Roads Authority (EA)Statistics Department, Monitoring & Evaluation	**Risk:** The road will have negative social impact (increased road accidents, HIV/AIDS incidences), environmental degradation, climate change impacts **Mitigation:** the project has sufficient awareness program to be implemented duration period of project including sensitization on HIV/AIDS/road safety; erosion &flood control, controlled excavations for construction materials, plant 500,000 trees. Engineering safety solutions incl. road signs/ speed calming measures are provided. Stone construction material etc are tested for climate proofing
	Outcome 2 Reduced travel costs	Annual av. composite VOC/veh km	USD 0.626	Reduced by 37% to USD 0.392		
	Outcome 3 Reduced travel times (increased travel speeds)	Average vehicle travel time (Av vehicle speeds)	3 hrs (Av speed of 37km/h)	Time reduced by 33% to 2 hrs (Av. Speed 60 km/h)		
OUTPUTS	**Component 1: Upgrade the road** 1.1: Upgraded Bedele-Metu road **Component 2: Implement ESMP** 2.1: Workers / PAP socially sensitized 2.2: Forests planted 2.3: PAP compensated /r resettled	• Condition of Bedele-Metu road • Full execution of the ESMP and RAP	• 112km of road in poor condition • No action has taken place	• 112km of road in good condition • ESMP+RAP fully executed***	Project Progress reports by EA and the Project Completion Report	**Risks**: 1.Project delays due low capacity of EA and contractors; 2. Delay in compensation of PAP,3. government delay in payment to contractors. **Mitigation:** 1. Concerted efforts to restore EA capacity underway; only performing contractors will qualify to bid. 2. The RAP implementation will start before loan approval to eliminate delays caused to the first disbursement. 3. Bank has waived counterpart funding. Other measures included provision of price / physical contingencies.

KEY ACTIVITIES: COMPONENTS	INPUTS: Costs - millions UA:		Costs - millions UA (Cont.):		Sources of financing (million UA)	
Component 1: Upgrade the road						
1.1: Civil works	Civil Works	33.31	**Project cost**	**41.06**		
1.2: Supervision services	Supervision Services	1.37	Tax	6.16	ADF Loan	41.06
1.3: Audit services	Audit consultancy service	0.21	Compensation of PAP	3.09	GOE	9.25
Component 2: Implement ESMP	**Base Cost**	**34.89**	**Grand Total Cost**	**50.31**	**Total**	**50.31**
2.1: Sensitization on social issues (gender/HIV/road safety)	Physical Contingencies	3.49				
2.2: Forestation	Price escalation	2.69				
2.3: Compensation of PAP	**Project cost**	**41.06**				

NOTES . 1. *National economic projections up to 2015 based on the Growth & Transformation Plan of the Government of Ethiopia (2011-2015),
2. **Acceptable (fair+ good) road condition base is 80% and target is 87%
3. ***40% local jobs created , 30% for women; Nine communities, sensitized on road safety, gender, HIV/AIDS. Approx. 500,000 tree seedlings planted

Project Timeframe – Bedele – Metu Road Upgrading Project



Task Name	Start	Finish
Civil works and services procurement	25/7/2011	17/9/2012
Construction period	15/10/2012	15/10/2015
Defect Liability Period	16/10/2015	16/10/2016
Bank no-objection of Procurement document	03/14/11	14/10/2011
Bank Loan approval date	09/11/2011	
Publication of General Procurement Notice	14/10/2011	
Prequalification	14/10/2011	14/02/2012
Submission of Prequalification Report and Bidding to ADB	20/3/2012	
No-objection Prequalification and Report	26/3/2012	16/4/2012
Bidding	25/4/2012	25/7/2012
Evaluation of Bids Report	25/7/2012	27/8/2012
No-objection of the Bank	08/06/2012	16/8/2012
Negotiation and Award of Contract	30/8/2012	17/9/2012

REPORT AND RECOMMENDATION OF THE MANAGEMENT OF THE ADB GROUP TO THE BOARD OF DIRECTORS ON A PROPOSED LOAN TO ETHIOPIA FOR THE BEDELE – METU ROAD UPGRADING PROJECT

Management submits the following Report and Recommendation on a proposed ADF loan for UA 41.06 million to finance the **Bedele-Metu Road Upgrading Project** in Ethiopia.

I – STRATEGIC THRUST & RATIONALE

1.1. Project linkages with country strategy and objectives

1.1.1 The Road Sector Development Program (1997 - 2010)

The transport sector is critical to the economic and social development of Ethiopia and this has been recognized in the recently formulated national development plan, namely the Growth and Transformation Plan (GTP, 2011-15). The road transport is the dominant mode of transport in the country and accounts for more than 95% of freight and passenger movements.

Ethiopia's current 49,000 km road network of classified roads, although it has expanded tremendously from 26,550km in 1997, is still limited as to hamper the country's development. In this respect therefore, in 1977, the government formulated the Road Sector Development Program (RSDP) that has directed the road sector development since then, with considerable support from the development partners. The entire Bank's support since 1997 to the road sub sector has been made within this framework.

The objective of the RSDP is to expand the road transport infrastructure and to improve the existing network through upgrading and road maintenance as well as build domestic contracting capacity. The RSDP phases I, II and III from 1997 to 2010 are estimated to have cost USD 5.5 billion (2009, USD 1.0 = ETB 10.995) and the funds were used to construct over 23,450 km of road including 2,450 km of new and upgraded asphalt roads. The Government was the highest contributor at 53.8%. The RSDP has achieved most of its objectives .An expanded treatise of the sector is included in Annex A

1.1.2 Bank Intervention forms part of Road Sector Development Program IV (2011-15)

The new RSDP IV is a 5 year USD 7 billion program, and the government plans to construct, amongst others, over 15,000 km of classified roads (excluding feeder roads) which will increase road density of classified road network from 44.4km/1000 sq.km to 124 and improve the proportion of roads in acceptable (fair and good) condition from 80% to 87% . The Bank's intervention in the road sub sector within the next 5 years (2011-2015) will be contribution to this program and the Bedele - Metu Road Upgrading Project is the continuation of Bank's intervention in the broad RSDP program.

Furthermore, the Bedele – Metu Road project is part of a sub-program in the Oromia Region of Ethiopia within which the government, in partnership with donors, is intending to (a) improve the local road network and (b) to connect Addis Ababa with South Sudan and consequently to the Port of Djibouti. The 803 km road connecting Addis Ababa to South Sudan/Ethiopia border through Bedele, Metu and the border town is being developed by various donors namely the KfW (105 km Addis Ababa – Ambo), KfW(65km Ambo – Gedo), World Bank (131km Gedo-Bako-Nekempt), BADEA/OFID/KF (96 km Nekemte-Bedele), BADEA/OFID (Metu-Gore-Gambela, 160km) and GoE (124 Gambela-Jakawo). The 64km

road linking Bedele to Dembi and onward to Jimma is being funded by BADEA. The missing link within this network is the 112km Bedele – Metu road which the government has requested the Bank to fund its upgrading to all-weather road.

1.1.3 Strategic link between the project and Ethiopia's development objective

The Bedele - Metu Road Upgrading Project is in line with Ethiopia's 5 year Growth and Transformation Plan (GTP, 2011-15) and the Bank's Country Strategy Paper (CSP, 2011-2015). The GTP sits on seven pillars and key amongst them are: (i) infrastructure development, (ii) agricultural development and (iii) creation of favorable conditions for the industrial development. In this respect the government plans to construct over 22,200 km of trunk roads and Bedele – Metu road is amongst priority roads in this program. Bedele-Metu Road Upgrading project is also in line with the current CSP (2011-2015) whose first pillar is enhancing access to infrastructure, taking full consideration of the GTP priorities. The implementation of the project will contribute to the achievement of the country's development objectives by improving the quality and quantity of infrastructure which will in turn service the agricultural and industrial sectors.

1.2. Rationale for Bank's involvement

The rationale for the Bank's intervention is based on: (a) The Bank's 2008-12 Medium Term Strategic Plan which has prioritized infrastructure development, focusing on selected key projects that have a high impact and preferably in areas where the Bank has a comparative advantage. The Bank is active in the south-west region of Ethiopia where two major Bank-funded projects covering over 400km of road construction are ongoing. (b) The government is unable to mobilize all the required funds from its own resources to finance the USD 7 billion RSDP IV (2011-2015) and requires assistance from other development partner. In this respect, the Bank, being the country's third largest donor in the transport sector is well positioned to continue making strategic contribution to the sector. (c) The road also contributes to regional integration by connecting Ethiopia to South Sudan, thereby supporting one of the Bank's strategic pillars.

1.3. Donor coordination

Aid coordination in the transport sector is carried out through the Transport Sector Working Group (TSWG) of which the Bank is a member. The TSWG meets quarterly and is currently co-chaired by the Ministry of Transport and the EU. The joint financing under the RSDP has facilitated the complementarities of the development partners' efforts and internal donor co-ordination. The amount of donor support towards the road sector has grown eight fold from ETB 0.427 billion in 1997 to ETB 3.45 billion in 2010. Out of the 13 years (1997-2010) total public expenditure on the sector of ETB 60.355 billion, the World Bank is the largest donor, contributing 11.8% of the total disbursements, followed by EU (8.6%) and then the AfDB (2.5%)[1]. A further analysis of donor interventions is given in Annex A4.

[1] Source: RSDP-13 Years Performance (Jan 2011), Ethiopian Roads Authority

Table 1.1: Donor Coordination

Players - Public Annual Expenditure (average) 1997-2010**		
Government	**Donors**	
UA 116 m	UA 54m	
[68.2%]	[31.8%]	
		IDA 11.8%
		EU 8.6%
		AfDB 2.5%
		China 2.1%
		Japan 1.4%
		Others 5.4%

Level of Donor Coordination	
Existence of Thematic Working Groups	[Yes]
Existence of SWAPs or Integrated Sector Approaches	[Yes]
ADB's Involvement in donors coordination**	[Member]

II – PROJECT DESCRIPTION

2.1 Sector Goal and Project Objective

The goal of the transport sector is to contribute to Ethiopia's social and economic development and poverty reduction efforts by providing an efficient transport system, resulting in improved access, increased movement of people and goods, improved agricultural production and marketing, a better access to social and economic facilities, and increased economic exploitation of the natural resources, amongst others.

The project objective is to connect Bedele and Metu towns with a asphalt concrete road and thereby connect the region with the commercial and administrative city of Addis Ababa. The outcomes include improved road network, reduced travel times and travel cost for all road users and improved road safety, HIV/AIDS awareness, gender sensitization and forestation.

2.2 Project components

A. Construction of the road works

I. Bedele – Metu road works (Est. cost of UA 33.31 m)

Upgrading of the 112 km Bedele – Metu road section will involve the widening of the existing 6 m wide road to a 10 m road cross section (7m carriageway plus 2 x 1.5 m wide paved shoulders), the construction of a pavement with asphalt concrete surface, improvement of drainage facilities and road safety through the enhanced road alignment. Along major towns, the road width will be widened to 14 m to provide for vehicle parking plus 2.5 m wide walk paths.

II. Supervision Consultancy Services (Est. cost of UA 1.37 m)

Consultancy services for the supervision of roads work will include quality and quantity control of all permanent and temporary works, including the control and monitoring of the day to day activities of the contractor, reporting to the executing agency on all matters of project progress, advising the executing agency on payment and claims and all matters pertaining to technical and financial aspects of the contract, amongst others. The services will include the supervision of the full implementation of the Environmental and Social Management Plan and compensation/resettlement of People Affected by Project. The consultant will also collect designated baseline data.

III. Project audit consultancy services (Est. cost of UA 0.21 m)

Consultancy services for audit will include annual independent audit of the managerial, financial and technical aspects of the project implementation.

B. Implementation of the Environmental and Social Management Plan

IV. Forestation (Est. cost of UA 0.1m): Several areas to be agreed between the contractor and the local leadership will be foretasted by planting 500,000 trees. The cost is included in the works.

V. Sensitization on social issues (Est. cost of UA 0.15m): Consultancy services for Road Safety campaign, HIV/AIDS awareness and gender sensitization. The cost is included in the works**.**

VI. Compensation and Resettlement of PAP (Est. cost of UA 3.09 m): Implementation of the Resettlement Action Plans including resettlement and compensation of people along the project road who are affected by its implementation.

Table 2.1 : Project components

nr.	Sub-Component name	Est. cost UA millions*	Sub-Component description
A.I	Bedele – Metu road works	33.31	▪ Upgraded112 km road to AC ▪ Widen road to 7m carriageway and 1.5 x 2 sealed shoulders widened to 2.5m in towns ▪ Implementation of the ESMP
A.II	Supervision Consultancy Services	1.37	▪ Monitor and evaluate the daily activities of the works contractor and advice the EA on all matters including Control quality and quantity of works ▪ Supervise the implementation of ESMP ▪ Collect baseline data
A. III	Audit consultancy Services	0.21	▪ Undertake project financial, and management audit (UA 0.11m) and project technical audit (UA 0.1m)
B.I	Forestation	0.1	▪ Plant 500,000 trees in selected areas
B.II	Sensitization	0.15	▪ Dissemination of information on road safety ▪ Provision of HIV/AIDS awareness programs, etc
B.III	Compensation and Resettlement of PAP	3.09	▪ Identify the PAPs in the ROW ▪ Assess the value of their assets on the ROW ▪ Compensate and / or resettle the PAPs

* *Costs excl. contingencies*

2.3 Technical solution retained and other alternatives explored

Solutions: Several alternatives for design and maintenance of the road on the basis of total life cycle costs were considered. The design recommends a road carriageway to be surfaced with asphalt concrete (AC) and shoulders sealed with surface dressing. The main structural elements include 200mm thick layer of graded crushed stone base on a 350mm layer of natural subbase material. This structural design is in conformity with the national standards and is similar to road sections in the vicinity. The road crosses five existing bridges. Four of them were found structurally and hydraulically sound. The fifth bridge was found hydraulically insufficient and there is a provision to increase its capacity to take increased floods. This design was found to be adequate technically, economically and environmentally.

Alternative considered: Other pavement structures surfaced with double seals of surface dressing (DBST) were considered. However, economic analysis showed that the EIRR for the DBST was higher by a very small margin, implying that the economic returns using either DBST or AC are of the same order. Therefore, this being a high precipitation area with heavy rainfall six months in a year, surface dressing was considered insufficient to protect the pavement structure from water ingress. In addition, the road network linking up the project road and which is serving as a regional connector is constructed to asphalt concrete standard and as such, it would be preferred to maintain the same standard on the project road.

2.4. Project type

The Bedele – Metu Road Upgrading Project is designed as a standalone operation within a multi-donor supported sub-program whose objective is to connect Ethiopia with South Sudan as well as improve the local road network. In addition, this project is within the broad five-year RSDP-IV (2011-15) program which the government anticipates scaled up donor support. All other donors are using stand alone operations in the transport sector. The exception here is the European Union which is using sector budget support mechanism. In order to move towards full sector budget support, the Bank is planning to undertake a broad audit of the country's experience and readiness for efficient use of sector wide support.

2.5. Project cost and financing arrangements

i. Project Costs

The project costs are based on the engineering design done by a consulting firm using funds provided by the World Bank. At the time of appraisal, the cost estimates were found to compare well with the current market rates. The total cost of the Bedele – Metu Road Upgrading Project is USD 81.55 m (UA 50.31 m) including road works, consultancy services, VAT tax and compensation of people affected by the project. The project cost exclusive of tax and compensation is USD 66.56 m (UA 41.06 million). The table below outlines the cost of each component. The foreign currency requirement will be 70% of the total project cost.

Table 2.2: Project cost estimates by component [amounts in million]

	Project Components	Costs in millions						% Forex
		USD			UA			
		Forex	Local	Total	Forex	Local	Total	
i	Civil Works	37.80	16.20	53.99	23.32	9.99	33.3	70%
ii	Works supervision Services	1.56	0.67	2.22	0.96	0.41	1.37	70%
iii	Audit consultancy	-	0.33	0.33	-	0.21	0.21	0%
	Base Cost	39.35	17.20	56.55	24.28	10.61	34.89	
	Physical Contingencies 10%	3.94	1.72	5.66	2.43	1.06	3.49	
	Price escalation- 7%	3.03	1.32	4.35	1.87	0.82	2.69	
	Project Cost	**46.3**	**20.2**	**66.56**	**28.57**	**12.49**	**41.06**	70%
	VAT (15% of Project Cost)	-	9.98	9.98	-	6.16	6.16	
v	Compensation of PAP	-	5.01	5.01	-	3.09	3.09	
	Grand Total Cost	**46.32**	**35.24**	**81.55**	**28.57**	**21.74**	**50.31**	

1. Foreign exchange (18/05/2011): UA 1 = ETB 27.2739, USD 1= ETB 16.8258, UA 1 = USD 1.621
2. Civil works include UA 0.25 m allocated for implementation of ESMP

ii. Sources of finance

The Bank will be the lead financier and will provide an ADF loan amounting to USD 66.38 million (UA 41.06 m - about 82% of total project cost). The government will contribute the balance of USD 14.99m (UA 9.25 m - about 18%) to fund tax and compensation of PAP, all in local costs (see Table 2.3 below). The Bank loan funds will cover all the foreign currency costs and 64% of the local costs. The government will not be required to contribute counterpart funding to the Project Costs.

Table 2.3: Sources of financing [amounts in million]

Government / Bank contributions	Resources in Millions						% Total
	USD			UA			
	Forex	Local	Total	Forex	Local	Total	
GoE		14.99	14.99	-	9.25	9.25	18%
Bank	**46.32**	**20.24**	**66.56**	**28.57**	**12.49**	**41.06**	82%
Total	46.32	35.24	81.55	28.57	21.74	50.31	100%

Table 2.4: Project cost by category of expenditure [amounts in million UA equivalents]

Categories of Expendicture	UA Millions			% of FC
	FC	LC	Total	
Works	23.32	9.99	33.31	70.0%
Services	0.96	0.62	1.58	60.9%
Base cost	24.28	10.61	34.89	
Physical Contingencies 10%	2.43	1.06	3.49	
Price escalation- 7%	1.87	0.82	2.69	
Project cost	28.57	12.49	41.06	69.6%
Taxes and compensation	-	9.25	9.25	0.0%
Grand Project Cost	**28.57**	**21.74**	**50.31**	56.8%

Table 2.5: Expenditure schedule by component [amounts in million UA equivalents]

	Annual Disbursements in UA Millions					
Year of implementation	**2012**	**2013**	**2014**	**2015**	**2016**	**Total**
Works	7.84	13.72	15.68	1.96		39.21
Services	0.23	0.46	0.46	0.46	0.23	1.86
Project Cost	**8.07**	**14.19**	**16.15**	**2.42**	**0.23**	**41.06**

2.6. Project's target area and population

The area served by the Bedele – Metu road project is Illu Aba Bobra zone (in Oromia Region) with a population of 1.3 million (2007 census). Agriculture is the backbone of the regional economy. The direct project beneficiaries will be the farmers, coffee traders, transporters and those in the agro-business. All these groups will benefit from an improved road connection to Addis Ababa through reduced travel costs, reduced time of travel and access to a reliable road network. The project impacts will include improved access to large markets, increased agricultural production and trade, as well as better access to social amenities. In addition, the local population will experience increased economic activities during the road construction.

2.7. Participatory process for project identification, design, implementation

The project design and appraisal included full consultation in a participatory manner with all key stakeholders; governments departments, development partners, private sector and the people affected by the project. Woreda / district officials and PAPs in Choru, Yayu, Hurmu, Metu and Bedele were consulted through public meetings, household questionnaires and market surveys. Consultations took place at the time of establishing the preferred alignment and sourcing of materials and again during the environmental and social surveys. Focus group discussions with vulnerable groups were carried out. In all, 801 people were consulted and all issues raised have been addressed in the project design. Local communities will participate in the project implementation of the ESMP especially in identification of locations where forestation will take place and in its planting trees. The appraisal team held extensive and positive consultations with the donor community particularly the World Bank and the EU who are the largest donors in the transport sector. Government departments in charge of environment protection, gender issues, administration, finance, maintenance, including contractors associations and other private sector participants were consulted during appraisal.

2.8. Bank Group experience, lessons reflected in project design

2.8.1 Bank Activities: Since 2001, the Bank has approved five loans and one grant towards the road transport sector amounting to UA 214 million (25% from the Regional Resources) to fund the rehabilitation of 790 km of roads in Ethiopia. Out of this, 190 km Butajira-Hossana-Sodo road was recently completed and the rest approximately 600km are under implementation. Brief description of the performance of these projects is given in Annex B1. The three ongoing projects have experienced delays at effectiveness, commencement of works and during implementation. The causes for the delays have been analysed and measures taken in the design of Bedele-Metu road project to reduce the probability of the same events occurring.

2.8.2 Lessons learnt in Project Design from ongoing / completed projects which have been applied in design of Bedele-Metu road include: (a) the need for the government to compensate PAPs as early as possible and in this project, the government intends to compensate PAPs within the first road section to be constructed before Board approval date (b) preventing contractors having poor performance in other projects to be qualified for bidding. In this case, the prequalification process will ensure that only qualified contractors are invited to bid (c) to avoid delays in project start up, detailed design must be satisfactorily completed and project appraisal executed soon afterwards, to ensure that the design facts remain valid (d) in the event of multiple contracts in one project, bid documents should discourage the award of more than one contract to the same contractor, (e) delays at project effectiveness could be reduced by early engagement of the authorities in charge of ratifying the loan and application of Readiness Filter which tracks project preparedness. In addition, projects should employ advance contracting procurement procedures as often as possible.

2.9. Key performance indicators

The key performance indicators are shown in the results-based logframe and for purposes of measuring the outputs and outcomes, they include (i) Condition and density of classified road network in km per 1000 sq. km area (ii) Composite Vehicle Operating Costs (iii) Travel time and average vehicle speeds. Road accidents data will be developed and used.
These indicators are part of an elaborate system developed by the government to measure the performance of the road sector, particularly the sub sectors contribution to achieving MDGs.

The performance evaluation mechanisms include Transport Poverty Observatory study which is ongoing and which is evaluating the social, economic and environmental impact of road transport investments on four corridors and to establish the relationship between transport investment and poverty alleviation. Other MDG performance indicators and measuring mechanisms have been developed which are intended to monitor and analyze the contribution of road sector development toward achieving the MDGs. The latest report on Ethiopia's match towards achievement of the MDGs dated September 2010 captures some of these indicators, showing a positive contribution by the road sector development towards attainment of the MDGs

III – PROJECT FEASIBILITY

3.1 Economic and Financial Performance

The methodology for the economic analysis: The methodology is based on cost benefit analysis by comparing the "with" and "without " project scenarios over a period of 20 years, using the Highway Development and Management Model (HDM-4). The economic costs consist of (i) the capital investment costs and (ii) the routine and periodic maintenance expenses. The road has an estimated annual average daily traffic (AADT)of 305 vehicles per day; the traffic projection is discussed in Annex B2. The benefits consist of savings in (i) vehicle operating costs and (ii) motorized traffic travel time for passenger and cargo. The measures of project worth used are the EIRR and NPV at 10.23% discount rate, which is the opportunity cost of capital in Ethiopia.

Assumptions taken and the Economic Analysis Result: The project construction is assumed to commence in October 2012. With a construction period of 36 months, the first year of opening the road to traffic is assumed to be 2016 and the analysis period goes up to 2035. The maintenance strategies "Without project" do minimum: and "With project" improved road have been considered in the analysis. Residual values are assumed as 20 % of the initial capital investment and credited to the project in the final evaluation year of 2035. The economic costs taken into account in the cost benefit analysis are the Road Agency costs in the "with" and "without" project scenarios, which include both the capital investment cost of upgrading to AC for 112 km of the project road and the maintenance cost. Construction cost was revised in May 2011 to take into consideration the detailed engineering design cost estimate, the recent tender offers and the 2011 oil based input prices into civil works. The revised economic capital investment cost of Bedele – Metu road is put at ETB 865.79 million (ETB 7.73 million per km) for AC intervention. A base case of USD112/barrel was used for the cost estimate. In addition a sensitivity analysis based on 33 % increase of oil price (USD150/barrel) above the base case was carried out.

The principal benefits of the road rehabilitation project are expected to derive from reductions in road user costs, comprising VOC and passenger time costs, as a result of lower road roughness and higher average travel speeds. The annual average composite VOC is estimated at USD 0.626/veh-km on the existing poor bitumen road would be reduced by 37% to USD 0.392/veh-km when the project road is completed with AC pavement intervention for the 112 km of the project road and open to traffic in 2016. During the same period, average travel time is reduced by 33% from 3 hours on the existing paved road to 2 hours when the project road construction is completed. The summary of the economic analysis result is presented in Table 3.1. The traffic analysis and detail economic analysis results are presented Annex B2.

Table 3.1: Summary of the Economic Analysis

Parameter	**Quantum**
FIRR, NPV (base case)	(Not Applicable)
Economic Internal Rate of Return(EIRR)	**14.5 %**
Economic Net Present Value (NPV) in ETB	ETB 287.04 million
Sensitivity of EIRR of concurrently 20% increase in cost and 20% decrease in traffic	**10.3%**

3.2. Environmental and Social impacts

The project is classified as a Category 1 based on its potential adverse social and environmental impacts - mainly because of the number of people to be displaced and the fact that it is passing through a forest. Accordingly a full Environmental and Social Impact Assessment (ESIA) was carried in view of the requirements of the Bank's Environmental and Social Assessment Procedure for Public Sector Projects (2001). In addition an Environmental and Social Management Plan (ESMP) and the Resettlement and Compensation Plan (RAP) have been developed. The ESIA and RAP summary have been disclosed according to the Bank's requirements.

3.2.1 Environment: A review of the documentations prepared for the project shows that the adverse impacts of road project can be effectively managed in line with the Bank's procedures. It is noted that the road route is along an existing alignment and as such will lead to minimal land acquisition for widening the road. The project will mitigate environmental impacts by providing erosion and flooding control measures. In addition it is envisaged that the road will improve security in the area and thus contribute to the protection of nature conservation areas from illegal logging and poaching. It is noted that the road alignment passes in the vicinity of the Geba-Dogi Natural Forest Conservation Area and the Dogi-Saki Forest Conservation Area.

The adverse environmental impacts that may result due to the implementation of the project will include (i) impacts on wildlife due to disturbances of habitats, (ii) vegetation clearing, (iii) exploitation of material sources, site nuisance, production of waste, risk of pollution; and (iv) noise nuisance and environmental pollution from construction materials. Adequate measures for mitigating these negative impacts have been identified and have been described in the ESMP. These measures include controlled excavations and sourcing of construction materials, traffic control, controlled location of site works from sensitive environmental receptors.

As part of the mitigation measures, the project activities include a 500,000 trees planting program in specific areas to be identified during project implementation. This is towards the replacement of cleared vegetation and will also contribute to strengthen the forest management capacity of the local communities and government agencies.

Notably the project design requires the retention of qualified environmental and social experts by the contractors and supervisory consultants, as well as, enforceable contractual terms that will encourage the implementation, monitoring and reporting of the technical ESMP.

3.2.2 Climate Change: The climate change projection for Ethiopia reveals that, the mean annual temperature will increase in the range of 0.9 – 1.1oC by 2030; in the range of 1.7 – 2.1oC by 2050 and in the range of 2.7oC – 3.4oC by 2080 compared to the 1961 – 1990 temperatures. The projection indicates that a small increase in annual precipitation will also be expected. In this context, impacts and hazards related to climate change have been manifested in Ethiopia through flooding, heavy rains, strong winds, frost, heat waves (high temperature) etc.

In terms of adaptation, the community has been exercising several traditional coping mechanisms for the climate variability, while government has also provided national policies

and strategies; several sectoral policies and guidelines that have substantial elements of climate change adaptation. Moreover, National Adaptation Plan of Action (NAPA) has been prepared and is expected to be implemented soon. NAPA targets on activities that enable minimize hazards to be caused due to climate change.

In view of these issues, the engineering design of the road has taken into consideration the adverse effects of climate change in providing sufficient drainage facilities and raising the level of road embankment in low flat sections. In addition, the stone aggregate materials to be used in the road works especially the surfacing which is exposed to weather elements will be tested to ensure that they are not prone to extreme weather attack.

In facilitating access to market and agricultural production inputs, the road project will contribute in strengthening the food security and adaptation capacity of the beneficiary's rural agricultural economy to climate change. The tree planting program will also contribute to offsetting green-house gas emissions arising from increased traffic on the road.

3.2.3 Gender: The project is not expected to negatively affect any of the gender groups in a significant way. It, however, suffices to mention that both during implementation and operation, both men and women will stand to benefit from the project, notably through direct employment opportunities; and enhanced economic activities due to an improved road and improved transport systems. While the road works will improve opportunities for getting jobs at the construction sites, traditions and practices are often discriminatory against women as construction jobs are considered to be the preserve of men. The situation in Ethiopia has proven for itself that most women participate in construction works given the opportunity. For that matter, the project has recommended that the contractors should strive to give about 30% of unskilled jobs to women. In addition the Contractor will be required to make provision for gender sensitive camp facilities, and promote gender awareness and sensitization at the camp and at community level. Given that most women are engaged in road-side trading, the project will improve vending conditions and road safety, the road design will incorporate provision of purposefully service roads and parking bays where women and men shall sell their produce. Increased incomes associated with project workers will increase demand for other services including accommodation, food-stalls and cleaning at the site camp.

Among the negative impacts that may be associated with the project are the displacement of homes and economic activities either on a temporary or permanent basis. The presence of construction workers earning above average incomes and often coming without their families may threaten the security of marriages, unwanted pregnancies among girls, school dropouts, early marriages and the spread of HIV/AIDS/STI whose incidence is higher on women than men. The project has taken into consideration measures for compensating for resettlement and loss of income due to the project. In cases where the affected persons are vulnerable which includes female headed households and the elderly, special support has been included in the project design. Furthermore, the project will offer HIV/AIDS/STI prevention and awareness campaigns and activities which will give an opportunity to women and girls, who otherwise may not have had the chance, to receive first-hand information regarding the epidemic. According to experience obtained elsewhere, a consequence of involuntary resettlement is that women and girls tend to suffer disproportionately to men and hence the project shall take this into consideration as it deals with the vulnerable affected persons.

3.2.4 Social: The Bedele – Metu - Nekempt road is a major link between Addis – Nekempte-Ghimbi-Assosa highway in the North West and Addis- Jima –Metu – Gambela

highway in the Eastern side. The Gambela Region area will hence get additional alternative improved road route to travel to Addis Ababa and to other urban centers like Gimbi, Nekemte, Ambo. The improved road condition will reduce traffic accidents and vehicle damage; reduce health problems related to dust. East Welega and Illubabor zones in general and the woredas traversed by the road project in particular are endowed with natural resources and high producer of commercial crops including coffee and livestock.
Specific to the project, the population along the project area shall benefit from direct and indirect job opportunities especially in semi-skilled and unskilled jobs. It is expected that approximately 500 people will be required at construction sites where-by 40% of these jobs will go to local people among which 30% will be women. More employment opportunities shall be created following the investment and development activities that will follow in the area. Farmers will be able to expand production due to eased access to inputs and markets, hence better prices for their products. Increased agricultural and industrial development of the area will attract more people and increased traffic will in turn encourage road side business and trade opportunities.

There is negative impact as well resulting from the involuntary resettlement due to acquisition of the right of way by ERA. In order to mitigate negative impacts, a full resettlement action plan (RAP) has been prepared and will be implemented in accordance with the AfDB's Involuntary Resettlement Policy. The other associated risk to the people living along the area and construction workers is the spread of communicable diseases such as HIV/AIDS and malaria. The project has set aside USD125,926 for implementation of HIV/AIDS awareness and prevention programs. The ESMP has elaborated measures to be taken to ensure that all borrow areas are covered and rehabilitated to prevent creation of breeding places for mosquitoes.

Increased traffic and speed may increase the occurrences of accidents. Road safety has, therefore been included in the project design through engineering and public education and road safety campaigns. Measures include separation of motorised and non-motorized traffic in busy places; provision of sealed and un-sealed shoulders; speed calming measures like humps and rumble strips in built up areas; appropriate and adequate road signage; and construction of parking areas for heavy vehicles and bus stops. In collaboration with the National Road Safety Council, there will be road safety awareness and education campaigns aimed at the youth (in- and out-of-school), marketers especially women, cyclists, bus operators and communities at village level on the proper use of the road and the importance of safeguarding road signs.

3.2.5 Involuntary resettlement

During the ESIA exercise it was noticed that a number of people had encroached or were residing in the right of way. Some have dwelling houses and others had stalls for fresh fruit and vegetables among others. The survey revealed that an estimated 3974 people from 712 households would potentially be affected by the road works. For that matter a full Resettlement Action Plan was prepared and will be implemented to ensure that all affected persons (PAPs) will be fully compensated (at full cost and replacement cost); and timely so and assisted to move to new premises outside the right of way. The resettlement and compensation exercise will have been completed, section by section, before contractors will take over each road section to be constructed.

An estimated USD 5 million has been earmarked for resettlement, compensation, and implementation and monitoring. Institutional roles and responsibilities for its implementation are outlined in Annex B3.4.The implementation of the RAP shall provide special attention to

the vulnerable groups that include the poor, the aged, female and child headed households and the people with disability. Extra support shall be provided which will include additional financial resources and provision of psychological support and provision social services such as health, education and water facilities where affected.

IV – IMPLEMENTATION

4.1. Implementation arrangements

4.1.1 Project oversight: The Executing Agency will be the Ethiopian Roads Authority (ERA). ERA is an autonomous government agency responsible for the planning and implementation of all trunk road projects in the country. ERA has a long history of successful implementation of donor funded road project and is capable of managing the implementation of all aspects of this project. Within the past 13 years, ERA has successfully planned, executed and monitored USD 5.5 billion RSDP I, II and III programs that have provided the institution with great wealth of experience, not to mention the various institutional capacity building programs that were implemented. Looking forward, ERA is implementing a BPR since August 2010 and has decentralized its operations in order to increase its efficiency of delivering the latest RSDP IV program. ERA has also separated the operations department that undertake actual road maintenance and construction which has been reformed into a government –owned enterprise. The rest of the organization will play management and oversight roles only. The new ERA has a compliment of 250 engineers in charge of regulating, supervising and directing the road sub sector, and additional support staff looking after human resources and finance issues.

4.1.2 Capacity building of ERA: With increased workload in the road subsector in the recent past, there are indications that ERA's capacity to supervise road projects is already strained. Experienced engineers have in the last 5 or so years been leaving ERA to join the private sector and other organizations which offer better employment terms, within and outside the country. This situation, compounded with increased workload, has left the institutions experienced engineers stretched. In addition, young graduate engineers are given too heavy responsibilities. The government, in the RSDP IV, has provided for a massive training programme for engineers and technicians in local universities and other tertiary institutions. However, it takes about 3-5 years to produce a graduate and the intervening period is critical for the delivery of the road sector program. In order to address the capacity issue a capacity building component focused on strengthening road asset management capacity, will be provided by the Bank under the Kenya–Ethiopia Mombasa-Nairobi-Addis Ababa road corridor project phase III due for Board consideration late in 2011. Capacity building services will include diagnoses of current maintenance programming system, valuation of road asset, design/management/supervision of maintenance activities.

For a more sustainable solution, and in view of the ambitious RSDP IV, ERA, in collaboration with the Bank, the World Bank, DfID, GTZ, and JICA will undertake a detailed assessment of the capacity needs and propose a comprehensive all-inclusive solution. ERA has taken up the responsibility to draft the ToR for consultancy that will provide the capacity building. The donors will have an opportunity to make their inputs. Issues that will be tackled include systemic matters (e.g. ways of attracting and retaining qualified staff) and others.

4.1.3 Project Procurement: The road works will be split into two lots of about equal lengths. All procurement of works and consulting services financed by the Bank will be in accordance with the Bank's *Rules and Procedure for Procurement of Goods and Works,* or as appropriate *Rules and Procedure for the Use of Consultants*, using the relevant Bank Standard Bidding Documents. The procurement arrangements under the project are summarized below

Table 4.1: Summary of Procurement Arrangements

Components including contingencies	Cost * UA Millions	Selection procedure	Pre-Qualification	Bank Prior Review
Works	39.21	ICB	Yes	Yes
Supervision consultancy	1.61	QCBS	Short listing	Yes
Audit consultancy	0.24**	LCS	Short listing	Yes
Project Cost	41.06			

* *Costs incl. contingencies;*

** *UA 0.13m for Financial/Management audit, UA 0.11m for technical audit*

Procurement of works will use International Competitive Bidding (ICB) and the consultancy for supervision of works will be acquired using Quality and Cost Based Selection (QCBS). Acquisition of Audit Services will employ the Least Cost Selection (LCS) method using a national Shortlist. An assessment of the executing agency was done and found to have sufficient capacity to undertake procurement of the project. An acceptable Procurement Plan and the relevant procurement documents were submitted in late July 2011.

***Banks procedures to be used*:** Ethiopia's procurement laws and regulations provide a sound legal framework for public procurement that meets the needs of government-sponsored projects. However, as most procurement are under ICB and QCBS, the Bank's rules and procedures shall be followed including the use of Banks Standard Bidding Documents. ERA as the executing agency for the project will carry out the procurement activities.

Bank Review: The following documents are subject to Bank review and no-objection: General Procurement Notices, Invitation for pre-qualification/ Specific Procurement Notice/ Invitation for EOI, tender documents and requests for proposals, pre-qualification assessments, shortlists of consultants, tender evaluation reports, evaluation of consultants' proposals.

4.1.4 Project Disbursement: The loan will be disbursed for the two categories of expenditure including payment for the civil works and for the consulting services for supervision and audit. In both cases the Direct Method of disbursing payments will be used according to Bank rules. The Bank's Disbursement Letter will be issued which will specify how payments will be made against standard documentation in accordance with the Banks Disbursement Handbook. The Procurement and Fiduciary Services divisions have been consulted on the proposed procurement methods and disbursement procedures and practices.

4.1.5 Financial management: ERA will be responsible for financial management and reporting of the project activities. The Human Resources and Financial Directorate will be directly responsible. An assessment financial systems shows that ERA has proper structures in place as well as adequate and qualified staff to carry out the financial management responsibilities of the Project. The Project will substantially make use of the country's PFM systems. The financial statements will be audited annually by an independent auditor to be procured using project funds.

4.1.6 Project Audit: The annual financial statements will be audited by an independent auditor appointed on the Bank's Audit Terms of reference in consultation with the Office of

the Federal Auditor General. The annual Audit Report including a Management Letter will be submitted to the Bank no later than six months after the end of the fiscal year.

4.2. Monitoring

The supervision consultant, an experienced engineering firm to be procured competitively, will responsible for the day-to-day monitoring and evaluation of the project progress including the implementation of permanent and temporary works and ESMP. The contractor and supervisor will have qualified environmental and social experts to ensure full implementation of ESMP. In addition, ERA and the Bank will provide oversight at several layers. ERA's project coordinator, an individual to be nominated by the ERA on the basis of wealth of experience and to be subjected to Bank review, will provide the second layer oversight, linking the project with the government and the Bank. The coordinator, backed by the ERA's environmental and social experts, will make frequent visits to the site of works to consult with the contractor and consultant and issue guidance wherever necessary. To make M&E more effective and efficient, the coordinator will be based in Jimma town, nearer the project site. The audit consultancy will include the services of an experienced engineer who will perform bi-annual technical audit of the performance of the contractor, supervisor and the EA with a view to identifying any bottlenecks and providing necessary guidance. The Bank will monitor the project through semi-annual supervision missions. The Bank is mobilizing Tunis based Task Manager to Addis Ababa Country Office, further tightening the M&E of this and other projects. In addition, ERA will provide the Bank with quarterly project progress reports including the implementation of the environmental and social action plan in accordance with Bank format. At completion of project, the Bank and the EA will prepare a joint Project Completion Report.

Table 4.2: Implementation Monitoring Timeframe

Timeframe	Milestone	Monitoring process / feedback loop
Q1 - 2012	Project Launching	**Supervision and Progress Report**
Q3 - 2012	Procurement of Civil Works Completed	**Procurement Plan/Progress Report**
Q2 - 2014	50% of Civil Works completed mid-term review	**Midterm Review & Progress Report**
Q4– 2015	Substantial completion of civil works	**Supervision and Progress Report**
Q4 – 2016	End of Defects Liability period	**Supervision and Progress Report**
Q4 – 2016	**Project Completion**	**Project Completion Report**

4.3. Governance

Ethiopia has greatly improved its governance structures and is a considered a low risk environment. However, to ensure that the project funds are safe, the project has included in its design specific governance risk mitigation measures such as (i) the appointment of external financial and independent technical audit firm to ensure that funds are used efficiently and for the intended purposes; and (ii) Bank's prior review and approval of all project procurement activities.

4.4 Sustainability

The Road Fund, established in 1997, is an autonomous body set up to secure funds for road maintenance in a sustainable fashion. ERA was established in 1951 to plan and manage the development of the road sector. Their experiences in managing the RSDP (1997-2010) have been positive in many areas including the road maintenance.

Since the start of RSDP in 1997 the GOE, the Road Fund and Development Partners have invested about ETB 60.3 billion between 1997 and 2010. The annual expenditure on the road subsector has increased 13 fold from ETB 1.14 b in 1997 to ETB 15.04 b in 2010.

Over the last five years, maintenance budget allocation by the Road Fund has increased from ETB 568.3 m in 2005/06 to ETB 1,425 m in 2010 which is 95 % of the maintenance need. There has been an average annual funding gap of ETB 60.39 million during this period. The Road Fund disburses 65% of its revenue to ERA, 25% for Regional Road Agencies and 10% for selected Municipalities.

According to the Road Fund, about ETB 2.07 b annually is required for the maintenance of the entire road network from 2011 to 2015. With an annual average collection of about ETB 1.58 billion, there could be a potential annual average funding gap of ETB 493.8 million from 2011 to 2015. However, the government is planning to increase the fuel levy, in addition to the expected natural growth of the Road Fund revenues on account of economic growth, in order to raise the revenues to levels where the forecasted gap will be covered. Furthermore, it is expected that, should these measure fail to fill this gap, the government will step in and use federal funds within the framework of the RSDV IV. Moreover, GOE intends to (i) introduce long-term maintenance contracts; (ii) widen private sector performance based maintenance contracts; and (iii) toll the most trafficked road sections of the network. From the foregoing, it is evident that road sub sector investments are sustainable.

With respect to the project road, the financial requirement for routine maintenance amounts to ETB 5.0 million per year, starting 2018. The first periodic maintenance for the newly constructed road, ETB 112.0 million (USD6.59 million) will be due around 2025. The impact of the project maintenance costs on Governments' recurrent costs will not be significant and the Government has financial and institutional capacity to carry out the project routine maintenance.

ERA and the RRAs have carried out Business Process Reengineering (BPR) as part of the Government's Civil Service Reform Program. ERA will retain its management function, whilst the Operations Department of ERA will function as an independent business enterprise. The new arrangements will enhance the institutional capacity of ERA and the Rural Roads Authorities (RRAs) to maintain the network.

As a result of the BPR, since July 2011, the government has commercialized 100% of routine and periodic maintenance operations and will be undertaken by either private sector (estimated to have capacity for about 15% of the work) and the newly formed Ethiopian Road Construction Corporation, a government owned firm that will run on purely commercial basis using the best private sector practices. This policy will promote the development of the domestic construction industry. Furthermore, ERA is trying to protect the investment in the sector by enforcing axle load control using the nine stationary weighbridges (installing three more static weighbridges) throughout the country with additional three mobile weighbridges.

4.5. Risk management

Based on the ongoing projects, the road sector projects are experiencing delays in start up and in implementation, risking construction price escalations and delayed benefits to road users. Delays are caused by late coming into force of the loans and loan effectiveness, EA's capacity limitations, and contractors' poor performance. The following paragraphs describe how the projects risks shall be managed in this project.

Economic decline: The expected increased agricultural productivity and exploitation of natural resources assumes the strict implementation of GTP. Should this ambitious plan not succeed as envisaged, the project benefits may not be maximized. In mitigation, the government has demonstrated political will to implement the GTP. Furthermore, small scale agricultural and related business in the project are already thriving and they are an assurance that the private sector will at any rate get the full benefits of the road.

Anti-social behaviors: The concentration of male immigrant workers in the project area during the project construction brings with it negative social behaviors. Further, the improved road condition risks increased accidents due to speeding of vehicles and poor road use. In mitigation, a sensitization exercise including HIV/AIDS awareness and a road safety education are provided for.

Environmental degradation: To safeguard against adverse environmental impacts and climate change, the project provides for tree planting exercise, erosion and flood control measures, controlled excavation for construction materials, testing of stone aggregate materials used on road surface to ensure climate proofing and other engineering solutions.

Project delays due to low capacity of EA and contractors, risking cost increases: Delays could occur in the fulfillment of loan conditions related to implementation of RAP, protracted procurement, construction of works and its management / supervision, payment by government of contractor's certificates. In mitigation**,** the Bank will build capacity of EA as described in para 4.1.2 above. The project audit will include an experienced engineer well versed with road construction who will audit the technical aspects of the project implementation. Procurement documents are ready, reducing the possibility of delays. Regarding contractors, the poor performing ones will not be pre-qualified to bid.

In addition, contingencies have been built into project cost to mitigate risk of cost increase. Furthermore, the government will cover any costs beyond the loan amount. Since the Bank has waived the need for counterpart funding, there is no possibility of government delaying payment. Regarding RAP, the government will compensate PAPs in advance, before the date for submission to Board, ensuring fulfillment of loan conditions without any delay. The implementation of the ESMP including the tree planting program and road safety measures will be further strengthened by ensuring that these aspects constitute substantive indicators for the project completion.

4.6. Knowledge building

The implementation of this project will increase knowledge in preparation and management of road infrastructure projects in difficult conditions (high rainfall and sensitive environment). A technical consultant audit has been provided to, amongst other things, collect data on technical aspects of project management. The technical audit will form a reliable source of knowledge that will be applied in subsequent projects.

The consultancy for supervision will collect additional baseline data as well as monitoring data during project implementation which will be used to evaluate the performance of the project and analyzed to improve future projects. The data will become part of the national M&E system that ERA has developed over the years to track the impact of road development in alleviating poverty and its contribution to the attainment of MDGs.

Furthermore, this project will include planting of trees in specific areas to militate against increased CO2 emissions and the data collected in the preparation and management of this process will help in designing future projects. The Bank, as recommended in the CSP, is planning a transport sector wide study to analyze all the issues pertaining to the sector, focusing on the future transport needs in view of the RSDP IV and the GTP. The objective of this study will be to capture the strengths, the weaknesses, the opportunities and threats pertaining to the sector and to build knowledge which will be shared amongst all stakeholders and use the same in the development of future projects.

ERA is implementing a BPR and its main output is the separation of the regulatory arm from the operations arm. The implementation of these reforms started in August 2010.The impact will be monitored and analyzed over the years, contributing to the knowledge pool.

V – LEGAL INSTRUMENTS AND AUTHORITY

5.1. Legal instrument

The Bank instrument to finance this operation is an ADF project loan amounting to UA 41.06 million from ADF-XII PBA allocation. The standard ADF terms and conditions are applicable to the loan.

5.2. Conditions associated with Bank's intervention

Conditions Precedent to the Entry into Force of the Loan Agreement: The entry into force of the Loan Agreement shall be subject to the fulfillment by the Borrower of the provisions of Section 12.01 of the General Conditions Applicable to Loan Agreements and Guarantee Agreements of the Fund.

Conditions Precedent to First Disbursement of the Loan: The obligation of the Fund to make the first disbursement of the Loan shall be conditional upon entry into force of the Agreement in accordance with Section 4.01 above and the following conditions, namely, the Borrower shall have provided evidence satisfactory to the Fund of:

(i) having developed and delivered to the Fund a Resettlement Action Plan (RAP) together with a schedule (the "Works and Compensation Schedule") detailing (A) the sections into which each lot of the civil works will be divided and (B) a timeframe for the compensation of Project Affected Persons with respect to all such sections, in each case, in form and substance satisfactory to the Fund; and

(ii) having compensated and/or resettled all Project Affected Persons with respect to the first section of the civil works in accordance with the RAP and the Works and Compensation Schedule.

Other Loan Condition: The Borrower will provide evidence, in form and substance acceptable to the Fund that prior to commencement of construction on any section of any lot of the civil works, all Project Affected Persons have been compensated and/or resettled with respect to the relevant section of the relevant lot in accordance with the RAP and any updates to the RAP as well as the Works and Compensation Schedule.

Undertaking. The Borrower hereby undertakes to implement and report on the implementation of the Environmental and Social Impact Assessment, the Environment and Social Management Plan and the RAP on a quarterly basis in form acceptable to the Fund.

5.3. Compliance with Bank Policies

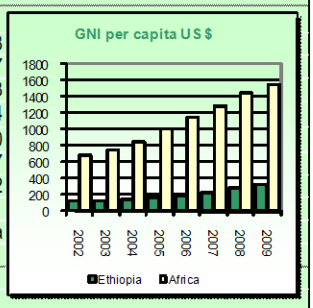
(Yes) This project complies with all applicable Bank policies.
(None) The project does not require any exceptions to Bank policies.

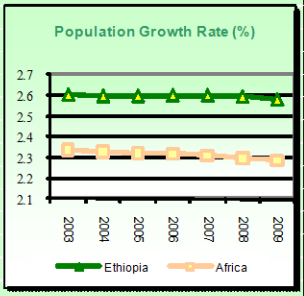
VI – RECOMMENDATION

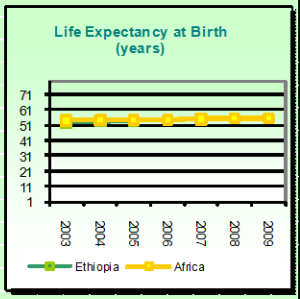
Management recommends that the Board of Directors approve the proposed Loan of UA 41.06 million to the Government of the Federal Democratic Republic of Ethiopia for the purpose of financing the Bedele-Metu Road Upgrading Project, subject to the conditions stipulated in this report.

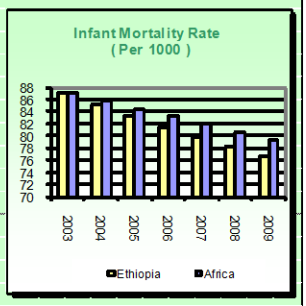
Appendix I. Ethiopia's comparative socio-economic indicators

	Year	Ethiopia	Africa	Develo-ping Countrie	Develo-ped Countrie
Basic Indicators					
Area ('000 Km²)		1 104	30 323	80 976	54 658
Total Population (millions)	2010	85.0	1,031.5	5,659	1,117
Urban Population (% of Total)	2010	17.6	39.9	45.1	77.3
Population Density (per Km²)	2010	76.9	34.0	69.9	20.4
GNI per Capita (US $)	2009	330	1 525	2 968	37 990
Labor Force Participation - Total (%)	2010	48.6	40.1	61.8	60.7
Labor Force Participation - Female (%)	2010	48.0	41.0	49.1	52.2
Gender -Related Development Index Value	2007	0.403	0.433	0.694	0.911
Human Develop. Index (Rank among 169 countrie	2010	157	n.a	n.a	n.a
Popul. Living Below $ 1 a Day (% of Population)	2005-08	39.0	42.3	25.2	...
Demographic Indicators					
Population Growth Rate - Total (%)	2010	2.6	2.3	1.3	0.6
Population Growth Rate - Urban (%)	2010	4.4	3.4	2.4	1.0
Population < 15 years (%)	2010	43.2	40.3	29.0	17.5
Population >= 65 years (%)	2010	3.6	3.8	6.0	15.4
Dependency Ratio (%)	2010	86.5	77.6	55.4	49.2
Sex Ratio (per 100 female)	2010	99.0	99.5	93.5	94.8
Female Population 15-49 years (% of total populatic	2010	23.5	24.4	49.4	50.6
Life Expectancy at Birth - Total (years)	2010	56.1	56.0	67.1	79.8
Life Expectancy at Birth - Female (years)	2010	57.6	57.1	69.1	82.7
Crude Birth Rate (per 1,000)	2010	37.2	34.2	21.4	11.8
Crude Death Rate (per 1,000)	2010	11.3	12.6	8.2	8.4
Infant Mortality Rate (per 1,000)	2010	74.9	78.6	46.9	5.8
Child Mortality Rate (per 1,000)	2010	123.1	127.2	66.5	6.9
Total Fertility Rate (per woman)	2010	5.1	4.4	2.7	1.7
Maternal Mortality Rate (per 100,000)	2008	470.0	530.2	290.0	15.2
Women Using Contraception (%)	2005-08	14.7	...	61.0	...
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2007	2.0	58.3	109.5	286.0
Nurses (per 100,000 people)*	2007	23.1	113.3	204.0	786.5
Births attended by Trained Health Personnel (%)	2005-07	5.7	50.2	64.1	...
Access to Safe Water (% of Population)	2008	38.0	64.5	84.3	99.6
Access to Health Services (% of Population)	2005	...	65.4	80.0	100.0
Access to Sanitation (% of Population)	2008	12.0	41.0	53.6	99.5
Percent. of Adults (aged 15-49) Living with HIV/AIE	2007	2.1	4.9	0.9	0.3
Incidence of Tuberculosis (per 100,000)	2009	359.0	294.9	161.0	14.0
Child Immunization Against Tuberculosis (%)	2009	76.0	79.9	81.0	95.1
Child Immunization Against Measles (%)	2009	75.0	71.1	80.7	93.0
Underweight Children (% of children under 5 years	2005-08	34.6	30.9	22.4	...
Daily Calorie Supply per Capita	2007	1 980	2 465	2 675	3 285
Public Expenditure on Health (as % of GDP)	2008	3.4	5.7	2.9	7.4
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2009	102.5	102.7	107.2	101.3
Primary School - Female	2009	97.8	99.0	109.2	101.1
Secondary School - Total	2009	34.4	37.8	62.9	100.1
Secondary School - Female	2009	30.0	33.8	61.3	99.6
Primary School Female Teaching Staff (% of Total)	2009	38.0	47.0	60.5	81.4
Adult literacy Rate - Total (%)	2008	35.9	64.8	80.3	98.4
Adult literacy Rate - Male (%)	2008	50.0	74.0	86.0	98.7
Adult literacy Rate - Female (%)	2008	22.8	55.9	74.8	98.1
Percentage of GDP Spent on Education	2007	5.5	4.6	3.8	5.0
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2008	13.6	7.8	10.6	10.9
Annual Rate of Deforestation (%)	2005	...	0.7	0.4	-0.2
Annual Rate of Reforestation (%)	2005	...	10.9	...	...
Per Capita CO2 Emissions (metric tons)	2009	0.1	1.1	2.9	12.5









Sources : ADB Statistics Department Databases; World Bank: World Development Indicators; UNAIDS; UNSD; WHO, UNICEF, WRI, UNDP; Country Reports. *last update : May 2011*

Note : n.a. : Not Applicable ; ... : Data ***Not Available.***

Appendix II- Ethiopia Portfolio 2011

CUMULATIVE DISBURSEMENTS AS AT 31 July 2011

Ser. No.	Project/Study	Source	Approval Date	Date Signed	Effective Date	Initial Closing Date	Revised Closing Date	Net Loan/Grant Amount	Cum. Disb. Amount (31 July 2011)	Cumulative Disb. Ratio	Undisbursed balance (UA)
	AGRICULTURE SECTOR										
1	Koga Irrigation and Watershed Management Project	LOAN	28-Jun-01	19-Jul-01	25-Feb-02	30-Jun-08	30-Jun-11	32,590,100	29,491,570	**90.49%**	3,098,530
>>	" "	GRANT	28-Jun-01	19-Jul-01	25-Feb-02	30-Jun-08	30-Jun-11	1,330,000	1,003,443	**75.45%**	326,557
2	Agriculture Sector Support Project	LOAN	05-Nov-03	12-Feb-04	21-Mar-05	31-Dec-10	31-Dec-12	21,240,000	14,524,909	**68.38%**	6,715,091
>>	" "	GRANT	05-Nov-03	12-Feb-04	21-Mar-05	31-Dec-10	31-Dec-12	17,761,200	9,706,684	**54.65%**	8,054,516
3	Creation of Sustainable Tse tse and Trypanosomiasis-	LOAN	08-Dec-04	16-May-05	23-Jan-07	31-Dec-11	31-Dec-11	9,550,000	1,815,681	**19.01%**	7,734,320
	LOAN							**63,380,100**	**45,832,159**	**72.31%**	**17,547,941**
	GRANT							**19,091,200**	**10,710,126**	**56.10%**	**8,381,074**
	Sub-total							**82,471,300**	**56,542,285**	**68.56%**	**25,929,015**
	TRANSPORT SECTOR										
4	Wacha- Maji Road Upgrading	LOAN	11-Jun-03	13-Oct-03	24-Aug-05	31-Mar-10	31-Mar-12	22,710,000	21,148,943	**93.13%**	**1,561,057**
>>	Wacha-Maji Road - ERA-Technical Assistance)	GRANT	11-Jun-03	13-Oct-03	24-Aug-05	31-Mar-10	31-Mar-12	990,000	783,645	**79.16%**	**206,355**
5	Jimma-Mizan Road Upgrading	LOAN	13-Dec-06	12-Jan-07	03-Oct-07	31-Dec-12	31-Dec-12	65,000,000	27,078,903	**41.66%**	**37,921,097**
	LOAN							**87,710,000**	**48,227,846**	**54.99%**	**39,482,154**
	GRANT							**990,000**	**783,645**	**79.16%**	**206,355**
	Sub-total							**88,700,000**	**49,011,491**	**55.26%**	**39,688,509**
	PUBLIC UTILITY										
6	Rural Electrification II Project	LOAN	20-Dec-06	12-Jan-07	02-Nov-08	31-Dec-13	31-Dec-13	87,200,000	56,200,865	**64.45%**	**30,999,136**
7	Electric Transmission System Improvement	LOAN	06-Dec-10	20-Dec-10		31-Dec-15		93,750,000	-	**0.00%**	**93,750,000**
>>	Electric Transmission System Improvement	GRANT	06-Dec-10	20-Dec-10		31-Dec-15		58,000,000	-	**0.00%**	**58,000,000**
8	Harar Water Supply and Sanitation Project	LOAN	04-Sep-02	08-Nov-02	30-Dec-03	31-Dec-08	31-Dec-11	19,890,000	16,298,326	**81.94%**	**3,591,674**
>>	" "	GRANT	04-Sep-02	08-Nov-02	30-Dec-03	31-Dec-08	31-Dec-11	1,120,000	128,188.61	**11.45%**	**991,811**
9	Rural Water Supply and Sanitation Project	GRANT	21-Dec-05	25-Feb-06	01-Sep-06	31-Dec-10	30-Jun-12	43,610,000	28,746,759	**65.92%**	**14,863,241**
	LOAN							**200,840,000**	**72,499,190**	**36.10%**	**128,340,810**
	GRANT							**102,730,000**	**28,874,948**	**28.11%**	**15,855,052**
	Sub-total							**303,570,000**	**101,374,138**	**33.39%**	**144,195,862**
	MULTI-SECTOR										
10	Protection of Basic Services II -	LOAN	19-Nov-10	17-Dec-10	17-Feb-11	31-Dec-11		72,600,000	72,600,000	100.00%	-
	LOAN							**72,600,000**	54,334,723	75%	**18,265,277**
	GRANT							-	-		-
	Sub-total							**72,600,000**	**54,334,723**	75%	**18,265,277**
	Total Country Allocations:-										
	LOAN							**424,530,100**	**220,893,918**	**52.03%**	**203,636,182**
	GRANT							**122,811,200**	**40,368,719**	**32.87%**	**82,442,481**
	TOTAL							**547,341,300**	**261,262,637**	**47.73%**	**286,078,663**
	Multi-National Operations										
>>	Creation of Sustainable Tse tse	GRANT	08-Dec-04	16-May-05	23-Jan-07	31-Dec-11	31-Dec-11	240,000	151,317	**63.05%**	**88,683**
11	Mombassa-Nairobi-Addis Ababa Road	LOAN	01-Jul-09	15-Jan-10	06-Apr-11	31-Dec-15	31-Dec-15	85,000,000	8,519,242	**10.02%**	**76,480,758**
12	Mombassa-Nairobi-Addis Ababa Road	GRANT	13-Dec-04	16-Mar-05	21-Oct-05	31-Dec-10	30-Jun-12	1,350,000	712,445	**52.77%**	**637,555**
	Total Multinational operations										-
	LOAN							**85,000,000**	**8,519,242**	**0.00%**	**76,480,758**
	GRANT							**1,590,000**	**863,762**	**54.32%**	**726,238**
	TOTAL							**86,590,000**	**9,383,004**	**10.84%**	**77,206,996**
	GRAND TOTAL (National and Multinational) :-										
	LOAN							**424,530,100**	**220,893,918**	**52.03%**	**203,636,182**
	GRANT							**209,401,200**	**41,232,480**	**19.69%**	**168,168,720**
	TOTAL							**633,931,300**	**262,126,399**	**41.35%**	**371,804,901**

PRIVATE SECTOR

1	**Derba-MIDROC-Cement Factory**	**LOAN**	16-Apr-08	26-Jun-08	23-Jun-08	30-Jun-11	31-Dec-11	**USD 55,000,000**	**22,000,000**	**40%**	**33,000,000**
2	**Ethiopian Air Lines**	**LOAN**	23-Mar-11					**USD 40,000,000**	**0**	**0%**	**40,000,000**

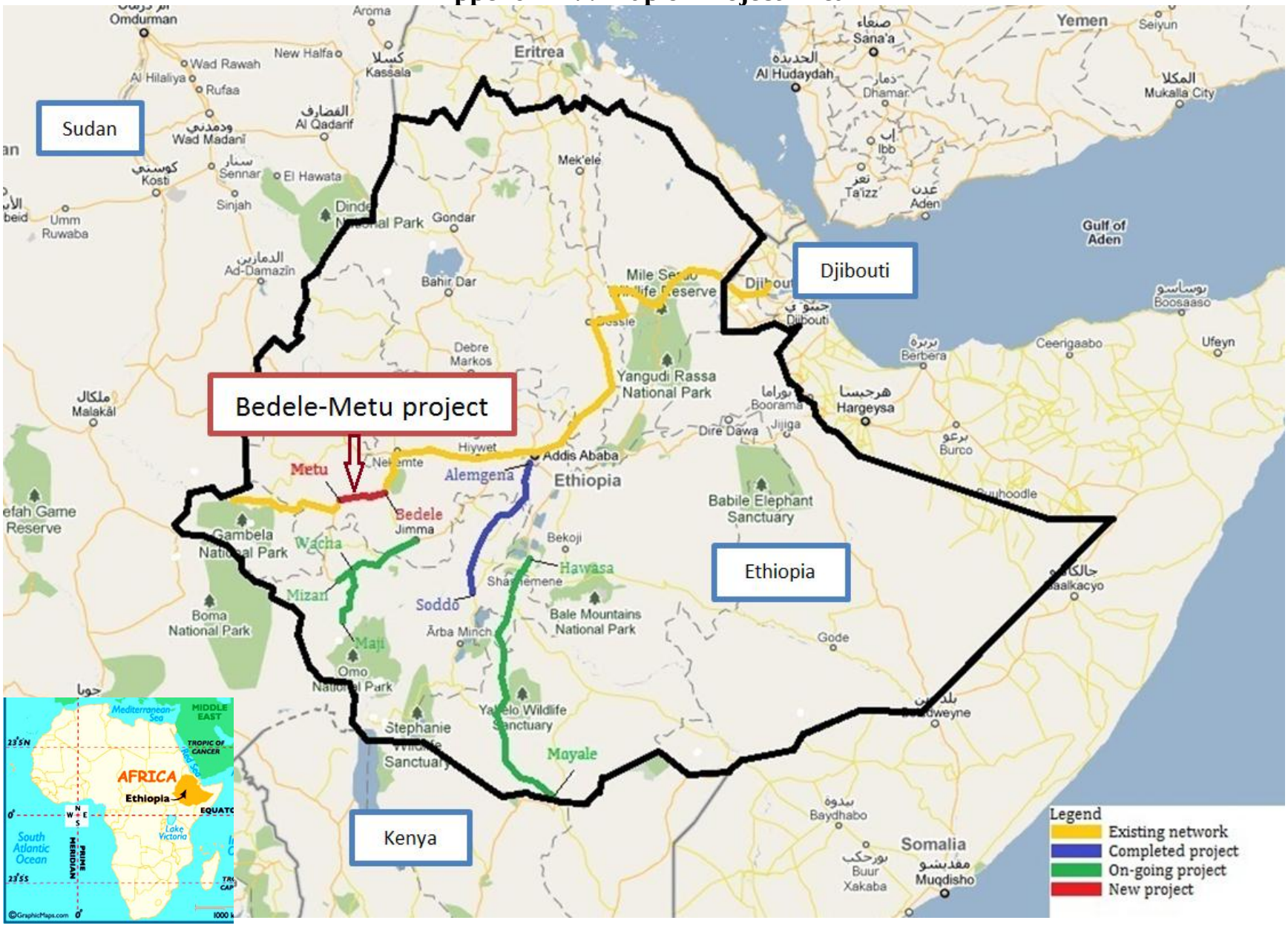
OTHER OPERATIONS

1	Water Sector Information & Know ledge Mgt. System	**AWF**	02-Oct-06	31-Oct-06	31-Oct-06	30-Jun-10	31-Oct-10	**EUR 500,000**	**500,000**	**100%**	-
2	Utilization of Soar Energy for RWSSI	**AWF**	12-Jan-09	07-Aug-09	27-Apr-10	01-Mar-13	-	**EUR 1,693,098**	**298,782**	**18%**	**1,394,316**
3	EAP-Mater Plan and Grid Study	**NEPAD-IPPF**	12-May-08	15-May-08	20-May-08	12-Mar-09	31-Mar-11	**993,388**	**563,324**	**56.71%**	**430,064**
4	EAP-Mater Plan and Grid	**NEPAD-**		01-Oct-09	03-Nov-09	31-May-11		**667,067**	**451,318.00**	**67.66%**	**215,749**
5	Ethiopia-Kenya Electricity Interconnection Study -	**NEPAD-IPPF**	18-May-10	04-Mar-11		31-Dec-12		**1,000,000**	**-**	**0.00%**	**1,000,000**
7	Emergency Humanitarian Assistance for Somalia	**SRF**		16-Mar-11		31-Jul-11		**USD 655,000**	**655,000.00**	**100.00%**	**-**

Appendix III. Key related projects financed by the Bank and other development partners in the country

Contract Name / FUNDING AGENCY	Road Length (km)	Amount USD Millions
AFRICAN DEVELOPMENT BANK		
Jimma - Bonga-Mizan	220	100.0
Wacha - Maji	173	38.0
Mombasa - Nairobi - Addis Ababa	Study	2.2
Ageremariam - Yabelo - Mega	190	136.0
Sub Total	**583**	276.2
APL II / WORLD BANK		
Assela - Dodola - Junction	100	
Dodola Junction - Goba	130	
Adiabun-Shire	92	
Nekempte - Mekenajo	127	
GobGob - Gashana	86	
Gashana - Woldia	106	
Magna - Mechara	120	
Assosa - Blue Nile - Guba	126	
Sub Total	**887**	372.8
APL III / WORLD BANK		
Gondar-Debark	107	
Gedo - Nekmepte	134	
Aposto Irbamoda	94	
Irbamoda - Wadera	109	
Wadera - Negele	65	
Yalo - Nehile	70	
Sub Total	**579**	235.8
APL IV / WORLD BANK		
Mekenajo - Dembi Dolo	181	
Welkite - Hossaina	125	
Ankober - Awash Arba	89	
Sub Total	**395**	263.3
OTHER DONARS		
Dembi - Bedele / BADEA	62	9.2
Metu - Gore / OPEC FUND	26	4.8
Gore - Gambella/ BADEA / OPEC	145	13.0
		15.0
Azezo - Gint - Metema / BADEA/OFID/SAUDI FUND	184	13.0
		15.0
		18.0
Assosa - Kurmuk / BADEA/SAUDI FUND	100	6.5
		6.5
Phase II-Project / NDF	Study	16.0
Nekempte - Bedele / NDF/BADEA/OFID	96	10.0
		10.0
		15.0
Wukro - Zalambessa / KUWAIT FUND	100	10.0

Appendix IV: Map of Project Area



TECHNICAL ANNEX A

Ethiopia's Development Agenda, Sector Brief and Donor's Support

A1: Economic outlook

At 11.1%, Ethiopia's recent growth is well in excess of population growth (2.6%) and the growth rate (7%) required to achieve the MDG goal of halving poverty by 2015. Although initially led by agriculture, growth is now more broad-based, with increasing contributions to GDP from services and construction. Real GDP growth is projected to remain above 10% over the medium term (2011-2015). Ethiopia's key development objective captured in the new five year development plan, the ***Growth and Transformation Plan*** **(2011-2015)**: becoming a middle income country by 2025. The GTP specific objectives include: (i) an 11% pa growth rate; (ii) expanding quality of education and health services and achieve the MDGs; (iii) creation of a stable democratic and developmental state and; (iv) ensuring growth sustainability by fostering a stable macro-economic framework.

A2: The Road Sector Development Program (1997 - 2010)

i) The transport / road sector goal is to contribute to Ethiopia's social and economic development and poverty reduction efforts by providing a more efficient transport system. The results will include improved access to transport, increased movement of people and goods, improved agricultural production and marketing, a better access to social and economic facilities, and increased economic exploitation of the natural resources, amongst others. Road transport is the dominant mode of transport in Ethiopia and accounts for more than 95% of freight and passenger movements.

ii) However, Ethiopia's current 49,000 km road network of classified roads, although it has expanded tremendously from 26,550km in 1997, is still limited as to hamper economic development especially in the rural areas.. At 44.4km per 1000 sq. km area, the classified road density is lower than Sub-Saharan Africa's average of 50 km/1000 sq. km and Kenya's 118 km/1000sq.km. Recognizing the importance of road transport in Ethiopia's social and economic development and meeting poverty reduction objectives, in 1997 the Government formulated the Road Sector Development Program (RSDP) as the main guide on the road sector development activities. The RSDP has been under implementation since then and is currently in its fourth phase. The Bank and other development partners have made substantial contribution to the program.

iii) The objective of the RSDP was to expand the road transport infrastructure and to improve the existing network through upgrading and road maintenance as well as build domestic contracting capacity. The RSDP has been largely successful and has achieved most of its objectives. The RSDP phases I, II and III from 1997 to 2010 are estimated to have cost USD 5.5 billion (2009, USD 1.0 = ETB 10.995) and the funds were used to construct over 22,200km of road including 2,450 km of new and upgraded all weather asphalt surfaced roads. The Government was the highest contributor at 53.8%, followed by the Road Fund (11.42%), the IDA (11.8%). The EU contributed 8.6% and the African Development Bank's contribution is 2.5%, the third highest within the donor community. The impact of RSDP has been significant as shown by indicators given in the table below.

A3: Strategic Link between the Project, GTP (2011-15), and the RSDP IV (2011-15)

i) The fourth phase of the Road Sector Development (RSDP IV – 2011-15) is integrated within the GTP. The objectives of the GTP sit on seven pillars and key amongst them are: (i) infrastructure development and (ii) agricultural development. In this respect, through RSDP IV (a 5 year USD 7 billion program),

the government plans to construct over 15,000 km of federal roads (plus 11,200km of regional roads and 71,500km of feeder roads) which will increase road density from 44.4km/1000 sq.km to 123.7km. The Bank's Country Strategy Paper (CSP, 2011-2013) approved by the Board in 2011 is consistent with the GTP. The first pillar of the CSP is enhancing access to infrastructure

Table A1: Impact on selected Indicators

INDICATORS	Baseline 1997 (RSDP Start)	Achieved 2007 (End RSDP II)	Achieved 2010 (End RSDP III)	Targeted 2015 RSDP IV
Proportion of Asphalt roads in Good Condition	17%	64%	73%	**87%**
Road Density 1/1000 sq.km	24 km	38.6 km	44.4 km	**123.7km**
Road Density 1/1000 population	0.49 km	0.55 km	0.58 km	-
Proportion of area more than 5 km from all-weather road	79%	68%	64%	**29%**
Average distance to all weather road	21km	13 Km	11.3km	-

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ii) The Bedele - Metu Road Upgrading Project is identified under the GTP and the CSP. The road section is both a strategic national link and forms part of the multinational Ethio-Sudan trunk road. As part of the national trunk road network, Bedele – Metu road will provide access to the western part of the country, enabling transportation of manufactured goods from Addis Ababa to the country side, and giving the area access to the Addis Ababa market for their agricultural goods. The town of Metu is known for natural forest - coffee farming (in addition to maize, sorghum, wheat, teff and barley farming) and has small scale agro-based industries including a beer brewery and a sugar factory. Even though this region has great agricultural and trade potential, the area is not well connected to the more advanced market in Addis Ababa.

iii) As part the regional integration strategy, Governments of Ethiopia and Sudan have entered into a transport infrastructure development and service agreement. In this context, Ethiopia has initiated a program to connect Addis Ababa with the South Sudan, opening up the later to the sea port of Djibouti. The 803km road connecting Addis Ababa to South Sudan/Ethiopia border) road is being developed by various donors as shown below.

	Project Name	Amount (M ETB)	Funding Agency	Length	Status
1.	Addis Ababa-Ambo	-	GOE & KfW	105	Completed
2.	Ambo-Gedo	-	GOE & KfW	65	Substantially Completed
3.	Gede-Bako	354,	IDA & GOE	66	26.4% completed
4.	Bako-Nekempt	391,	IDA & GOE	64.8	23.72% completed
5.	Nekempt-Bedele	-	BADEA,OFID, KF& GOE	96	**Under Procurement**
6.	Bedele-Metu	-	ADB & GOE	111.60	**Under Appraisal**
7.	Metu-Gore	123,	OFID & GOE	26.3	Substantially Completed
8.	Gore-Gambela	750,	BADEA,OFID & GOE	144.3	Substantially completed
9.	Gambela-Itang-Jikawo	786	GOE	124.2	66.4% completed

A4: Bank's activities in the transport sector in Ethiopia and its Strategic intervention

i) Since 2001, the Bank has approved loans towards the road transport sector amounting to UA 214 million (25% of this is from the Regional Resources) to fund the rehabilitation of 790 km of roads

in Ethiopia. Out of this 190 km of road were recently successively completed and the rest approximately 600km are under implementation. The Bank is the third largest donor in dollars terms and has contributed 2.5% to the road sector development since 1997.

ii) The road sector performance is satisfactory, although there has been a tendency to delay the implementation of projects on account of contractor's poor performance. The Wacha – Maji road project (approved 2003) is 85% complete. Jimma-Mizan road project approved in 2006 started and is about 35% complete. The Bank funded road projects have had positive impact on the communities served. A World Bank[2] study namely *Transport and Poverty Observatory Study* covering 2007-2011 has found improvements in income levels, housing conditions and asset accumulation in the communities living within the influence area the Alemgena-Butajira-Sodo (309 km) financed by the Bank.

iii) According to the Bank's 2008-12 Medium Term Strategic Plan, the Bank Group has prioritized infrastructure development, selecting key projects that have a high impact. Road transport infrastructure has been identified as one of the most important contributors to economic and social development and the Bank has scaled up its support to the sector, by investing in key well selected regional and national roads links.

iv) On its part, the government has mobilized 47% of the resources to cover the USD 7 billion RSDP IV, and therefore requires assistance from other development partners to cover the gap. In this respect, the Bank, being the third largest donor in the transport sector is well positioned to continue making strategic contribution to the sector.

A5: Donor activities in Ethiopia

Aid coordination in the transport sector is carried out through the Government-Donor Transport Sector Working Group in which the Bank is actively involved. This grouping provides opportunities for donors to review Ethiopia's development programs and co-ordinate their development assistance. The amount of donor support towards the road sector has grown from 7.2 billion birr (USD 0.7 billion)[3] during the RDSP I to 19.93 billion birr (USD 1.8 billion) in RSDP III. The table below gives a breakdown of each donor contribution to the program.

Table A2: Disbursement by Financiers (1997 – 2010) (Million Birr)

Financier	Disbursement RSDP I (5yrs)	Disbursement RSDP II (5 Yrs)	Disbursement RSDP III (3yrs)	Total Disbursement	% age contribution
GOE	3,455.5	8,669.5	20,354.8	32,479.8	53.8
Road Fund	978.2	2,555.8	5,030.1	8,564.2	14.2
IDA	1,432.9	3,135.3	2,544.2	7,112.3	11.8
EU	678.1	1,049.7	3,485.0	5,212.9	8.6
Community	0.0	884.8	683.5	1,568.4	2.6
AfDB	**506.4**	**517.8**	**496.4**	**1,520.5**	**2.5**
China			1,252.7	1,252.7	2.1
Japan	164.9	380.0	307.1	852.0	1.4
OTHER DONORS	68.6	920	804	1792.4	3.11
TOTAL	**7,284.6**	**18,113.0**	**34,957.8**	**60,355.2**	**100**

[2] Study funded by the World Bank
[3] Using 2009 forex rates 1 USD = 10.999 ETB

Technical Annex B
Backup of the key arguments of the report

B1. Lessons learned

a-Jimma –Mizan Road Upgrading Project: Approved Dec 2006 Loan amount UA 65 m (37% disbursed) and 35% complete. IP/DO Rating 2.8/3.0, Non PP/Non PPP. This is a 227 km long road divided into two lots and both tenders were won by the same contractor. Progress has been slow, and because it is the same contractor in both contracts, the whole project was almost at risk. The lesson learnt here is that where ever possible (a) make sure that in the event of multiple contracts in one project, bid documents do discourage the award of contracts to same contractor, and (b) if a contractor has poor performance record the contractor should not be invited to bid for another contract.

b-Wacha- Maji Road Upgrading Project: Approved June 2003 Loan amount UA 22.71 m (93% disbursed) and 85% complete. IP/DO Rating 2.6/3.0, Non PP/PPP. The construction of the project started 2007 because detailed design was determined as inadequate at commencement. The works had to be delayed for 3 years while the detailed designs were done. The lesson learnt here is that detailed design must be satisfactory and recently completed or reviewed at the time of project appraisal; otherwise, the status should be factored in the project design.

c-Mombasa-Nairobi-Addis Ababa Road Corridor Project Phase II: Approved July 2009 Loan amount UA 85 m (10% disbursed) Ongoing and works started in Jan 2011. The project was delayed because of delays in compensation of PAP and protracted procurement. The lesson learnt here is that project should employ advance contracting and post qualification procedures as often as possible. The government should also compensate PAP in advance of Board loan consideration.

d- General – In the past, loan entry into force and effectiveness have been delayed. In this respect, the Country Office, amongst other things, has developed a closer working relationship with the government intended to ensure loan effectiveness without delay, and has also developed the Readiness Filter (employed in this project) for use in improving quality at entry.

B2. Economic and financial analysis

Traffic Analysis: The base year 2009 weighted average motorized traffic for the entire road project was estimated to be 305 AADT. The vehicular composition of the traffic indicated that small cars and light good vehicles account for about 36%, buses for 13 % and freight vehicles for the remaining 51%. Generated traffic of 20% for all vehicle type at the opening of the project road has been assumed considering the reduction in VOC, travel times along the project road and income elasticity of demand for transport. There is no diverted traffic to the project road. The motorized passenger traffic projections for normal and generated traffic have been estimated to increase annually by 8 % between 2016 and 2025 and 7 % thereafter. During the same period freight vehicles are projected to increase by 9 and 8 % respectively. Thus the weighted average traffic is projected to be 2655 by 2035.

Result of Cost Benefit Analysis: The economic evaluation results of the AC and Base Case Cost Benefit Analysis for the central traffic forecast for the entire road indicated an EIRR of 14.5 %, NPV of ETB 287.04 million. The EIRR is above the cut-off rate of return of 10.23% opportunity cost of capital in Ethiopia and thus confirms the viability of the intervention in the project. The DBST option was also reviewed and the result of the economic analysis shows an EIRR of 14.9 %. Even though the DBST intervention gives a higher return for the investment, the AC intervention is selected considering the rainfall in the project area, topography of the road alignment (40 % of the road alignment passing

through mountainous and escarpment terrain), the ERA design manual for the estimated equivalent standard axle load, and availability of construction material along the project road. Furthermore, the difference in the EIRR is marginal and all the sections of the road from Addis Ababa to Jikawo are constructed with AC pavement.

Sensitivity Analysis: The base case result for the overall project road was tested for sensitivity to changes in the basic assumptions on construction costs and on traffic levels. Three alternatives were checked, namely, 20 % costs increase while benefits remaining the same; 20 % benefits reduction while costs remaining the same; and a 20 % increase of costs and 20 % decrease of benefits concurrently. The results of economic evaluation are sensitive to both increases in construction cost and traffic decline. However, the result is marginally more sensitive to the decrease in benefits (12.1%) than the increase in construction cost (12.6%). In the worst case scenario of a combined 20 % increase in costs and a 20 % decline in traffic, the project is still viable with an EIRR of 10.3 % and NPV of ETB 1.44 million.

A sensitivity analysis has also been done to examine the effect of an oil price rise from present levels around US$ 112 per barrel to US$ 150 per barrel, a situation that was observed in the previous price bubble of 2008. The analysis using the cost estimate with the above changes in oil prices is found to give and EIRR of 12.9 %, which is within the range considered for the 20 % cost increase sensitivity analysis in the economic evaluation.

"Switch values" for construction costs and road user benefits, which would result in an EIRR of 10.23 % or NPV of zero for the project, has been calculated. It has been observed that the costs can be increased by a maximum of 51 % with benefits remaining the same and the project will still be viable at 10.23 % opportunity cost of capital. Similarly, benefits can be reduced by a maximum of 36 % with costs remaining the same and the project will still be viable at the opportunity cost of capital.

B3. Environmental and Social analysis

B3.1 Environmental review, key findings and recommendations

The environmental review is based on observations during the field visit and information documented in the projects ESIA report. The topography along the project road from Bedele can be described as rolling terrain for the most part, with some rugged hilly and mountainous sections towards Metu. The project road has three micro-climatic zones that are determined by altitude: Dega (Cool), Woina Dega (temperate), Kola (hot). Illubabor Zone has two major drainage systems, where 70% of the land drains into the Baro River, and 30% into the Abay River. The project road crosses five major perennial rivers: Dabana, Geba, Dogi, Saki and Sor Rivers all of which drain into the Baro River System. There are also several seasonal streams, marshes and wetlands.

Illubabor Zone contains about 25% of the total forest area in Oromia Region, and 24% of the land in the Zone itself is forest (of which 99% is natural and 1% plantation). Other vegetation types include open grassland, bushland and wetland vegetation. The road traverses the Geba-Dogi Natural Forest Conservation Area (from Km 36 to Km 69) which is among 10 national priority forest areas due to its harbouring *in situ* wild coffee genetic resources, and the Dogi-Saki Forest Conservation Area (from Km 69 to Km 93) which is a natural forest.

In view of the impacts of the project on important forest areas, the project has included a forestation program which involves the local community. Approximately 500,000 seedlings will be procured for planting in the area. The main beneficiaries for the program will be communities and Forestry Enterprises Agencies. The Lands and Environmental Protection Officer at regional level will coordinate

the program in collaboration with Agriculture and Rural Development. For the program to be successful there will be need for identifying land and entrusting communities with care. At kebele level, communities are organized through the Natural Resources Committee. The forestation program will contribute to the livelihood of the local community, their know-how and also the protection of the environment and climate change mitigation.
The institutional responsible for management of project environmental issues include (a) the Environmental Protection Authority that is responsible for creating awareness and training and other forms of technical support to the sector environmental agencies such as ERA's Environmental Monitoring and Safety Team (EMST). EMST advises, coordinates and supervises all aspects environmental management in the road sector, and is responsible for reviewing and approving EIAs. (b) the Right of Way Branch of the ERA which is responsible for making available the required land for road/highway construction and maintenance, the establishment of materials sources, and construction campsites, and for the implementation of resettlement action plans.

Though this institutional structure is considered robust, the Bank has made recommendations for structure to be strengthened by inclusion of an oversight role in such a way that the approval of the ESIA and monitoring of the implementation of the project mitigation measures is not carried out by the same project implementation agency that prepared the report. The project's environmental and social assessment process has been guided by the policy and legal requirements of Ethiopia in addition to the requirements of the African Development Bank. In this case, it is considered that these requirements are similar in terms of their intended purposes of protecting and improving the environment and livelihood in the project areas.

The policy and legal framework in Ethiopia include (a) The Constitution of Ethiopia (August 1995) embodies the right of the Ethiopian people to development and to live in a clean and healthy environment. (b) The Conservation Strategy of Ethiopia that emphasizes the importance of incorporating environmental issues into development activities right at the initial stages of development. (c) The Environmental Policy of Ethiopia (April 1997) which aims at sustainable development and recognizes the need for environmental impact assessments and environmental audits in development projects. (d) Sector specific environmental policies including policies on Wildlife, Water Resources, Biodiversity, Population, Women, Health, HIV/AIDS and Education.
In addition, there is the 2002 Proclamation on mandatory Environmental Impact Assessment (EIA) for specified categories of activities and the Proclamation on Environmental Pollution Control (EPC),

Other relevant proclamations are those on Expropriation of Land Holdings and Payment of Compensation; Rural Land Administration and Land Use; Research and Conservation of Cultural Heritage; Development, Conservation and Utilization of Wildlife; Forest Development, Conservation and Utilization; Water Resources Management; and Public Health. The project implementation will also be guided by the National Environmental Protection Authority's Environmental Impact Assessment Guidelines of 2004; Ethiopian Roads Authority's Environmental Procedures Manual and Resettlement/Rehabilitation Policy Framework; African Development Bank Group's Policy on the Environment of 2004 and Policy on Involuntary Resettlement of 2003

B3.2 Stakeholders

Stakeholders consulted during the ESIA and RAP came from the national to kebele levels, and the PAPs. All relevant ministries and bureaus dealing with environment and resettlement action plans were

also consulted, as well as NGOs, CBOs and FBOs. Concerns and opinions of the stakeholders were incorporated in the project design. The Bank missions during project preparation and appraisal also conducted consultations with various stakeholders including the donor community, government institutions and NGOs.

All affected people and other stakeholders confirmed the need for the road project. They have experienced many difficulties in transport services and have felt somewhat neglected. They confirmed they would assist the local administrations wherever they could in relation to the project. The project road is seen as a link with the outside world which would boost the movement of people and cultural exchanges, and would facilitate investment activities in the area.

B3.3 Gender analysis

Legislative rights: The Constitution of the Democratic Republic of Ethiopia (1994) promotes gender equality and the rights of women, as do local legislations, encouraging the principles of equality and participation of all. Of importance are the equality and the rights of women which include: Article 25 Right to Equality; Article 35 Rights of Women; Article 13 the fundamental rights and freedoms; and Article 89 Economic Objectives.

The status of women: Despite supportive legislation, the status of women in Ethiopia is still vulnerable and marginalized. In the Project area the primary issue facing women relates to a lack of economic empowerment, as a result of traditional custom, where women are mainly responsible for household tasks and have limited access to employment and thus income-generating opportunities, a lack of skills training, and a general detachment from economic development. Cultural practices have historically relegated most women to a position of subservience and dependence on men. However, with the support of a legal framework based on the Constitution, attitudes towards the social status of women are changing, and the position of women is being strengthened.

Gender Bias in Transport Needs: Culturally women are responsible to purchase major household consumables from the nearby markets and also to carry or transport some of their products for sale at the market places; hence women are the most affected by the inadequacy of the road infrastructure. There are frequent deaths reported due to delays in reaching health centers especially during pregnancy and delivery periods. The implementation of the road infrastructure would, therefore, improve the transportation facility would alleviating most of the difficulties that women are currently experiencing.

Gender issues during Resettlement: As a consequence of involuntary resettlement, women and girls tend to suffer disproportionately to men. Gender disparities are aggravated in times of social/economic stress such as relocation; restricted mobility and lack of exposure reduce women's ability to adjust to new situations; loss of familiar sources of water, energy and other resources has a large impact more on women and girls; so is the breakdown of community and social networks which are a source of support during times of crisis. In order to mitigate these impacts, the project has made sure that adequate support is given to the households that may require resettlement. The female headed households, the elderly households and child headed households shall receive particular support and attention during the resettlement and compensation exercise. However, most families will not necessarily have to move to new areas, but rather step back within their compounds and communities.

HIV/AIDS Prevalence: While the average of HIV/AIDS infection rate is 2.4% (2010) in both rural and urban areas; in the project area, the average infection rate is 1.6%, among men being 1.3% and among women 1.9%. Factors contributing to this are women's economic dependence on men; lack of access to

HIV/AIDS education and information; lack of decision-making power; etc. The coming in of project workers will make the situation worse as school girls may be attracted to men with above average incomes. Similarly, men will risk spreading the infection to their partners. The project will offer HIV/AIDS/STI prevention and awareness campaigns which will give an opportunity to women and girls, who otherwise may not have had the chance, to receive first-hand information regarding the epidemic.

B3.4 Social analysis

Improved and Increased access: The Bedele – Metu is part of a major road network which joins the Nekemt road linking to the Addis – Nekemt- Ghimbi – Assosa highway in the North West and the Addis – Jima- Metu – Gambela highway in South Eastern sides. The project road connects those woredas and zonal administrations of the project area to those major trunk roads and to major urban centers. It also connects to the zonal capital towns and administrative centers. In that respect the road has social, economic and administrative significance. The Gambela Region and other neighboring areas would get additional alternative improved road route to travel to Addis Ababa and to other urban centers like Gimbi, Nekemte, Ambo.

Increased Employment Opportunities and Development: At local level the population shall benefit from job opportunities to be created during project implementation estimated at 500 people (of which 30% women); and out of the investments and development activities that may follow in the area. Farmers shall get better prices for their products. Increase in agricultural and industrial development of the area would attract more people and encourage businesses and trade to flourish. The project area in general is gifted with natural resources and is among the potentially rich areas of Ethiopia. The major cash crops are coffee and chat, while the chief industrial crops are sugar cane and cotton.

Road Safety and Traffic Accidents: The implementation of the project will improve the road condition resulting increased traffic volumes, type of vehicles and speed. This will in turn exacerbate increased traffic accidents. Enforcement of traffic regulations, education and proper monitoring measures will be considered as mitigation measures. The project has set aside some money for road safety education and campaigns. Ethiopia has also joined the world in observing the UN Decade of Action on Road Safety.

Loss of land, Houses and Property*:* Although upgrading of the road will follow the existing alignment, land takes and damage to property are inevitable. There will be land required for road widening and for segments that divert from the existing alignment to improve sharp curves. Areas of land will be required temporarily for access roads to the material extraction sites, for detour roads, for camps and workshops and storage facilities. In addition, there will be loss of property, houses fences, crops and trees. The design has attempted to avoid or minimize damages to properties as far as possible. In cases where avoidance is impossible, compensations for lost assets will be arranged prior to commencement of the project works. The procedures and mode of compensation shall be determined in accordance with the national proclamations (Proc no. 455/2005) and Bank guide lines.

Pressure on Local Health Facilities: Health facilities located in the woredas along project road revealed lack of the required number of medical staff, equipment, drug and related services. This being the case, the presence of construction workers, will put additional pressure on the available limited resources; and this could become a source of tension. As a way of mitigating the impacts, the contractor will have to establish, staff and equip his/her own clinic for the construction workforce.

Spread of HIV/AIDS and Sexually Transmitted Infections (STIs*):* An increase in the spread of HIV/AIDS/STI could be from the construction workforce to the local population and vice versa. This is so since construction workers are mostly young and sexually active group of the population and are mobile with higher income than the locals. Mitigation measures shall include awareness creation; education for local communities regarding the spread of HIV/AIDS/STI in public places, schools, and through community clubs and groups; work closely with local health institutions to control; conducting voluntary testing; free distribution of condoms both male and female; produce leaflets and road side posters about HIV/AIDs; and organize community drama groups. The project has identified 9 communities and towns where the HIV/AIDS/STI campaigns will be intensified alongside road safety campaigns and gender sensitization. The areas identified include Bedele, Abdela, Kone, Yanfu, Denbi, Yayoo, Hurumu, Alemo and Metu.

B3.5 Environmental and Social Monitoring

The monitoring program for the present project will be undertaken both as compliance to the set and proposed measures to mitigate adverse impacts and/or enhance positive ones. It also attempts to check the effects of project implementation at various phases (pre-construction phase, construction phase and post construction phase). A set of monitoring indicators shall be prepared and incorporated into the contractor's plan for implementing the ESMP.

***Internal Monitoring*:** Internal monitoring will be conducted mainly by the contractor on duty, the consultant supervising the work, ERA- ESMT and the regional and or woreda environmental protection offices as required. The consultant and the contractor will carry out day to day monitoring activities, in line with the EIA requirements. The Environmental and Social Team of ERA will accomplish periodical monitoring on a monthly or quarterly basis as the need may be.

***External Monitoring*:** The monitoring reports submitted by ERA will be assessed and evaluated by EPA and comments and recommendations given as required, enabling or rectifying any malpractices or omissions in the project implementation processes. The project financiers like the, Ministry of Finance and Economic Development and AfDB may check the project performance against the ESIA-Guidelines as necessary. The community and NGOs active in the project area shall also give their opinions and comments on the project's environmental and social performance and recommend remedial and/or preventive measures to be taken by the implementers.

B4. Financial management and disbursement arrangements

ERA has proper structures in place as well as adequate and qualified staff to carry out the financial management responsibilities of the Project. The Project will make use of the country's PFM systems. ERA is responsible for the planning, budgeting and monitoring of all its projects and their budgets are included in the National Budget. ERA has a financial accounting manual in place and it is currently reviewing it. As part of its internal control system, ERA has staffed an Internal Audit Department. ERA

risk level is between low and moderate and it has been implementing other bank projects. While the country's PFM is performing well, areas of improvement remain. For example in 2010 the scope of audits performed by the OFAG was about 50% of total expenditure. The parliamentary scrutiny of the draft budget law is extremely limited. Corrective measures are being undertaken at the Country level with the objective of adopting good international practices. Capacity building is ongoing at the OFAG to increase its scope to cover more public funds in their audits. The Project will be audited by OFAG. The internal audit department of ERA will also include the project in its annual plan. A Value for money Audit has also been suggested. The project will utilize the financial accounting manual of ERA and will adhere by the Country's and ERA's rules governing fraud and corruption.

B5. Audit arrangements

The annual financial statements will be audited by the OFAG or a firm appointed by him on the Bank's Audit Terms of reference. The annual Audit Report, complete with a Management Letter and Technical Report will be submitted to the Bank no later than six months after the end of the fiscal year. The audit will include the services of an independent technical auditor who will be an experienced engineer and whose responsibility will be bi-annually audit the performance the contractor, supervision firm as well the government and will propose technical solution to be implemented or enforced by the government.