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Report No: PAD1226

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR362.5 MILLION
(US$500 MILLION EQUIVALENT)

TO THE

THE REPUBLIC OF KENYA

FOR AN

EASTERN AFRICA REGIONAL TRANSPORT, TRADE AND DEVELOPMENT FACILITATION PROJECT (SECOND PHASE OF PROGRAM)

May 21, 2015

Transport and ICT Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2015)

Currency Unit	=	Kenyan Shillings (KES)
KES92.75	=	US$1
US$	=	SDR 0.72

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
AC	Asphalt Concrete
AfDB	African Development Bank
AU	African Union
BPSOPs	Border Post Standard Operating Procedures
COMESA	Common Market for Eastern and Southern Africa
CSO	Civil Society Organizations
DA	Designated account
DBM	Dense Bitumen Macadam
DBST	Double Bituminous Surface Treatment
DRC	Democratic Republic of the Congo
EAC	East Africa Community
EATTFP	East Africa Trade and Transport Facilitation Project
EIB	European Investment Bank
EIRR	Economic Internal Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Monitoring Framework
ESMP	Environmental and Social Management Plan
EU	European Union
FM	Financial Management
GAP	Governance and Integrity Improvement Action Plan
GDP	Gross Domestic Product
GoK	Government of Kenya
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
GRSS	Government of the Republic of South Sudan
HIV/AIDS	Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome
HoA	Horn of Africa
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
ICTA	Information and Communication Technology Authority
ICM	Integrated County Management
ICT	Information and Communication Technology
IDA	International Development Association
IFMIS	Integrated Financial Management System
IFR	Interim Un-audited Financial Reports

IGAD	Intergovernmental Authority on Development
ITS	Intelligent Transportation System
JICA	Japan International Cooperation Agency
JIMC	Joint Inter-Ministerial Committee
KeNHA	Kenya National Highway Authority
KeRRA	Kenya Rural Roads Authority
KES	Kenyan Shilling
KfW	German Bank for Development
KIHBS	Kenya Integrated Household Budget Survey
KPA	Kenya Ports Authority
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
KTSSP	Kenya Transport Sector Support Project
KURA	Kenya Urban Roads Authority
LPI	Logistic Performance Index
M&E	Monitoring and Evaluation
MoTI	Ministry of Transport and Infrastructure, Kenya
MoTPS	Ministry of Telecommunication and Postal Services
MoU	Memorandum of Understanding
MTRB	Ministry of Transport, Roads and Bridges, South Sudan
NCB	National Competitive Bidding
NCMC	National Corridor Management Committee
NCTIP	Northern Corridor Transport Improvement Project
NCTTCA	Northern Corridor Transit Transport Coordination Authority
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
NOFBI	National Fiber Optical Backbone Infrastructure
NPV	Net Present Value
NTSA	National Transport and Safety Authority
OD	Origin Destination
OPBM	Output and Performance Based Maintenance
OSBP	One Stop Border Post
PAP	Project Affected People
PAH	Project Affected Households
PBMC	Performance Based Maintenance Contract
PCU	Passenger Car Unit
PDO	Project Development Objective
PFM	Public Financial Management
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PMT	Project Management Team
POC	Program Oversight Committee
POP	Point of presence
PPA	Project Preparation Advance
PPDA	Public Procurement and Disposal Act
PPP	Public and Private Partnership
RAP	Resettlement Action Plan
RCIP	Regional Communications Infrastructure Program
RDM	Road Design Manual
RPF	Resettlement Policy Framework
SA	Social Assessment

SADC	Southern Africa Development Community
SOE	Statement of Expenditure
SOP	Series of Projects
SSCS	South Sudan Customs Services
SSNBS	South Sudan National Bureau of Standards
STDs	Sexually Transmitted Diseases
TA	Technical Assistance
TCIP	Transparency and Communications Infrastructure Program
ToR	Terms of Reference
USAID	United States Agency for International Development
VMG	Vulnerable and Marginalized Group
VOC	Vehicle Operating Costs
WB	World Bank

Regional Vice President:	Makhtar Diop
Regional Director:	Colin Bruce
Senior Global Practice Director:	Pierre Guislain
Practice Manager:	Supee Teravaninthorn
Task Team Leader:	Tesfamichael Nahusenay Mitiku
Co-Team leader:	Josphat Sasia

AFRICA: Eastern Africa Regional Transport, Trade and Development Facilitation Project (Second Phase of Program)

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Eastern Africa Regional Transport, Trade and Development Facilitation Project (Second Phase of Program) (P148853)

PROJECT APPRAISAL DOCUMENT

AFRICA

Report No.: PAD1226

Basic Information			
Project ID P148853	EA Category A - Full Assessment	Team Leader(s) Tesfamichael Nahusenay Mitiku Josphat Sasia	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [X]		
Project Implementation Start Date 12-Jun-2015	Project Implementation End Date 30-Jun-2021		
Expected Effectiveness Date 15-Oct-2015	Expected Closing Date 31-Dec-2021		
Joint IFC No			
Practice Manager/Manager Supee Teravaninthorn	Senior Global Practice Director Pierre Guislain	Country Director Colin Bruce	Regional Vice President Makhtar Diop

Borrower: THE REPUBLIC OF KENYA			
Responsible Agency: Ministry of Transport and Infrastructure			
Contact:	Eng. John K. Mosonik	Title:	Principal Secretary
Telephone No.:	254-202-5924	Email:	ps@infrastructure.go.ke

Project Financing Data(in USD Million)					
[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[X]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	676.00	Total Bank Financing:	500.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	176.00
International Development Association (IDA)	500.00
Total	676.00

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021
Annual	70.00	120.00	120.00	110.00	50.00	30.00
Cumulative	70.00	190.00	310.00	420.00	470.00	500.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Cross Cutting Topics

[ ] Climate Change
[ ] Fragile, Conflict & Violence
[X] Gender
[ ] Jobs
[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Transportation	Rural and Inter-Urban Roads and Highways	55		
Public Administration, Law, and Justice	Public Administration-Transportation	20		
Information and communications	General Information and Communications Sector	15		
Industry and trade	General Industry and Trade Sector	10		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes		
Theme (Maximum 5 and total % must equal 100)		
Major theme	Theme	%
Trade and integration	Trade facilitation and market access	50
Trade and integration	Regional integration	30
Financial and private sector development	Infrastructure services for private sector development	20
Total		100

Proposed Development Objective(s)

The objective of the Project is to improve the movement of goods and people along the Lokichar – Nadapal/Nakodok part of the Eldoret-Nadapal/Nakodok road in the north western part of Kenya, in particular, and to enhance connectivity between Kenya and South Sudan, in general.

Components

Component Name	Cost (USD Millions)
Component 1: Upgrading Selected Critical Road Infrastructure	594.00 (of which IDA USD426.00)
Component 2: Facilitation of Regional Transport, Trade and Development	42.50 (of which IDA USD38.50)
Component 3: Institutional Development and Program Management	10.50 (IDA)
Component 4: Enhancing Internet Connectivity	29.00 (of which IDA USD25.00)

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Moderate
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Moderate
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10	**X**	
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Other Undertaking (Schedule 2 of the FA, Section V)		15-October 2020	

Description of Covenant

For the purpose of ensuring sustainability of investments made using the Financing proceeds, the Recipient shall provide - or cause to be provided - the funds, facilities services and other resources required to ensure proper maintenance of the upgraded road sections under the Project. To this end (and without limitation to the preceding sentence of this paragraph), the Recipient shall - not later than October 15, 2020 - open a dedicated account in a commercial bank acceptable to the Association and deposit into such account an initial deposit in the amount of not less than three million United States Dollars (USD 3,000,000).

Conditions

Source Of Fund	Name	Type
IDA	Effectiveness Conditions (Article V Section 5.01	Effectiveness

	(a) of the FA	

Description of Condition

Each Subsidiary Agreement has been executed on behalf of the Recipient and of the Project Implementing Entity which is a party to such agreement, in accordance with the provisions of Section I.B of Schedule 2 to the FA.

Source Of Fund	Name	Type
IDA	Effectiveness Conditions - Article V Section 5.01 (b) of the FA	Effectiveness

Description of Condition

The Recipient has adopted the Project Implementation Manual, in accordance with the provisions of Section I.C.2 of Schedule 2 to the FA.

Source Of Fund	Name	Type
IDA	Effectiveness Conditions - Article V Section 5.01 (c) of the FA	Effectiveness

Description of Condition

The Recipient (through its Ministry of Transport and Infrastructure) and the Republic of South Sudan (through its ministry responsible for transport, roads and bridges) have exchanged letters on the arrangements for the upgrading and maintenance of the road section at the Kenya-South Sudan common border (11km stretch between Nadapal and Nakodok), all in form and substance satisfactory to the Association.

Team Composition

Bank Staff

Name	Role	Title	Unit
Muhammad Zulfiqar Ahmed	Senior Transport. Engineer	Senior Transport. Engineer	GTIDR
Dorothy Morrow Akikoli	Team Assistant	Team Assistant	AFMJB
Evarist F. Baimu	Senior Counsel	Senior Counsel	LEGAM
Teguest Demissie Bekele	E T Temporary	E T Temporary	GTIDR
Benqing Jennifer Gui	ICT Officer	ICT Officer	GTIDR
Jose Eduardo Gutierrez Ossio	Senior Public Sector Specialist	Customs and Trade Facilitation	GTCDR
Hassine Hedda	Senior Finance Officer	Senior Finance Officer	CTRLA
Atsushi Iimi	Senior Economist	Senior Economist	GTIDR
Gibwa A. Kajubi	Senior Social Development Specialist	Senior Social Development Specialist	GSURR
Josphine Kabura Kamau	Financial Management Specialist	Financial Management Specialist	GGODR
Maiada Mahmoud Abdel Fattah Kassem	Finance Officer	Finance Officer	CTRLA

Timothy John Charles Kelly	Lead ICT Policy Specialist	Lead ICT Policy Specialist	DECWD
Svetlana Khvostova	Natural Resources Mgmt. Spec.	Natural Resources Mgmt. Spec.	GENDR
Anjani Kumar	Senior Procurement Specialist	Senior Procurement Specialist	GGODR
Tesfamichael Nahusenay Mitiku	Senior Transport. Engineer	Team Lead	GTIDR
Joel Buku Munyori	Senior Procurement Specialist	Senior Procurement Specialist	GGODR
Stephane Forman	Senior Livestock Specialist	Senior Livestock Specialist	GFADR
Christopher Finch	Senior Social Development Specialist	Senior Social Development Specialist	GSURR
Shamis Salah Musingo	Program Assistant	Program Assistant	AFCE2
Mohammad Nadeem	Legal Analyst	Legal Analyst	LEGAM
Christiaan Johannes Nieuwoudt	Finance Officer	Finance Officer	CTRLA
Adenike Sherifat Oyeyiola	Senior Financial Management Specialist	Senior Financial Management Specialist	GGODR
Josphat O. Sasia	Lead Transport Specialist	Lead Transport Specialist	GTIDR
Emmanuel Taban	Highway Engineer	Highway Engineer	GTIDR
Yasmin Tayyab	Senior Social Development Specialist	Senior Social Development Specialist	GSURR
Juliana Chinyeaka Victor	Senior Monitoring & Evaluation Specialist	Senior Monitoring & Evaluation Specialist	GPSOS
Maika Watanuki	Analyst	Trade Facilitation	GTCDR
Pascal Tegwa	Senior Procurement Specialist	Senior Procurement Specialist	GGODR

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Kenya	Turkana County West Pokot County	Eldoret – Nadapal/Nakodok			

I. STRATEGIC CONTEXT

A. Regional and National Context

Deepening regional connectivity and integration

1. The countries in the Eastern Africa sub-region, Kenya, Uganda, Tanzania, Burundi, Rwanda, Ethiopia, Democratic Republic of Congo (DRC) and South Sudan, potentially form a large regional market of over 200 million people. Transport links among these countries – except those connected by the northern corridor – are relatively poor and the performance of the ports of Mombasa and Dar-es-Salaam are less than satisfactory. The high cost of internet access and the poor condition and in some cases non-existence of fiber optic links (such as in South Sudan and north western parts of Kenya) are an obstacle to effective information communication technology. Furthermore, procedures and requirements for cross-border trade are cumbersome. These factors, combined with a range of technical, political and policy-related challenges, hinder the movement of goods, people and information, and act as a major impediment to intra- and inter-regional trade, contributing to the under development of the sub-region.

2. The East African Community (EAC),[1] the regional body for the integration of the sub-region, is implementing a common market protocol and a common customs territory. The trade and transport agenda of the EAC puts much emphasis on creating trade corridors without borders and barriers, on facilitating trade, and promoting economic integration by removing non-tariff barriers. The Gross Domestic Product (GDP) and population of the EAC countries, in 2013, were estimated to be about US$109 billion and 153 million people, respectively. All of the EAC countries are categorized as low-income countries. Kenya is the largest economy in EAC and it has strong trade ties with the member countries. Although South Sudan is not yet a member of the EAC, its geographic location creates a great trade potential with Kenya. However, trade between Kenya and South Sudan is low, mainly due to limited physical access. For example, South Sudan, with an economy dependent on oil, accounts for about only 12 percent of Kenyan exports.

3. The trade flows through the main sea ports in Eastern Africa are dominated by imports, which represent about 80 percent of the total trade volume, while export trade constitutes only about 20 percent. An assessment[2] carried out to identify the development potential along the regional transport corridors in eastern and southern Africa shows that the exportable items from the region are currently limited and focused on agriculture and mining products, including export of oil from South Sudan. Intra-regional trade is also at a very low level.

4. The EAC member countries are also implementing a common market protocol and a common customs territory enacted in 2004 and updated at implementation in 2007. As part of the Common Customs Territory initiative for EAC countries, a single customs territory for Uganda and Rwanda has been established and in operation at Mombasa Port (Kilindini area) since 2013. An electronic cargo tracking system, which supports the single customs territory,

[1] Kenya, Rwanda, Burundi, Tanzania, Uganda. South Sudan is not yet a member.
[2] Nathan Associates, Definition and Investment Strategy for a Core Strategic Transport Network for Eastern and Southern Africa, Volume 3 Regional Transport Model Report, October 2011.

has already been rolled out. The Rules of Origin that will help products certified by one country be accepted by EAC member countries have also been rolled out since 2007. Common standards for some products and imports have been adopted by EAC member countries. Axle load control requirements have been harmonized.

5. Kenya is a relatively large country with a land area of 580,400 sq. km, with an estimated population of 44.4 million, in 2013. The population was 31.25 million in 2000 and has been growing at an annual rate of 2.6 percent. Its GDP was estimated at US$44.1 billion[3] in 2013 (after the rebasing of the GDP was estimated at US$55.3 billion, in 2014) with considerable variation in past annual growth rates ranging from 0.6 percent in 2000, 5.9 percent in 2005, 1.6 percent in 2008, to 5.3 percent in 2010. Gross National Income per capita was US$930 in 2013, using the Atlas method. The national level poverty rate has not changed much since the early 1990s; it was 45.9 percent in 2005 and 44.8 percent in 1992. Life expectancy in Kenya has slowly increased from 53 years in 2005 to 61 years in 2012. Adult literacy rates have increased substantially from 74 percent in 2000 to 87 percent in 2009. Services represent the largest share of the economy with 67 percent of GDP in 2010; agriculture accounts for 19 percent (the share was 32 percent in 2000) with industry representing 14 percent in 2010. However, in terms of employment and exports, agriculture is by far the most important sector with more than 80 percent in employment and more than 70 percent in export value derived from agriculture.

6. The strategy for Kenya and its development partners is to support the government's Vision 2030, which aims for Kenya to achieve middle income status by 2030. This would require growth to accelerate to an average of 10 percent annually, which is a very ambitious target. The key pillars of the Vision 2030 are to accelerate sustainable growth, reduce inequality, and manage resource scarcity. The economic, social and political pillars of the Vision 2030 are based on macro-economic stability, continuity of reforms in governance, enhanced equity, more wealth creation opportunities for all citizens; and infrastructure development.

7. The north western part of Kenya is largely a pastoral region comprising the Turkana and West Pokot counties, where the livelihood of the population relies on livestock. Turkana county is the poorest county in Kenya and it is highly marginalized geographically and historically. According to the Kenya Integrated Household Budget Survey (KIHBS) 2011/12 Basic Report, 94 percent of the population lives below the absolute poverty line as compared to 49 percent nationally. The literacy rate is only 19 percent compared to 79 percent of the national average. Similarly, the population of West Pokot county is poor and marginalized. This regional imbalance is attributable to its remoteness and poor access to services, markets and information, as well as an arid environment, in addition to the underlying causes of poverty experienced elsewhere in Kenya. The 2010 Constitution of Kenya places specific emphasis on the development of marginal areas, including the establishment of an Equalization Fund as a deliberate effort to support regions that lag behind in development compared to the rest of the country. As a result, Turkana county receives the highest amount of revenue in the country. The proposed operation will complement and enhance development efforts through other Bank financed projects that benefit West Pokot and Turkana counties. These include the Regional Pastoralists Livelihoods Resilience Project, which has the objective of enhancing livelihood

[3] World Bank (2013) - World Development Indicators.

resilience of pastoral and agro-pastoral communities by improving access to markets in Uganda, Kenya and Ethiopia as well as improving the capacities of the governments of these countries to respond promptly and effectively to an emergency.

8. A regional route, in a poverty stricken, access deprived and conflict affected area will have multifaceted strategic significance, inter alia:

(a) At a regional level, it serves as a cost effective transit route connecting a landlocked country to sea ports. As a development corridor, it facilitates agriculture based export growth by providing a reliable all season access road, reducing transportation costs, improving border crossing and designing and providing basic services to export processing zones. It will also facilitate cross border trade among micro enterprises and petty traders, who are mainly women. Moreover, it will enhance trade between neighboring countries by reducing transport costs among the trading partners in the sub-regional markets. It will also help to transport emergency humanitarian aid and movement of victims of conflicts.

(b) At the national level, although the road infrastructure is built as a regional transit corridor, it will provide basic access to the local population living in the area far from the road, often marginalized populations living under extreme poverty. Hence, the investment could help reduce regional development imbalances. In addition, the road side markets provided under the project will serve as an outlet for local products, hence benefitting the pastoralist communities living along the corridor. The improved road and Information and Communication Technology (ICT) connections will help to attract investment and create job and economic opportunities for the local population. The corridor will serve as a main access for deprived communities and will help improve basic services delivery to them.

B. Sectoral and Institutional Context

Facilitating sub-regional and international trade, and enhancing export oriented development

9. A significant portion of the road transport infrastructure in the sub-region has been in poor condition, although in recent years extensive road rehabilitation programs in Ethiopia, Kenya, Uganda and Tanzania have improved the core road network. The logistical costs are high partly due to inefficient customs clearances and poor road conditions. The road transport network in Kenya is the largest in terms of size compared to other countries in East Africa, with a total network size of 160,886 km (of which 14,100 km are paved and 146,786 km are gravel or earth) and over 60,000 km of unclassified community roads. The key challenge for Kenya is to bring the network in poor condition (56 percent) to good condition (currently just 11 percent), while ensuring that adequate maintenance is carried out on the rest. In Turkana county, about 400 kms of the road network were paved. Unfortunately, due to lack of timely maintenance, many have now turned into dirt roads. Nevertheless, the county has a network of 2,505 km of all categories of classified roads compared to a surface area of 68,000 km^2 translating to less than 0.04 km per km^2. In South Sudan only 4,000 km of the 17,000 km classified roads are all-

weather gravel roads. During the protracted civil war, this corridor offered the main access for South Sudan to the Mombasa sea port and its neighboring countries. The corridor was also the main gateway for humanitarian aid and trade with Kenya. It also provided the only road access to the population in the south eastern part of South Sudan.

10. The Juba-Nadapal/Nakodok-Eldoret corridor is the safest and most cost effective corridor connecting land locked South Sudan to the port of Mombasa. The average travel time between Mombasa and Juba through Nadapal/Nakodok is 5 to 8 days, while via Nimule, and Kaya (border between South Sudan and Uganda), it is 6 to 9 days, and 7 to 11 days [4], respectively.

11. The Juba - Nadapal - Eldoret corridor[5] is an extension of one of the EAC road corridors, designated as EAC corridor No.3[6] linking South Sudan, Kenya, Tanzania and Rwanda, and further connecting to the Dar-es-Salaam – Dodoma – Isaka corridor, which joins the Trans East African highway at Dodoma. The Program in the long-term envisages promoting the entire EAC Corridor No.3 as a development corridor (see map 2 in annex 2 for illustration of the EAC corridor). Further, part of the Juba - Nadapal road, Juba - Kapoeta, serves the Kampala - Juba - Addis corridor which links Uganda, South Sudan and Ethiopia, and further connects to Djibouti port, and alternatively to Berbera port, in Somalia. This specific project focuses on segments within South Sudan and Kenya.

12. The Kenya - Uganda railway accounts for only about four percent of the cargo handled through the port of Mombasa. Plans exist for extending several railway lines, for example, the extension of the Port Sudan - Wau line to Juba and Gulu to merge with the operational railway at Tororo. There is an oil pipeline running between Mombasa and Eldoret with a spur to Kisumu (Lake Victoria) in Western Kenya and serving several East African countries. A section of the Eldoret-Juba corridor, namely Lokichar-Nadapal/Nakodok-Juba (over 600 km), forms part of the proposed Lamu Port South Sudan Ethiopia corridor (LAPSSET). A new standard gauge railway is proposed to link the Port of Mombasa to Kampala and Kigali via Nairobi. The construction of the Mombasa – Nairobi section has commenced with financing from China. Similarly, China is financing the construction of a standard gauge railway between Djibouti and Addis Ababa. The completion of these rail links will diversify and enhance competition among the existing modes of transport in the region.

13. In 2007, three new road authorities were created in Kenya to manage the entire road network, the Kenya National Highways Authority (KeNHA), Kenya Rural Roads Authority (KeRRA), and Kenya Urban Roads Authority (KURA). This arrangement was intended to separate policy formulation from execution of programs, and to provide greater transparency and accountability in the use of allocated resources. The 2010 Constitution has brought further changes in the institutional arrangements by creating two categories of roads, county and

[4] Asebe, 2012, South Sudan logistics and trade bottlenecks supported by the World Bank

[5] The Juba – Eldoret corridor starts from Juba, the capital of South Sudan and passes through Torit, Lobira (junction to Uganda through Kitgum and Gulu), Kapoeta (junction to Ethiopia and Djibouti through Boma), Nadapal (the border between South Sudan and Kenya located about 360 km away from Juba), Lokichoggio, Lokichar, Lodwar, Marich Pass, Kitale-Laseru, and reaches Eldoret located about 595 km from Juba, which is a major node where roads connecting to Mombasa, Tanzania, Kampala meet.

[6] EAC Corridor No 3 starts from Biharamulo (Rwanda) and passes through Mwanza (Tanzania)- Musoma (Tanzania) - Sirari (border between Tanzania and Kenya) – Eldoret (Kenya) - Lodwar (Kenya)– Lokichoggio (Kenya)- Nadapal (border between South Sudan and Kenya) and ends at Juba (capital of South Sudan).

national. In addition, following the April 2013 general elections, the government was reconstituted and among other things, consolidated all sub-sectors of transport under one ministry, the Ministry of Transport and Infrastructure (MoTI). The MoTI has an oversight responsibility across all modes of transport. Kenya established a Road Maintenance Fund, based on fuel levy two decades ago, which now generates about US$300 million annually for road maintenance. Similarly, a customs department exists as part of the Kenya Revenue Authority (KRA) and its capacity needs to be strengthened. Border management and regional trade are complex issues and call for the engagement of key stakeholder institutions, such as Kenyan Bureau of Standards, Kenya Plant and Health Inspectorate Services, Kenya Ports Authority (KPA), Immigration, Ministry of Health, and Kenya Police. These institutions have been in place for a long period of time and have developed some capacity. Nevertheless, Kenya is re-examining these cross border management arrangements with a view to streamlining them for smoother movement of goods and people. Proposals have been made to create a border control agency, similar to the arrangements at airports and sea ports.

14. The Logistic Performance Index (LPI)--estimated by the World Bank--shows Kenya has been improving in terms of logistics performance since 2007. Kenya's overall index was 2.81 out of 5 (best performer) in 2014. Kenya was placed second among the ten top performers of the sub group of low income countries in the same year. Most of the improvement is attributed to the logistic infrastructure upgrading in recent years. Nevertheless, within the Index, the sub category of Customs has been losing position due to less efficiency in the clearance process (i.e. speed, simplicity and predictability of formalities) by border control agencies including customs.

Rationale for Bank involvement

15. The Juba-Eldoret corridor provides the only road link to Turkana and West Pokot counties in Kenya, serving people living in extreme poverty. The road is in a deplorable state resulting in long travel time traversing the region and high transport costs. The region is cut off during occasional heavy rains. The prevailing conditions present an unattractive environment for doing business. The improvement of the corridor will help reduce regional development imbalance in Kenya as well as improve the environment for stimulating economic development in the area, including attracting private investment. Further, the corridor traverses a region that is home to refugees. Its improvement will help in the reduction in time and transportation costs of humanitarian aid to the people of South Sudan, presently suffering from conflict.

16. Through this project, the World Bank will be part of a broader initiative, together with a number of multilateral and bilateral donors in financing the upgrading of the road corridor, trade facilitating measures, and installation of a fiber optic cable. The governments of Kenya (GoK) and the Republic of South Sudan (GRSS) have requested the World Bank to take the lead in leveraging its convening power, knowledge, and experience to syndicate financing, especially from various development partners, to support the development of the corridor. To date, no development partner has expressed interest in funding the rehabilitation of the road section of the corridor that is planned under the Bank financing.

C. Higher Level Objectives to which the Project Contributes

17. The creation of an efficient trade and development corridor, enhanced use of ICT for internet connectivity and road management, as well as improving the access to market for pastoralist communities, will all help the poor population living along the project corridor to have greater access to economic opportunities and basic services, which is consistent with the Bank's twin goals of reducing extreme poverty and enhancing shared prosperity.

18. The proposed project is aligned with and supports (a) the core pillars of the Africa Strategy[7], mainly the competitiveness and employment pillar, by improving the business environment and reducing transport and telecommunication costs; (b) the objectives of the World Bank Regional Integration Assistance Strategy for Sub-Saharan Africa (RIAS 2008); (c) the regional integration initiatives of the African Union (AU)/New Partnership for Africa's Development (NEPAD); (d) the World Bank and African Development Bank commitment on the transformative effect of ICTs in Africa (eTransform Africa, 2012); (e) the objectives of the Country Partnership Strategy (CPS[8]) for Kenya for the period FY2014-18 that recognizes Kenya's lead role in facilitating regional trade, investments and flow of skills across borders, hence the need to tackle the current obstacles which include remedying major transport corridors; and (f) Vision 2030 that places emphasis on significant investments in the transport sector to create an enabling environment for private investment and social development. The proposed project is an important deliverable under the Horn of Africa (HoA) Initiative. The Initiative is an ambitious effort by the World Bank Group, United Nations (UN), Islamic Development Bank, African Development Bank, AU Commission and European Union (EU) to promote (within their respective mandates) more collaborative political, diplomatic and development solutions among countries to the issues of fragility, vulnerability, and insecurity in the HoA—issues that do not respect national boundaries.

II. PROJECT DEVELOPMENT OBJECTIVES

A. Project Development Objective (PDO)

19. The objective of the Eastern Africa Regional Transport, Trade and Development Facilitation Project, Second Phase of Program (SOP2) is to improve the movement of goods and people along Lokichar – Nadapal/Nakodok part of the Eldoret-Nadapal/Nakodok road in the north western part of Kenya, in particular, and to enhance connectivity between Kenya and South Sudan, in general.

20. This project will contribute to the principal PDO, improving access to the north western part of Kenya and between Kenya and South Sudan, through improving road infrastructure and ICT links, reducing transport and ICT costs, and facilitating the reduction of non-fiscal trade barriers, which help reduce the cost of doing business and development. The project also improves South Sudan's access to sea ports by improving the Nadapal/Nakodok – Eldoret part of the Juba- Nadapal – Eldoret (South Sudan – Kenya regional link) corridor that connects to the Northern Corridor serving the landlocked countries in the sub region to Mombasa sea port. The project provides the most cost efficient transit corridor for South Sudan that crosses only one border post.

[7] Africa's Future and the World Bank's Support to It, March 2011
[8] CPS for Kenya for FY 2014-18 discussed by the Board on June 5, 2014

21. The proposed project will also help boost export oriented agricultural development in the north western part of Kenya, which is endowed with agricultural land, animal resources, fishery and minerals. It will also facilitate the extraction of the recent discovery of oil, and the development of tourism potential in the project area. In addition, the trade facilitation measures deployed under this project will help integrate the poor, including the pastoralist women living along the corridor, into the national and sub-regional economy through the development of pastoralist road side markets. The project will contribute significantly to the improvement of the livelihood of the population living in Turkana and West Pokot counties of Kenya, currently living under extreme poverty, where development indicators, including education, life expectancy and sanitation, are far below the national average.

The Program Objective

22. The proposed second project contributes to the overarching objective of the Eastern Africa Regional Transport, Trade and Development Facilitation Program of "enhancing connectivity of South Sudan with its Eastern Africa neighboring countries, and its access to sea ports" through a sequential improvement in physical and institutional infrastructure, in addition to promoting trade and development facilitation interventions on the Juba- Nadapal – Eldoret development corridor. The overall program will be implemented in a series of three projects (SOPs). The first project of the program (Phase 1) focused on South Sudan, was approved in May 2014. It supports the improvement of part of the Juba-Nadapal/Nakodok road in the territory of South Sudan, and implementation of trade and development facilitation measures, including a new fiber optic link. This second project (Phase 2) will focus on the improvement of road and ICT infrastructure, implementation of trade and development facilitation, including facilitating the development of export processing zones, pastoralist road side markets, and service centers (rest stops) in Kenyan territory. The third project (Phase 3) expected two cover Kenya and South Sudan will focus on enhancing support to trade facilitation measures along the Juba-Nadapal-Eldoret corridor and completing the upgrading of the Juba-Eldoret road. The overall program in the long-term envisages promoting the entire EAC Corridor No.3, including Kitale to Biharamulo (the extension of Juba- Nadapal- Eldoret road) as a development corridor by upgrading the section of the road from Kitale to Biharamulo into a safe and digital road, as well as replicating the trade and development facilitation interventions adopted for the Juba-Eldoret corridor.

Project Beneficiaries

23. The beneficiaries of the project will include: pastoralist communities, farmers and businesses along the road corridor, tradable sectors of the economy, agriculture, and the extractive industry, as well as road users (passengers and transporters), consumers and producers both inside and outside the sub-region. Through the export processing facilities and pastoralist road-side markets, the project will offer new jobs and income earning opportunities to the people in Turkana and West Pokot in the Kenyan territory. Currently this region has not received adequate attention and exhibits very high levels of poverty. Due to the poor state of this corridor, the inhabitants are occasionally cut off from the rest of Kenya and South Sudan, particularly during the rainy season. The installation of the fiber optics will benefit ICT users, including

government departments, the private sector, as well as small and medium enterprises in the north-western part of Kenya and throughout South Sudan by lowering the cost of internet access.

24. *People's Voice:* Consultations with the pastoralist women in Turkana and West Pokot of Kenya helped to air the views of the population and confirmed that the project has broad support among the people living along the corridor who consider themselves direct beneficiaries. In regards to the benefits of the project, the pastoralist women expressed that they will be engaged in selling milk and goats at the pastoralist markets. Improved services will be delivered to the pastoralists; which will help improve their livelihood and make them part of the modern economy. (Views of pastoralist women are presented in detail in Annex 2).

PDO Level Results Indicators

25. The expected outcomes for the second project include: (i) reduction in travel time between Nadapal/Nakodok and Lokichar; (ii) reduction in transport cost to users; (iii) reduction in cost of ICT access in area served; (iv) road in good and fair condition as a share of the Juba – Mombasa Corridor; and (v) survey reports on citizen engagement available. The project will benefit an estimated 1.2 million people of which about 50 percent female. Progress towards the attainment of the PDO will be assessed through the indicators given in Annex 1.

Program Level Indicators

26. Expected outcomes of the overall program would capture combined outcomes of the two participating countries on the entire program area, Juba- Nadapal- Eldoret corridor, hence the indicators will be the same but with more scope and higher targets in absolute terms.

III. PROJECT DESCRIPTION

A. Project Components

Component 1: Upgrading Selected Critical Road Infrastructure (US$594 million of which IDA US$426 million equivalent).

27. This component includes support to KeNHA for upgrading the Lokichar-Nadapal/Nakodok (338 km of which 298 km to be financed by IDA) and part of the Eldoret-Nadapal/Nakodok road in Kenya, with the associated supervision costs. This will cover the upgrading of the following road sections and construction of associated bridges: (a) Kalobeiyei River - Nadapal (88 km) ; (b) Lokitaung junction and Kalobeiyei River (80 km); (c) Lokitaung junction and Lodwar (80 km); (d) Lodwar and Loichangamatak (about 50 km); (e) Kainuk Bridge at Muruni River; (f) Loichangamatak-Lokichar junction (40 km) section at an estimated cost of US$70 million to be financed by GoK; and (g) implementation of the Resettlement Action Plans (RAPs) related to road works, under parallel financing as part of its counterpart contribution. In addition, all road upgrading contracts will have provisions for road side social amenities and Human Immunodeficiency Virus Infection/Acquired Immune Deficiency Syndrome (HIV/AIDS) prevention activities, as this will help raise awareness and provide mitigation measures in an effort to protect the local community, drivers and contractors personnel.

28. The road sections to be upgraded under this operation form part of the key link to South Sudan, as upgrading starts from the border to improve a road ruined to a state of disrepair. The upgrading of these sections covers the segment of the corridor that is impassable during the rainy season and it helps to reestablish connectivity between the two countries, provided the remaining sections are maintained regularly, until the upgrading takes place. To ensure sustainability, the government will put the upgraded roads under long term Performance Based Maintenance Contracts (PBMC) to be financed by the Kenya Roads Board (KRB). Kenya has now embraced the PBMC approach for road maintenance, an initiative supported under the Bank financed Northern Corridor Transport Improvement Project. Already some road sections in the country are under PBMC supported by KRB with funding from the Road Maintenance Fund. The performance based maintenance will help ensure the upgraded roads will be regularly maintained to deliver a minimum agreed service level by the contractors, while allowing the contractors to carry out maintenance planning and actual interventions using innovative and cost effective strategies. This project will support building the capacity of KeNHA and MoTI to manage PBMC as the scope of the approach is expanded to cover other roads in the country.

Component 2: Facilitation of Regional Transport, Trade and Development (US$42.5 million of which IDA US$38.5 million equivalent).

29. This component supports promotion of sound transport, trade and development facilitation measures, to increase the efficiency of the corridor. This includes:

- ***Sub-component 2 (a)***: ***Support to KRA to carry out a program of activities designed to implement transport, trade and development facilitation measures (US$8.0 million),*** including such activities as: (i) harmonization of customs and other border management, risk management and control procedures; (ii) designing of a One Stop Border Post (OSBP) at Nadapal/Nakodok; (iii) strengthening of the cross-border management unit of KRA including enhancing its coordination with other border agencies; (iv) support the implementation of an integrated border management system; (v) support to the implementation of the Memorandum of Understanding (MoU) between Kenya Customs and South Sudan Customs Services relative to information exchange and use of common procedures; (vi) support the use of ICT for revenue collection and for facilitating clearance and release of goods to help Kenya Customs comply with new transparency requirement of e-citizen registration, electronic collection of revenue and e- reporting of clearances and release of goods.

- ***Sub component 2 (b): Support to KeNHA to carry out a program of activities designed to implement transport, trade and development facilitation measures (US$31.0 million)***. This will include such activities as: (i) carrying out a study to enhance social infrastructure and social services delivery, including HIV/AIDS prevention, along the corridor, while implementing the recommendations as part of the road upgrading contracts; (ii) designing the facilities and marketing system for pilot pastoralist road side markets; and (iii) establishing the facilities of pilot pastoralist road side markets, through provision of sites and services, clean water, extending electrification to selected centers, provision of market shades, milk

coolers, slaughter houses, veterinary posts, livestock holding area in selected locations, and connecting community information centers with fiber optic connection and advisory services in the management of these facilities and services. This subcomponent will also involve activities designed to support engagement with Project stakeholders such as county governments, communities, households (in particular female-headed households) on management and operational modalities of these facilities.

- ***Sub-component 2 (c): Support to MoTI (US$3.5 million).*** This sub-component includes a program of activities designed in conjunction with the ministry responsible for commerce, to implement transport, trade and development facilitation measures. It will include such activities as: (i) identifying and designing potential sites and providing services to facilitate the development of export processing zones, storage facilities and rest stops; (ii) certifying export products; and (iii) simplifying the process for import-export.

Component 3: Institutional Development and Program Management (IDA US$10.5 million equivalent).

- ***Sub-component 3 (a): Strengthen the institutional capacities of entities involved in Project implementation including***: (i) the capacity of KeNHA in road design review as well as contract management, value engineering, road maintenance, safeguards and procurement management; (ii) project management capacity, maintenance management and engineering capabilities in the transport sector through supporting the Kenyan Roads Board; Engineers Board of Kenya; MoTI, Resource Mobilization Department under the National Treasury, and State Law Office; (iii) supporting the MoTI in the monitoring and evaluation of the projects; and (iv) strengthening project management capacity of Information and Communication Technology Authority (ICTA).

- ***Sub-component 3 (b): Support to strengthen the National Transport and Safety Authority to implement the "Safe System", program to include such activities as***: (i) conducting needs assessment, vehicle safety inspection and safety audits; (ii) strengthening enforcement capability of the Authority and post-impact care; and (iii) assessing road safety on Lokichar-Eldoret section of the Eldoret-Nadapal/ Nakodok Corridor as well as developing and carrying out of a pilot road safety action plan along the corridor.

- ***Sub-component 3 (c)***: (i) Provision of advisory services, training and operating costs to Ministry of Transport and Infrastructure as required to sustain the management and coordination of Project implementation activities, including audits, and the monitoring and evaluation of progress achieved in the execution of the Project; (ii) Provision of advisory services, training and operating costs to KeNHA as required to sustain the management and coordination of Project implementation activities, including audits, and the monitoring and evaluation of progress achieved in the execution of the Project.

- ***Sub-component 3 (d)***: Provision of technical assistance (TA) to carryout preparatory studies to support the preparation of the next phase of the Program and develop follow-on regional transport and trade facilitations projects as well as bidding documents for long term performance-based road maintenance contracting.

Component 4: Enhancing Internet Connectivity (US$29 million of which IDA US$25 million equivalent).

30. This component will provide support to ICTA for: (a) the construction of a fiber optic cable network, alongside the part of the Eldoret-Nadapal/ Nakodok Corridor located in Kenya, from Nadapal/Nakodok to Eldoret. Fiber spurs and rings will also be constructed and provision made for connecting refugee camps, and selected schools, hospitals and other strategic locations including pastoralist road side markets, export processing zones, rest stops and community and service centers along the corridor in the Kenyan territory; and (b) design, bidding document preparation, and provision of monitoring and supervision services for the installation of fiber optic cables.

B. Project Financing

Lending Instrument

31. The proposed lending instrument for the project is an Investment Project Financing (IPF). The IPF will allow the project to be financed through SOPs. There will be no trigger to initiate a successor phase, although each phase may have eligibility criteria. This will allow the Bank to provide support in a flexible manner depending on the preparedness of individual development partners to engage in the proposed project. The IPF is structured to allow individual countries to participate in parallel.

Financing Arrangement

The Second in a Series of Projects

32. The proposed equivalent total cost for the second project for Kenya is about US$676 million of which US$500 million would be an IDA Credit for the Republic of Kenya; the balance of US$176 million is counterpart funding. The costs of the road upgrading contracts to be financed by the Bank are based on current market prices. In addition a 20 percent contingency has been provided. The Bank financing is limited to upgrading four road sections and considered to be adequate, hence no additional financing is foreseen under normal circumstances. A Project Preparation Advance (PPA) in the amount of US$1 million has been approved for the Republic of Kenya, and this has helped for the timely completion of the updating of the safeguard instruments.

33. The GoK will contribute US$176 million of which an estimated KES 2,147,419,945 (equivalent to US$24 million) will fully cover the compensation to be paid to project affected

people; about US$82 million represents the VAT (16 percent) portion of the works contracts and about US$70 million will finance part of the Lodwar – Lokichar road (Lokichar - Loichangamatak). The Kenya Roads Board will take over the responsibility of financing the maintenance of the improved roads, upon completion of the upgrading.

34. The proposed program meets the guidelines for IDA Regional Program Funding as: (a) it covers a post conflict country, South Sudan, and a contiguous economically inter-dependent country, Kenya; (b) it enhances transport and communication connectivity among South Sudan, Uganda, Kenya, and Ethiopia; (c) the expected transit efficiency gains cannot be fully achieved without the direct and integrated involvement of the countries sharing the corridor, namely South Sudan and Kenya; (d) the expected benefits can only be achieved through the simultaneous implementation of an integrated set of infrastructure, trade and development facilitation activities in the countries along the corridor; (e) the program enhances competition among transport corridors in the sub-region; and (f) the proposed road is part of EAC's corridor No. 3 linking South Sudan, Kenya, Tanzania and other Great Lakes countries, serving more than three contiguous countries, although this program focuses on linking South Sudan and Kenya.

35. *Partnerships under parallel financing*. The EU, the European Investment Bank (EIB), and the German Bank for Development (KfW) are planning to create a consortium to finance the upgrading of the Kapenguria – Marich Pass and Marich Pass – Lokichar sections, while the Japan International Cooperation Agency (JICA) and the African Development Bank (AfDB) are considering financing the upgrading of the section between Lesseru to Kapenguria, both part of the Eldoret/Lesseru to Nadapa/Nakodok road, in the territory of Kenya, with an approximate cost of US$300 million in total. The parallel financing arrangement will help cover the financing gap for the upgrading of the entire road section in the territory of Kenya. However, the amount of the financing from EIB and KfW is contingent on the level of grant to be provided by EU. A decision is expected by December 2015 which could raise up to an additional Euro 200 million to cover the unfunded road section in Kenya.

36. In case the financing from EU/EIB/KfW does not reach the expected level, GoK has expressed its intention to work with other donors to raise additional funds. In the meantime, GoK will maintain the section between Marich Pass and Lokichar to a level that will be passable year round. This arrangement will enhance the usefulness of the section to be financed by the World Bank. The road section in Kenya was once an existing paved road that has deteriorated over time due to lack of adequate and timely maintenance. Hence, improving these sections through upgrading the drainage structure is a priority, while maintaining of the remaining section is the preferred approach adopted by the Bank. It should also be noted that the Bank is financing the replacement of a collapsed bridge in the middle of the unfunded section to ensure all weather usage of the entire road segment in the territory of Kenya. Thus, adopting PBMC for the upgraded section with funding from the Road Maintenance Fund will ensure sustainability. Further, the support of the World Bank in the South Sudan territory focuses on reconstruction of critical bridges that are interrupting traffic movement during the rainy season. With the repair and maintenance of the existing road the traffic from the Kenyan side could get to Juba, using an improved gravel roads until funds are acquired to upgrade the entire corridor. The project is designed in an incremental way to make good use of the improved sections while the unfunded section could also serve, with repair and maintenance.

Table 1. Project Cost and Financing (US$ million)

Project Components	Project cost	IDA Financing	% Financing
1. Upgrading Critical Road Infrastructure	594.0	426.0	71.7
2. Facilitation of Regional Transport, Trade and Development	42.5	38.5	90.6
3. Institutional Development and Program Management	10.5	10.5	100.0
4. Enhancing Internet Connectivity	29.0	25.0	86.2
Total Project Costs			
Front-End Fees			
Total Financing Required	676.0	500.0	74.0

C. Series of Project Objective and Phases

The First in a Series of Projects:

37. South Sudan has started implementing the first project – Phase 1 – estimated to cost about US$340 million for which the World Bank has approved a credit of US$80 million; China EXIM Bank and the GRSS are providing the remaining sum. The first project was declared effective in December 2014. Preparatory activities to launch the road upgrading and fiber optics installation, as well as conducting priority trade and development facilitation studies were funded through a PPA. However, the implementation of the contract repackaging and bid document updating services contract is delayed. The updated bidding document for the section to be financed by China EXIM Bank is ready while the updating of the bidding document for the section to be financed by the World Bank is in progress; the works contract is planned to be awarded by November 2015 at the beginning of the dry season. The procurement consultants for the preparation of bidding documents for the fiber optic installation is in progress. The government of South Sudan has continued with consultations with the China EXIM Bank to solicit the funds required for the upgrading of part of the road corridor from Juba to Torit. Political stability and security in South Sudan remain a major concern, and to some extent are slowing down government functions.

38. Implementation progress for the first project has been rated Moderately Unsatisfactory due to delays in processing priority procurement activities, difficulties in availing counterpart funds and slow progress with the process of soliciting the funds from China EXIM Bank, which is getting more complicated with the plunging of oil price and uncertainties with the restoration of peace and stability. The impacts of the conflict are deepening. Government functions have been weakened and responses from the Project Management Team (PMT) of the Ministry of Transport, Roads and Bridges are slow. The project is providing more TA consultants to strengthen the PMT and a plan to improve the implementation progress is in place. Implementation support by the Bank will also be increased. The joint project implementation arrangement and cooperation between Kenya and South Sudan is functional, as both sides have upheld their commitment to fast track the implementation of the project. Should the political uncertainty and instability continue and funds for the project not flow as expected, the minimum intervention of providing an all season accessible corridor will remain a necessity to: (i) provide basic access to the people living in the south eastern part of South Sudan, (ii) support the

transportation demand for humanitarian aid, as well as movement of war victims and settlement of internally displaced people, (iii) maintain the cross border trade as the population in the project area has no other outlet for imports of basic goods, and (iv) continue to meet the objective of providing the most cost effective transit corridor to the people of South Sudan.

The Third in a Series of Projects

39. Completing the upgrading of the road corridor, establishing the OSBP and overloading control station at Nadapal/Nakodok, and connecting export processing zones, rest stops and community centers and service centers along the corridor with ICT will be implemented under the third project, anticipated to start in 2017. This includes: (a) upgrading of the remaining part of the road corridor from the first project in South Sudan; (b) upgrading of the remaining sections of Nadapal/Nakodok-Lesseru road in Kenya; and (c) support to trade and development facilitation measures along the Juba-Eldoret corridor, and institutional development, in both South Sudan and Kenya.

40. The provisional cost of the overall Program is estimated at about US$2.1 billion. The financing requirement for the third phase is estimated at US$783 million, assuming that the contribution from China EXIM Bank for the first phase, as well as the contributions from EU/EIB/KfW/JICA/AfDB for the road upgrading works in the Kenyan territory (for the section from Lesseru – Marich Pass), materialize as planned. Therefore, there will be a need for further engagement of the World Bank and other development partners in the third phase. A summary of indicative program cost and financing is presented in Table 2, while the implementation arrangements of the road corridor upgrading is presented in Figure 1.

Table 2: Indicative Program Cost and Financing

Program Phases	**Provisional Program Components (US$ M)**				**Total (inclusive of taxes)**
	Improvement of physical infrastructure	**Transport, trade and development facilitation, implementation support**	**Institutional support**	**Enhancing internet connectivity through fiber optics**	
Phase 1 - (SOP1) South Sudan - 2014 - 2019	307.0	12.0	6.0	15.0	340.0
Phase 2 - (SOP2) Kenya - 2015 - 2021	894.0	42.5	10.5	29.0	976.0
Phase 3 - (SOP3)					
South Sudan - 2017-2025	523.0	25.0	5.0	-	553.0
Kenya - 2017 - 2025	200.00	25.0	5.0	-	230.0
Sub-total Phase 3	**723.0**	**50.0**	**10.0**	**-**	**783.0**
Total	**1,924.0**	**104.5**	**26.5**	**44.0**	**2,100.0**
Percentage of Total	**91.6**	**5.0**	**1.3**	**2.1**	**100**

Figure 1. Road corridor upgrading implementation arrangement and status of financial commitment

Country	**Road Infrastructure Upgrading in South Sudan (365 km) Total cost US$830 million- Financing Gap US$480 million**				**Road Infrastructure Upgrading in Kenya (601 km) Total cost US$ 1.07 billion- Financing Gap US$200 million**			
Road Section[9]	Juba-Torit	Torit-Lobira	Lobira - Kapoeta	Kapoeta - Nadapal	Nadapal - Lokichar	Lokichar - Marich Pass	Marich Pass-Kapenguria	Kapenguria -Lesseru
	125 km	50 km	90 km	90 km	338 km	107 km	65 km	90 km
Cost US$M	270	100	200	260	594	200	160	140
Potential financier	China EXIM	AfDB	Not Committed	WB[10] GRSS	WB/GoK	KfW/EIB/EU	JICA/AfDB	JICA/AfDB
Commitment Status	Discussion In progress (DIP)	DIP	Not committed	Partially Committed	Committed	DIP	DIP	DIP
Phase	One	Three	Three	One	Two	Three	Two	Two

Program Eligibility Criteria

41. The project to be implemented in Kenya meets standard Bank requirements (including safeguards) and fits into existing country programs (net of the regional IDA allocation).

D. Lessons Learned and Reflected in the Project Design

42. The program design has taken into consideration the recommendations provided by the World Bank Independent Evaluation Group on its review of various regional programs around the Bank[11], in particular the need to: (a) have a strong country commitment to regional cooperation; (b) match the scope of objectives with national and regional capacities; (c) have clear delineation and close co-ordination between the regional and national stakeholder institutions; (d) have in place accountable and well-designed governance and management arrangements; and (e) ensure sustainability after external support ends.

43. The overall program and the two projects (phase one and this second phase) have been designed to reflect the lessons gained from both the East African Trade and Transport Facilitation Project (EATTFP) with regards to risks in investment versus return in relation to implementation of soft measures and the time it takes, and other regional investment projects in transport in Kenya and South Sudan. Accordingly, the proposed program has been designed to ensure the following: (a) the use of a phased approach within a consistent program framework; (b) the simplification of project objectives, implementation arrangements, design and

[9] The location map in Annex 8 shows the nodes.
[10] For Phase 1 the World Bank has approved a credit of US$80 million of which US$47 million will be allocated to upgrade the road to an all-weather gravel road. For the upgrading of the road to an asphalt road standard under Phase 3 and maintenance about US$213 million is required, and Bank has to leverage resources from other donors.
[11] The World Bank Group (2007a). *The Development Potential of Regional Programs. An Evaluation of World Bank Support of Multi-country Operations*. A report by the Independent Evaluation Group.

components; (c) early preparation of engineering, social, environmental, and institutional aspects to ensure quality at entry; (d) agreeing on an implementation strategy for implementation of soft measures ahead of time (e) extensive consultation with key stakeholders to ensure increased ownership; (f) improved cross sectoral and donor coordination to support program objectives and sustainability; (g) provision of support to establish a bilateral mechanism, tasked with a monitoring role and sustaining program outcomes, including the establishment of a joint coordination and corridor management group; and (h) introducing long term and performance based road maintenance arrangements to support the sustainability of investments.

Alternatives Considered and Reasons for Rejection

44. The idea of preparing a multi-country investment operation in the form of a single IPF was considered and rejected. Implementation of all infrastructure improvement and trade facilitation measures on all the corridors in one operation was precluded, as the project would be far too complex. Resource limitations also do not allow the implementation of all anticipated activities under one operation. Therefore, developing the remaining parts of the EAC corridor No. 3 and the Djibouti corridor stage by stage was considered. This will also avoid duplication of efforts, as AfDB will support the Kampala – Juba- Addis - Djibouti corridor.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

Partnership arrangements

45. Potential development partners that may support the infrastructure upgrading and trade and development facilitation along the Juba - Eldoret corridor, include: JICA, AfDB and EU/EIB/KfW, China EXIM Bank, Trade Mark East Africa, and the World Bank. The United States Agency for International Development (USAID), which has a very active program in the region, could potentially be interested in promoting trade and development facilitation. To facilitate donor coordination, the governments of South Sudan and Kenya held a donors' consultative meeting on January 29 and 30, 2013 that was successful in drawing the road map for the implementation of the overall program.

Coordination

46. The overall program will involve South Sudan and Kenya. The implementation will be coordinated by the Joint Inter-Ministerial Committee (JIMC), representing the Ministry of Transport, Roads and Bridges (MTRB) of South Sudan, and the MoTI of Kenya. The two ministries have strengthened the JIMC by including key institutions involved in transit transport management. The JIMC engages with the Inter-Governmental Agency for Development (IGAD), EAC and the Northern Corridor Transit Transport Coordination Authority (NCTTCA) on trade facilitation matters and inter-country coordination. The JIMC will have an oversight responsibility and will be responsible for overall regional co-ordination.

47. The development partners expected to finance the upgrading of the Lesseru–Nadapal/Nakodok road have suggested establishing a coordination mechanism that would help to

jointly supervise compatibility of the road upgrading works and ensure consistent application of safeguard instruments prepared for the entire project. KeNHA will lead the joint supervision effort across the four lots. To this effect, MoTI has prepared a draft framework for the establishment of the coordination arrangement. However, application of the framework would start upon signing of a financing agreement with one other potential development partner.

Project Implementation

48. The proposed Project will be implemented by KeNHA, KRA, MoTI and ICTA. The implementing entities will establish PMTs assigning staff from within. MoTI will be responsible for the overall coordination and implementation of the project in Kenya, as well as the implementation of the development facilitation interventions such as designing the export processing zones in conjunction with other relevant government departments and the ministry responsible for commerce. MoTI will appoint and maintain throughout the project life a project coordinator for overall coordination. KeNHA will focus on road corridor upgrading. KRA will have the overall responsibility of implementing the trade facilitation measures on the Kenyan side while ICTA will be responsible for the ICT component. MoTI, KeNHA, KRA and ICTA all have experience in managing Bank supported projects and further TA to strengthen project implementation capacity will be provided under the project. The first phase of the project on the South Sudan side is under implementation by the MTRB, the South Sudan Customs Services and the Ministry of Telecommunications and Postal Services. The counterpart institutions on both sides are well connected and implement critical joint operations in close consultation.

49. *Timeline*. The second project is planned to be implemented over a period of six years, consisting of five years for the road upgrading and other physical infrastructure works and one year for project winding up. The fiber optics will be implemented starting the first year of the second project. The first project in the South Sudan is under implementation over a period of five years. The third project will be implemented over a period of seven years. Details of the timeframe are presented in Annex 3. The GoK has prepared a project implementation manual (PIM), providing guidance on project coordination, implementation of components, as well as fiduciary and safeguards responsibilities.

B. Results Monitoring and Evaluation

50. The second project and the overall program include a set of monitoring indicators that are intended to work at both the national and corridor levels, in line with the results framework. The indicators would be replicated in subsequent phases to allow the effective measurement of the outcome and results of the project(s) and aggregated to provide results for the overall program. These indicators, together with the monitoring and evaluation arrangements, are detailed in Annex 1. The indicators will be collected, monitored, reported, and disseminated by MoTI and MTRB after endorsement by the JIMC/Program Oversight Committee (POCs). Data will be disaggregated by gender. The project will also monitor the impact of the project in reducing poverty and improving livelihoods.

51. The overall responsibility for monitoring and evaluation of outcomes of the overall program will formally lie with MTRB and MoTI. The two institutions will prepare semi-annual progress reports that will detail progress of the components and the project monitoring indicators

as per the project's results framework (see Annex 1). The GoK has proposed to engage one of the accredited universities in Kenya with adequate experience as the Monitoring and Evaluation (M&E) consultant under a contract with MoTI, but working in close collaboration with KeNHA, KRA, and ICTA. The planning unit in MoTI will be the focal point for the purposes of M&E. Meanwhile, MoTI, KeNHA, KRA, and ICTA have communications units in their organizational structures that will complement these efforts and work closely with the selected university. The project will carry out an early mid-term review, about two and half years into implementation, as stipulated in the Financing Agreement.

C. Sustainability

52. The program is expected to address sustainability issues related to infrastructure investments and facilitation measures, through enhanced ownership and by establishing trade facilitation groups. The road upgrading works implemented under the traditional contracts on the entire Lesseru – Nadapal/Nakodok road will be followed up by long term PBMC. KRB encourages all maintenance contracts to be carried out under long term PBMC arrangements. KRB will allocate maintenance funds through KeNHA for follow-on maintenance operations after the end of the traditional contract period, until the end of the project design life-time, and subsequent operations. In an effort to protect the upgraded road infrastructure, the GoK will open by mid-October 2020 an escrow account and deposit an amount equivalent to US$3 million to cover the first year maintenance funding requirements. The project will provide support for the preparation of bidding documents for the PBMC and the administration of the procurement process.

53. KRB, currently collects about US$300 million a year with which it is able to finance maintenance expenditures for about 33 percent of the network. KRB through MoTI is seeking an increase in the fuel levy to cope up with the maintenance financing demand, and GoK is considering it favorably. To ensure the availability of maintenance financing for the long term PBMC for the Lesseru – Nadapal road section, part of the Eldoret-Juba corridor, MoTI has submitted a commitment letter to the Bank. The maintenance of the transit corridors in Kenya is the responsibility of KeNHA, while KRB provides funding. KeNHA has a maintenance department that carries out maintenance through contracting. To strengthen the maintenance capacity of KeNHA and maintenance resources management efficiency of KRB, the project has a provision for TA.

54. The social infrastructure will be mainstreamed within the domestic institutional framework, but will evolve towards offering fee-based services. The management of the facilities to be provided at the pastoralist road side markets will be managed by female headed households and the private sector in consultation with the county governments.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

55. As the overall program requires the engagement of two countries (South Sudan and Kenya) and multiple agencies, the overall risk of the second project is substantial. In addition, the overall program requires multiple development partners to contribute significant financial

resources. There are risks of capacity constraints to implement projects within planned budget and a time, and spot insecurity. The MoTI will establish a steering committee for the purpose of coordinating the multiple agencies involved. The rating of the key risks categories of the Project Specific Systematic Operations Risk-Rating Tool (SORT) is presented in Table 3 and the key risks are explained as follows:

Table 3. Project Specific Systematic Operations Risk-Rating Tool

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Moderate
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Moderate
OVERALL	Substantial

56. **Political and Governance**: The sub-region has been politically unstable and the economies of most of the countries are vulnerable to shock. This may impact on the ability of the countries to commit sufficient funds for development. Inflation may also exacerbate the challenge of high construction cost and cost overrun. In Kenya, to enhance integrity and governance and mitigate the associated risks, the Bank and the GoK, with the guidance of the Integrity Vice Presidency, agreed on a Roads Sector Governance and Integrity Improvement Action Plan (GAP), which is being implemented under Bank-financed Northern Corridor Transport Improvement Project (NCTIP), and where appropriate, has been adopted for the ongoing Kenya Transport Sector Support Project (KTSSP) and National Urban Transport Improvement Project (NUTRIP) projects. Similarly, the Kenyan part of the South Sudan - EATTDFP will adopt relevant aspects of the GAP. In particular, unit costs will be rigorously investigated and estimated; stringent due diligence will be carried out on bidders, consultants and suppliers; bids and qualifications will be subjected to much higher levels of scrutiny; use of post-qualification of bidders for large works contracts will be continued; and the "Engineer" will be independent works supervision consultants. Supervision by the Bank will be enhanced through field-based fiduciary, safeguards and technical staff, with frequent missions by staff from headquarters.

57. **Technical Design of Project or Program**: There are risks related to the complexity of the program, quality of design and products, cost overrun, sustainability, time for trade facilitation measures to mature and engagement of multiple institutions. Sequencing of interventions and limiting the participation in each phase, as well as enhanced quality control and

contractors' competition will help to address such risks. The risk margin for construction projects could be high due to spot insecurity, and the relative remoteness of the project area, although this is expected to reduce as the construction works start and local communities get engaged in project activities. The project has made provision for carrying out value engineering as needed.

58. **Institutional Capacity for Implementation and Sustainability**: The slow response in terms of timely delivery and review of design, bidding and safeguards documents; delays in tender processing, monitoring contracts, accounting, and reviewing reports need to be overcome by strengthening the capacity of the implementing entities and rigorous follow-up by the Bank team.

59. **Environment and Social**: During construction, environmental and social mitigation measures may not be mainstreamed and implemented in contracts. The implementing entities may not allocate adequate budget for implementation of the RAP. Spreading of HIV/AIDS on regional corridors and increased road safety risks are also challenges to the project. Adequate safeguards risk mitigation measures have been adopted and the government has allocated the required budget.

60. **Stakeholders**: The absence of adequate financing may result in a partial upgrading of the priority road corridor. However, the government is engaged with development partners to sort out the modalities for partnership and future financing.

VI. APPRAISAL SUMMARY

A. Economic Analysis

61. *Reconstruction of road sections:* The economic analysis for the upgrading of the Nadapal/Nakodok-Eldoret road for the Kenya part was sub-divided into three sections: (a) Nakodok/Nadapal- Lodwar (analysis sub-divided in three sections); (b) Lodwar-Marich Pass; and (c) Marich Pass-Eldoret/Lesseru, while the South Sudan part covered the Juba - Nakodok section.

62. The traffic level (Annual Average Daily Traffic-AADT) and results of the economic analysis, Economic Internal Rate of Return (EIRR) and Net Present Value (NPV), using a 12 percent discount rate and traffic projections over a 20 year design life for all sections of the corridor, are summarized in Table 4. The results suggest that the economic viability of the project is robust, with the defined changes in the key parameters having little impact on overall viability.

63. *Sensitivity Analysis.* The EIRR sensitivity analysis results for the three road sections between Nadapal/Nakodok-Lodwar, ranging from 15.8 to 19.3 percent, are robust. The EIRR sensitivity analysis results for the Lodwar-Marich Pass (23.1 percent), and Marich Pass-Eldoret (29.7 percent) are robust, as well. The Bank has carried out an economic re-evaluation for the road improvement and confirmed that the section to be financed by the Bank and the other financiers is viable. In a base case scenario the EIRR for Lodwar - Nadapal/Nakodok was found to be 18.1 percent while the EIRR for Marich pass - Lodwar is 15.1 percent. With a reduction of traffic of 20 percent and increase in construction cost of 20 percent, the EIRR results for

Lodwar- Nadapal/Nakodok and Marich Pass – Lodwar show 14.3 percent and 13.1 percent, respectively. The EIRR for Lesseru – Marich Pass road is high at 39. 7 percent. The reevaluation considered application of lower traffic growth rates appropriate, thus the results indicate lower EIRRs.

Table 4: Summary of Project Corridor Economic Analysis

Road Section[12]	Length (km)	Traffic	Economic Analysis		
		AADT	EIRR (%)	NPV (US$m)	Sensitivity analysis EIRR (%)
Nakodok/Nadapal-Kalobeyei (33km)	88	357 *(520)*[13]	28.1	23.43	27.2
Lokichogio - Kalobeyei (55km)			24.7	24.97	18.2
Kalobeyei - Lokitaung	80	368 *(644)*	21.0	30.16	15.8
Lokitaung- Lodwar	80		26.5	38.48	19.3
Lodwar -Lokichar	91	154-262 *(1537)*[14]	24.7	196	23.1
Lodwar–Marich Pass	106		24.7	196	23.1
Marich Pass-Lesseru/Eldoret	158	193 to+10,000	34.6	306.8	29.7
Juba-Nadapal	363	(71-135)	21.1	353.90	19.5

64. *Installation of fiber optic cable:* The stretch between Eldoret-Lokichar-Lodwar-Nadapal/Nakadok has pockets of mobile network coverage. Based on the available information from the Communication Authority of Kenya Report of October-December 2014 on internet usage statistics, mobile internet is still the leading access option in the project area. Operators rely on expensive satellite and microwave systems for their backhaul networks. Development of the fiber optic cable infrastructure alongside the improvement of the road corridor is a cost effective approach for the proposed investment as it will leverage the assessments of safeguard, environment, and social protection policies as well as the technical and coordination of implementation. In addition, the design and implementation of both the road and fiber optic cable can be coordinated throughout the whole process. Moreover, the construction of the fiber optic cable will enhance the growth of Internet in this area. The costs of service delivery after this investment are projected to reduce by 50 percent due to the integrated approach which will in turn translate to similar reductions to the end user. With the fiber optic in place, the telecommunication infrastructure and internet access for economic development activities in the region will be facilitated.

65. *Trade facilitation initiatives:* Trade facilitation measures help countries to reduce trade costs through improved transport systems and increased efficiency and predictability of trade transactions especially at borders. For instance, a study by United States International Trade Commission (2012) revealed that on average, one day of delay at borders may reduce trade by one percent. For Kenya this might be equivalent to US$100 million in terms of imports and US$60 million in terms of exports. On the other hand, a reduction of one day of delay might be equivalent to a reduction of 70 km of the distance. A reduction of trade costs will also contribute to promote agricultural exports from the project area. It is expected that with better connectivity, improved border management, and new market facilities, communities along the project influence area will benefit from new business opportunities as well as cheaper imports.

[12] The shaded sections from Nadapal/Nakodok to Lokichar are proposed to be financed by the World Bank, and include: Nakodok/Nadapal- Kalobeyei; Kalobeyei-Lokitaung; Lokitaung- Lodwar; and part of Lodwar-Lokichar.
[13] The traffic figures in italics include motorcycles.
[14] The traffic figures show the range of traffic flows between Lodwar and Marich Pass. The figure in italics shows the traffic flow in the urban area of Lodwar.

66. *Rationale for public involvement*. Due to the current low level of development, poor road condition, and spot insecurity in the project area, traffic volume is low and a toll road option is not applicable at this stage. This is a development project, which is considered as a public domain, as it will restore all weather connection to the Turkana and West Pokot counties. Although, it is difficult to develop a Public and Private Partnership (PPP) for this specific project at this moment, the project is pooling funds from the Kenya Roads Board and other development partners.

67. *Benefit from the World Bank's contribution*. The Bank is helping in the adoption of robust trade and development facilitation measures, an Intelligent Transportation System (ITS) that will instill efficiency in the management of corridors and road safety, as well as alternative contracting arrangements, such as a long term performance based maintenance approach, based on its international experience in supporting regional transport and trade facilitation projects. The overall program is based on a series of strategic and incremental interventions based on country circumstances, and anchored in international best practice. These include enhancing governance and integrity in the transport sector, and adopting international standards and practices for procurement, financial management, and environment and social safeguards. Furthermore, the Bank has the convening power to bring development partners together to support the overall program that requires mobilizing significant amount of financial resources.

B. Technical

68. The detailed engineering design and feasibility study carried out by KeNHA covers the section between Lesseru and Nadapal/Nakodok (601.5 km), sub divided into seven contract lots/sections. The geometric design standard applied for the entire road section is compatible. The road will have one carriageway with two lanes, each with a width of 3.5 meters. The width of the shoulders is 2.0 meters on each side. Realignments are provided at sharp curves near existing drifts and at Kamatira town, near Kamatira forest. Interchanges are provided at Kitale town (at two locations– following the realignment of the road crossing the town) and Lesseru at the junction of Eldoret – Kampala road. Drifts will be replaced by culverts and/or bridges at seasonal water crossings. New bridges will be constructed at Lodwar and Kainuk; the former to replace a narrow bridge at the entrance to Lodwar and the latter to replace a bridge that has been distressed by overloaded trucks. The geometric design standards and the suggestion to improve the structures are acceptable.

69. The original pavement design proposed for the three sections to be considered under Bank financing constitutes a cement stabilized sub-base with variable thickness, 75 millimeters (mm) Dense Bitumen Macadam (DBM) base, 50 mm thick asphalt concrete wearing course sealed with Double Bituminous Surface Treatment (DBST). The pavement on the shoulders, as proposed, is similar to the carriageway standard. Additional embankment works and improved subgrade were also proposed for a significant part of the road. KeNHA considered the proposed traffic growth and pavement structure design to be conservative and carried out a design revision. The new alternative rationalized traffic growth analysis and the pavement design standard has helped to adopt a technically sound and economical design that is fit for the intended purpose, suggesting a 175 mm cement stabilized natural material sub base, 150 mm stabilized gravel base, 75 mm DBM, sealed with DBST as a wearing course. The shoulder is finished with 35 mm asphalt concrete (AC).

70. *The cost estimate as it stands now is in the range of US$1.2 million to US$1.7 million per km,* including construction, contingencies of 20 percent (10 percent for physical and 10 percent for price variation) and 16 percent VAT. The cost estimate was calculated based on quantities derived from the current engineering design applying current unit prices from ongoing contracts. The market price, as compared to the road upgrading costs in some of the countries in the region, which is around US$1 million per km, appears to be higher by about 20 percent. However, to avoid the need for additional financing, the engineering cost estimate prepared by the international consulting firms is considered. In addition, a provision of six percent for monitoring and supervision services has been made. Further additional costs would be difficult to technically justify, and any cost overrun due to unforeseen circumstances and/or unexpected responses from the market should be borne by GoK. Hence KeNHA has to monitor bid prices and additional cost requirements in due course of contract implementation and seek additional budget from the National Treasury. This will be complemented by undertaking targeted value engineering analysis.

71. *Alternatives*. Originally, the engineering design was based on a higher traffic forecast, which resulted in T1 Type11 design traffic class and the subsequent thicker pavement. The traffic assumption was revised to be in the acceptable range and a design traffic class was reduced to T1 Type5. Pavement design option was also made to be economical and technically sound.

72. To ensure sustainability, the upgrading works will be followed up by long term Performance Based Maintenance Arrangement. The intention of the KRB is to implement all maintenance activities under performance based maintenance contracting.

C. Financial Management

73. MoTI, KeNHA, ICTA and KRA have experience in managing Bank financed projects. The four implementing entities in Kenya have adequate FM systems for the purpose of the project. Overall, FM risks are rated as moderate for the entities in Kenya. In addition, financial audits will be conducted annually.

74. Each implementing entity will prepare and submit to the Bank, Interim Financial Reports (IFRs) within 45 days after the end of the calendar year quarter. In addition, audited financial statements will be prepared and submitted to the Bank within six months after the year-end by each of the implementing entities. The details of the FM assessments and action plan are summarized in Annex 3.

D. Procurement

75. The Bank team has made an assessment of MoTI, KeNHA, KRA, and ICTA. MoTI, KeNHA and KRA have experience managing procurement of Bank financed projects. ICTA has acquired some experience by managing three phases of the Bank financed project, Regional Communications Infrastructure Program (RCIP), for over US$200 million. Although, no complaints were observed in awarding major Bank funded transport contracts, in recent years, due to overstretched capacity of the implementing institutions, some transport projects are

challenged with inadequate quality design and bidding documents, cost overruns, and delays in procurement process and timely contract completion. Therefore, the overall project risk for procurement is rated "Substantial." The project has adequate provision for TA support in design review, contract administration manual preparation and providing expert inputs to the implementing entities in quality assurance and contract management. This additional support will strengthen the implementation of the Governance and Integrity Improvement Action Plan (GAP).

76. Procurement under the proposed program to be funded by the World Bank will be undertaken in accordance with the following Guidelines of the World Bank: *"Procurement of Goods, Works and Non Consulting Services under International Bank and Reconstruction Development (IBRD) Loans and IDA Credits and Grants by World Bank Borrowers"* dated January 2011, revised July 2014 (Procurement Guidelines); *"Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers"* dated January 2011 and revised July 2014 (Consultant Guidelines); *"Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants"*, dated October 15, 2006 and revised in January 2011; and the provisions stipulated in the Financing Agreement. National Competitive Bidding (NCB) shall be in accordance with procedures acceptable to the Bank.

E. Environment (including Safeguards)

77. **Overall environmental and social risks.** The potential adverse environmental and social impacts related to the civil works will be related to the road construction and fiber optic installation (Component 4) operations, and include: (a) dust and noise during construction; (b) soil erosion and pollution as a result of the establishment of base camps, borrow pits and quarries; (c) dumping of construction material and spillage of machine oil, lubricants, etc.; (d) loss of properties; (e) traffic disruptions; and (f) health and safety issues during construction. In addition, widening and realignment in the mountainous area in the section between Kapenguria and Marich Pass, which stretches over 65 km of which about 10 km is realignment in an open area and where there are no houses and forests, may increase the risk of instigating geo-hazards (landslides). The interchange (with an overpass) at Lesseru junction will involve some tree cutting in an urban though not densely populated area. Another potential impact identified during preparation of the environmental assessment is related to wildlife crossings at the Lodwar – Marich Pass section of the road due to seasonal migration of animals between the South Turkana National Park and Nasolot Park, which could be a cause for collision, but could be mitigated by providing animal crossing signs coupled with speed signs and measures to calm traffic approaching the animal crossing area. The Nadapal and Lodwar section of the road is scarcely populated with clearly identified lack of water, which will need to be carefully considered during construction.

78. Potential positive indirect impacts include increased employment and income for skilled and unskilled workers and indirect employment opportunities from provision of services to construction workers such as sale of food and beverages. Also, the reduction of travel time reduces CO_2 emissions to the atmosphere, and installing fiber optic cable may actually substitute for some physical travel, so this kind of road improvement and communication project has a positive impact with regard to the mitigation of climate change. The project has run the climate

and disaster risk screening tool and found that the major physical infrastructure improvement intervention does not have high or moderate impact. The issues related to this project are risks related to extreme temperature variability and flooding, which are normally factored in the detailed engineering design.

79. The project triggers three environmental safeguards policies: OP 4.01 (Environmental Assessment), OP 4.11 (Physical Cultural Resources), and OP 4.04 (Natural Habitats), as the road runs quite close to some natural habitats; the ESIAs include mitigation measures. The road upgrading design in Kenya was sub-divided into three parts and ESIAs and Resettlement Action Plans (RAPs) prepared by KeNHA with the assistance of three consultants have reported different impact levels. These three ESIAs and three RAPs have been reviewed, updated and re-drafted by independent consultants. The ESIAs cover activities related to road rehabilitation and the ICT component of the project. KeNHA has submitted to the Bank the updated ESIAs and RAPs upon completion; these were reviewed, cleared and disclosed locally and at the Infoshop. Impact mitigation measures are captured in the Environmental and Social Management Plan (ESMPs) that will be incorporated in contract documents and monitored during construction period.

80. The project is assigned EA category A. As mentioned above, one of the ESIAs highlights the potential impacts of the widening roads in the mountainous area in the section between Kapenguria and Marich Pass (proposed to be financed by EU/EIB/KfW). Furthermore, one of the three RAPs that cover Lodwar-Nadapal/Nakodok road section (financed by IDA) indicates that there are 1,144 Project Affected Households (PAHs) representing about 6,227 Project Affected People (PAPs) to be compensated by the project of which 539 PAHs (about 2,936 PAPs) to be economically displaced while 605 PAHs (about 3,291 PAPs) to be permanently resettled. Therefore, the project does have some irreversible impacts on certain sections of the road that need to be re-shaped for safety and engineering reasons, on local communities (resettlement, livelihood restoration, social conflict), on nearby natural habitats, and on health and safety. The specific and cumulative impacts of the road are substantial, and the ESIAs include mitigation measures.

81. The ESIAs for the three sections (Lesseru – Marich Pass; Marich Pass – Lodwar; and Lodwar – Nadapal) and the RAP for Lodwar – Nadapal were submitted to the Infoshop on February 10, 2015 for disclosure. The ESIAs for Lodwar – Nadapal and Lodwar – Marich Pass were disclosed locally on February 10, 2015, and the ESIA for Lesseru – Marich Pass was disclosed on February 11, 2015. The RAP for Lodwar – Nadapal was locally disclosed on February 11, 2015. The RAPs for the remaining two sections and the Social Assessment (SA) were disclosed as follows: the RAP for Lesseru – Marich Pass was disclosed locally on March 2, 2015 and at the Infoshop on March 3, 2015. The RAP for Marich Pass –Lodwar was disclosed locally on March 3, 2015 and at the Infoshop on March 9, 2015. The SA was disclosed locally on March 4, 2015 and at the InfoShop on March 5, 2015.

82. *Associated project risks*: Since the discrete road sections in Lesseru-Nadapal/Nakodok road corridor funded by various development partners are associated, ESIAs and RAPs for the entire road corridor have been prepared and are consistent with the World Bank safeguards policy. The GoK will ensure that they will apply for the entire road corridor. The consistent application of the safeguard instruments prepared for the entire road corridor is suggested to be

jointly supervised within the framework of the coordination arrangement to be established for monitoring the compatibility and consistency of the road upgrading works and implementation of safeguard measures. KeNHA will lead the joint supervision effort across the entire Lesseru – Nadapal/Nakodok road.

83. *Safeguards management capacity:* KeNHA has the capacity to lead the preparation of safeguard instruments for World Bank financed projects and follow-up with implementation of mitigation measures. KeNHA also has capacity to implement the RAPs. However, as the number of projects to be administered by KeNHA is increasing, its safeguards management capacity needs strengthening. The project includes a provision for hiring additional safeguards specialists.

F. Social (including Safeguards)

84. The project triggers the Involuntary Resettlement (OP 4.12). In Kenya, most of the road upgrading follows the existing alignment. However, the proposed realignment at Kitale town, with an interchange in the middle of the town in a business area, is likely to cause involuntary resettlement of a more densely populated area. According to the RAPs, in the three sections, in total about 1,808 households representing 10,067 PAPs will be affected by the road rehabilitation and upgrading works, as they will lose business structures, residential buildings, fences, gates and trees. Out of the 1,808 PAHs, 621 PAHs representing about 3,375 PAPs will be permanently resettled and 1,187 PAHs (about 6,692 PAPs) will be temporarily displaced. The impact of the road works on the section between Lodwar and Marich Pass will only be temporary displacement of a total of 280 PAHs representing about 1,557 PAPs of which 98 PAHs (about 545 PAPs) are in the Lodwar – Loichangamatak road section to be financed by IDA. This makes the total PAPs in the Bank financed sections 6,772 (1,242 PAHs). In the Lesseru –Marich Pass section, there are in total 2,199 PAPs (384 PAHs) of which only 84 PAPs (16 PAHs) will have to be permanently resettled. The project will also affect some religious institutions like mosques and churches, administrative buildings, classrooms, communal water points, graves, communal grazing areas and public toilets.

85. Compensation will be paid to replace the affected structures along the road. The total amount of compensation is estimated at KES 2,147,419,945 (equivalent to US$24 million), and will be paid by GoK. The details of the PAPs with the type and extent of the impacts is presented in Annex 3. All costs associated with compensation for land and structures will be borne (in cash or land for land) by the GoK and will be paid before the commencement of the works.

86. The project also triggers OP 4.10 Indigenous People. The majority of people along the road corridor meet the criteria for OP 4.10. Therefore, Indigenous Peoples Plans will not be prepared, but the project has carried out a Social Assessment (SA). The SA was consulted upon and disclosed before appraisal. The findings of the SA, including the process used in fostering free, prior, and informed consultations have led to broad community support of the project. A grievance redress mechanism; addressing adverse impacts and/or providing benefit-sharing; and, establishing monitoring, evaluation, and reporting during implementation relating to the communities, are included in the project as social risk mitigation measures and benefits. The SA

focused on the pastoralist communities, the Turkanas and Pokots, and assessed the expectations and benefits of the project to the local people. .

87. **Targeting Citizen Engagement in the Project:** The project recognizes the importance of community participation, and will carry out *Social Monitoring and Evaluation Surveys* before and after implementation of the contracts for the upgrading of the Nadapal – Lockichar section and selected trade and development facilitation interventions, including the design of the OSBP, pastoralist road side markets, export processing zones, and fiber optic installation, in order to gauge how road users and communities view the performance of KeNHA in project delivery. These surveys will also provide data that capture citizen feedback and social outcomes and HIV/AIDS mitigation measures. The survey will use gender disaggregated data to measure and explain how the roads are changing women's lives, particularly in reducing travel times, improving access to markets, and enhancing social capital. The findings will serve as a tool to define road network social issues, and recommendations for further improvements in the sector.

88. To promote accountability and enhance transparency, the project will partner with relevant civil society organizations (CSOs) such as professional associations during project implementation to ensure due diligence to strengthen the process in a participatory manner. The project will also place emphasis on formalizing ways through which CSOs can provide feedback; such as web-based monitoring of RAP implementation and ensuring transparent disclosure of project information in addition to strengthening grievance redress mechanisms for stakeholders.

89. **Gender Issues**. The program will benefit women and men, children and the elderly by improving access to markets, and social infrastructure and services. Attention will be given to markets at the border, rest stops (service centers), and export facilitating zones by providing safe and enhanced access to the market places; this will benefit more the rural women who represent the majority engaged in small scale cross-border trade. The project has assessed specific demands of pastoralist women and based on the expressed interest of the women habitants along the corridor, the project will develop a pastoralist road side market that provides basic facilities to process and market products of the pastoralist community. The views of the pastoralist women were presented in the beneficiary section.

90. **HIV/AIDS Prevention**. An HIV/AIDS assessment along the road corridor will be carried out as part of the social infrastructure and services needs assessment, and mitigation measures would be implemented. As this will be a regional transit corridor, the HIV/AIDS assessment will focus on the hot spots (rest stops- service, towns and villages). In addition, the civil work contracts will have provision for awareness campaigns for the workers, the community and drivers aiming to address HIV/AIDS risks during the construction period.

91. *Implementation of the road upgrading at the common border*. In the design report prepared by KeNHA, the road extends up to Nakodok about 11 km away from Nadapal (the current location of the border post on the Kenyan side) towards South Sudan. However, in the design carried out by South Sudan, the road covered extends from Juba to Nadapal. The 11 km stretch between Nadapal and Nakodok which overlaps under the two designs is an area which is frequently flooded and therefore unsuitable for the construction of border posts or settlement. The existing road link within that stretch has always been open to traffic and there is no

disruption of movement of people and goods. There is no territorial dispute between the two countries over the area and for that reason, the Bank's policy on Projects in Disputed Areas (OP 7.60) was not triggered. The GoK and GRSS have discussed the arrangements to ensure that this road section at the common border is upgraded and subsequently maintained to a good standard. The GoK has proposed to finance the upgrading of this road section at the common border under the Project using part of the credit proceeds while South Sudan takes over the responsibility of the maintenance. This arrangement has been agreed upon through an exchange of letters. The GoK has also expressed its willingness to maintain this section of the road until South Sudan is ready to take over. Neither IDA's financing of the Project, nor any designation of or reference to such area in the project documents - including this project appraisal document and the legal agreements - is intended to constitute a judgment on the part of IDA as to the legal or other status of such area or to prejudice the determination of any existing or future claims with respect to such area.

G. World Bank Grievance Redress

92. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

H. Other Safeguards Policies Triggered

Safeguard Policies Triggered by the Project	Yes	No	
Environmental Assessment (OP/BP 4.01)	[X]	[ ]	
Natural Habitats (OP/BP 4.04)	[X]	[ ]	
Pest Management (OP 4.09)	[ ]	[X]	
Indigenous Peoples (OP/BP 4.10)	[X]	[ ]	
Physical Cultural Resources (OP/BP 4.11)	[X]	[ ]	
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]	
Forests (OP/BP 4.36)	[ ]	[X]	
Safety of Dams (OP/BP 4.37)	[ ]	[X]	
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]	
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[X]	

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

Annex 1: Results Framework and Monitoring

Africa

EA Regional Transport , Trade and Development Facilitation Project (Second Phase of Program) (P148853)

Table 1.1: Results Framework for the Second Project (Kenya)

Project Development Objectives

PDO Statement

The objective of the Project is to improve the movement of goods and people along Lokichar – Nadapal/Nakodok part of the Eldoret-Nadapal/Nakodok road in the north western part of Kenya, in particular, and to enhance connectivity between Kenya and South Sudan, in general.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
Reduction in travel time between Nadapal/Nakodok and Lokichar (Days)	2	0	0	0	1	1	1
Reduction in transport cost to users (Percentage)	0	0	0	0	10	10	10
Reduction in cost of ICT access in area served (Percentage)	0	0	0	50	50	50	50
Road in good and fair condition as a share of the Juba – Mombasa Corridor (Percentage)	45	45	45	55	64	64	64
Direct project beneficiaries (Number) - (Core)	0	0	0	0	1,210,000	1,210,000	1,210,000
Female beneficiaries (Percentage -) - (Core)	0	0	0	0	50	50	50
Survey reports on citizen engagement available (Yes/No)	No	Yes	Yes	Yes	Yes	Yes	Yes

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values					
		YR1	YR2	YR3	YR4	YR5	End Target
Length of road rehabilitated - non rural (Kilometers)	0	0	80	160	338	338	338
Pastoralist road side markets established alongside the road upgrading (Number)	0	0	0	0	5	5	5
Increase in trade volume between Kenya and South Sudan (Percentage)	0	0	0	0	20	20	20
Reduction in the number of road accidents along the Lokichar-Nadapal/Nakodok road (Number)	TBD[15]	TBD	TBD	TBD	TBD	TBD	TBD
Number of vehicles crossing Nadapal/Nakodok border post (Number)	5	5	5	5	36	36	36
Length of fiber link installed (km) (Kilometers)	0	0	601	601	601	601	601

[15] To be collected as part of the project monitoring and evaluation process.

Indicator Description

Project Development Objective Indicators

Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
Reduction in travel time between Nadapal/Nakodok and Lokichar	The current travel time is about 2 days and after second project completion this is expected to reduce to 1 day	Annual	Project progress report by implementing entities	MoTI & MTRB
Reduction in transport cost to users	Reduction of transport cost that the users of the corridor pay, expected from the improvement of the road and the transit regime	Annual	Project progress report by implementing entities	MoTI & MTRB
Reduction in cost of ICT access in area served	Reduction in ICT access cost due to the installation of fiber optics	Once	Survey of Telecom companies	MoTPS and ICTA
Road in good and fair condition as a share of the Juba–Mombasa Corridor	Currently the road between Lesseru-Mombasa is in good and fair condition. At the end of the second project about 3,389 km of the Lokichar-Nadapal/Nakodok road to be financed by the World Bank and GoK will be in good and fair condition.	Annual	Project progress report by implementing entities	MoTI & MTRB
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention	Annual	Project progress report by implementing entities and national statistical reports	MoTI & MTRB National Statistics Offices in South Sudan and Kenya
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries percentage of the beneficiaries who are female.	Annual	Project progress report by implementing entities and national statistical reports	MoTI & MTRB National Statistics Offices in South Sudan and Kenya
Survey reports on citizen engagement available	Citizen engagement monitored by carrying out Social Monitoring and Evaluation Surveys before and after the implementation of contracts for the upgrading of the Nadapal/Nakodok – Lokichar section, the design of the OSBP, pastoralist road side markets, export processing zones, and fiber optic installation. The survey will use gender disaggregated data.	KeNHA & MoTI	Project survey report	Beginning and end of implementation of the Nadapal/Nakodok-Lokichar contract and selected trade and development facilitation, and ICT interventions.

Intermediate Results Indicators

Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
Length of road rehabilitated - non rural	Road to be rehabilitated during the second phase of the program - the second project	Annual	Project progress report by implementing entities	MoTI and MTRB
Pastoralist road side markets established alongside the road upgrading	Pastoralist road side markets to be established along the project corridor under the second phase.	Annual	Project progress report by implementing entities	KeNHA/ MoTI
Increase in trade volume between Kenya and South Sudan	Increasing trade volume between Kenya and South Sudan as a result of improved road condition and trade facilitation measures as well as improving on road safety along the Lesseru-Nadapal/Nakodok road section	Once	Project progress report by implementing entities; Customs statistics at Nadapal/Nakodok border post; and Traffic survey reports	MoTI & MTRB KRA and South Sudan Customs Services (SSCS)
Reduction in the number of road accidents along the Lokichar-Nadapal/Nakodok road	Reduction of the number of incidences of road accidents occurring along the Lokichar-Nadapal/Nakodok road.	Annual	Project progress report by implementing entities and National Transport and Safety Authority (NTSA)	MoTI & KeNHA and NTSA of Kenya
Number of vehicles crossing Nadapal/Nakodok border post	Number of vehicles crossing the border post at Nadapal/Nakodok border in both directions.	Annual	Project progress report by implementing entities and customs statistics at Nadapal/Nakodok border post	MoTI & MTRB KRA and SSCS
Length of fiber link installed (km)	Length of the fiber link between Nadapal/Nakodok and Eldoret	Once	Progress report by implementing entities	MoTI and ICTA

Annex 2: Detailed Project Description

A. Project Description

1. The objective of the Eastern Africa Regional Transport, Trade and Development Facilitation Project, SOP2 is to improve the movement of goods and people along Lokichar – Nadapal/Nakodok part of the Eldoret-Nadapal road in the north western part of Kenya, in particular and to enhance connectivity between Kenya and South Sudan, in general.

2. The proposed program contributes to the overarching goal of facilitating and lowering the cost of intra-regional trade to support regional cooperation and integration of economies in the sub-region. The proposed project helps the north western part of Kenya and south eastern part of South Sudan to boost export oriented agricultural development by facilitating increased agricultural production along the Juba - Eldoret corridor, endowed with abundant natural resources, through improved transport, trade facilitation, ICT access, as well as the development of export processing zones.

3. Kenya is endowed with agricultural land, animal resources, minerals and abundant tourism potential, which remains to be developed in the northern part of the country. The corridor helps the promotion of export based growth in the north-western part of Kenya by facilitating the development of: (a) agriculture and livestock (fisheries in Lake Turkana, and livestock and dairy products from pastoralist communities); (b) irrigated agriculture in the Turkwel and Wei Wei river basins; and (c) tourism. It will also support the extraction of recently discovered petroleum reserves and the integration of the region with the rest of Kenya and the outside world.

4. Geographically, the South Sudan states of Eastern Equatoria and Southern Jongulei are the closest areas to sea ports and the agricultural market in the neighboring countries. Moreover, the immense potential of agriculture and mineral exploitation makes this part of South Sudan a prime area for attracting foreign investment. The development potential along the corridor in South Sudan includes: (a) agriculture production (forestry, fishery, tea, coffee, cereals, live-animal and animal products); (b) cement and lime industry; and (c) mining of gold and semi-precious stones. There is a potential for enhanced petroleum extraction and the benefits of extending high-speed internet access to Juba and several state capitals. The improved corridor will also facilitate the delivery of social and administrative services as well as promotion of commercial services, including storage facilities and road-side businesses.

5. The overall program will be implemented in SOPs. The first project of the program (Phase 1), focused on South Sudan was approved in May 2014, and supports the improvement of part of the Juba-Nakodok road in the territory of South Sudan and implementation of trade and development facilitation measures, including a new fiber optic link. This second project will focus on the improvement of the Nadapal-Lokichar road infrastructure and implementation of trade and development facilitation in the Kenyan territory, and upgrading and rebuilding the Kenya fiber optics backbone link along Nadapal - Eldoret road, which will support South Sudan national fiber optic operations. The third project will focus on enhanced support to trade

facilitation measures along the Juba-Nadapal-Kitale corridor and completing the upgrading of the Juba-Eldoret road. The Program in the long-term envisages promoting the entire EAC Corridor No.3, including Kitale to Biharamulo (the extension of Juba- Nadapal/Nakodok-Eldoret road) as a development corridor by upgrading the section of the road from Kitale to Biharamulo into a safe and digital road, as well as replicating the trade and development facilitation intervention adopted for the Juba- Eldoret corridor.

6. The proposed project will comprise the following components:

7. **Component 1: Upgrading selected critical road infrastructure (US$594 million of which IDA US$426 million equivalent)**. This component includes support to KeNHA for upgrading the Lokichar-Nadapal/Nakodok (338 km of which 298 km to be financed by IDA) and part of the Eldoret-Nadapal/Nakodok road in Kenya with the associated supervision costs. This will cover the upgrading of the following road sections and construction of associated bridges: (a) Kalobeiyei River - Nadapal (88 km); (b) Lokitaung junction and Kalobeiyei River (80 km); (c) Lokitaung junction and Lodwar (80 km); (d) Lodwar and Loichangamatak (about 50 km); (e) Kainuk Bridge at Muruni River; (f) Loichangamatak-Lokichar junction (40 km) section at an estimated cost of US$70 million to be financed by GoK; and (g) implementation of the RAPs related to road works, under parallel financing as part of its counterpart contribution. In addition, all road upgrading contracts will have provisions for road side social amenities and HIV/AIDS prevention activities, as this will help raise awareness and provide mitigation measures in an effort to protect the local community, drivers and contractors personnel.

8. **Component 2: Facilitation of Regional Transport, Trade and Development (US$42.5 million of which IDA US$38.5 million equivalent).** This component supports promotion of sound transport, trade and development facilitation measures, increasing the efficiency of the corridor. This includes:

- *Sub-component 2(a): Support to KRA* to carry out a program of activities designed to implement transport, trade and development facilitation measures (US$8.0 million). This will include such activities as: (i) harmonization of customs and other border management, risk management and control procedures; (ii) designing of an OSBP at Nadapal/Nakodok; (iii) strengthening of the cross-border management unit of KRA including enhancing its coordination with other border agencies; (iv) support the implementation of an integrated border management system; (v) support to the implementation of the MoU between Kenya Customs and South Sudan Customs Services relative to information exchange and use of common procedures; (vi) support the use of ICT for revenue collection and for facilitating clearance and release of goods to help Kenya Customs comply with new transparency requirement of e-citizen registration, electronic collection of revenue and e- reporting of clearances and release of goods. Implementation of some of the measures will involve interaction with UN agencies and county governments.

- *Sub component 2 (b): Support to KeNHA* to carry out a program of activities designed to implement transport, trade and development facilitation measures (US$31.0 million). The program would include such activities as: (i) carrying out a

study to enhance social infrastructure and social services delivery, including HIV/AIDS prevention, along the corridor, while implementing the recommendations as part of the road upgrading contracts; (ii) designing the facilities and marketing system for pilot pastoralist road side markets; and (iii) establishing the facilities of pilot pastoralist road side markets, through provision of sites and services, clean water, extending electrification to selected centers, provision of market shades, milk cooler, slaughter houses, veterinary posts, livestock holding area in selected locations, connecting community information centers with fiber optic connection and advisory services in the management of these facilities and services. This subcomponent will also involve activities designed to support engagement with Project stakeholders such as county governments, UN agencies, communities, households (in particular female-headed households) on management and operational modalities of these facilities.

- *Sub-component 2 (c*): *Support to MoTI* to carry out a program of activities designed in conjunction with the ministry responsible for commerce, to implement transport, trade and development facilitation measures (US$3.5 million). The program would include such activities as: (i) identifying and designing potential sites and providing services to facilitate the development of export processing zones, storage facilities and rest stops; (ii) certifying export products and (iii) simplifying the process for import-export.

9. **Component 3: Institutional Development and Program Management (IDA US$10.5 million equivalent)**

(a) *Sub-component 3 (a):* Strengthen the institutional capacities of entities involved in Project implementation including: (i) strengthening the capacity of KeNHA in road design review as well as contract management, value engineering, road maintenance, safeguards and procurement management; (ii) enhancing project management capacity, maintenance management and engineering capabilities in the transport sector through supporting Kenya Roads Board (US$300,000); Engineers Board of Kenya (US$300,000); MoTI (US$500,000), Resource Mobilization Department under the National Treasury (US$250,000), and State Law Office (US$250,000); (iii) supporting the MoTI in the monitoring and evaluation of the projects (iv) strengthening project management capacity of ICTA.

(b) *Sub-component 3 (b):* Support to strengthen the National Transport and Safety Authority to implement the "Safe System", program to include such activities as: (i) conducting needs assessment, vehicle safety inspection and safety audits; (ii) strengthening enforcement capability of the Authority and post-impact care; and (iii) assessing road safety on Lokichar-Eldoret section of the Eldoret-Nadapal/ Nakodok Corridor as well as developing and carrying out of a pilot road safety action plan along the corridor.

(c) *Sub-component 3 (c):* Provision of advisory services, training and operating costs to Ministry of Transport and Infrastructure as required to sustain the management and

coordination of Project implementation activities, including audits, and the monitoring and evaluation of progress achieved in the execution of the Project.

(d) *Sub-component 3 (d):* Provision of technical assistance to carryout preparatory studies to support the preparation of the next phase of the Program and develop follow-on regional transport and trade facilitations projects as well as bidding documents for long term performance-based road maintenance contracting.

10. **Component 4: Enhancing Internet Connectivity (US$29 million of which IDA US$25 million equivalent).** Support to ICTA for: (a) the construction of a fiber optic cable network, alongside the part of the Eldoret-Nadapal/Nakodok Corridor located in Kenya, from Nadapal/Nakodok to Eldoret. Fiber spurs and rings will also be constructed and provision made for connecting refugee camps, and selected schools, hospitals and other strategic locations including pastoralist road side markets, export processing zones, rest stops and community and service centers along the corridor in the Kenyan territory; and (b) design, bidding document preparation, and monitoring and supervision services for the installation of fiber optic cables. The fiber can also be utilized to provide connectivity for monitoring road safety and to modernize the customs posts by establishing a one-stop-shop border post. Management and operation of the fiber will be carried out by a public private partnership, National Fiber Optical Backbone Infrastructure (NOFBI).

11. A summary of the phased implementation arrangement and status of the Program is presented in Table 2.1.

Table 2.1. Summary of the phased implementation arrangement and status of the Program

Interventions	Phase One 2014 - 2019	Phase Two 2015 - 2021	Phase Three 2017 - 2025
Road Infrastructure Improvement in South Sudan			
Juba –Torit road (125 km) – US$270 million	Upgrading to asphalt – China EXIM and GRSS – Financing under discussion.	Upgrading and Output and Performance Based Maintenance (OPBM) – China EXIM and GRSS	OPBM - GRSS
Torit – Lobira Junction (50 km) – US$100 million	Maintenance by GRSS	Maintenance by GRSS	Upgrading to asphalt and OPBM- AfDB and GRSS
Lobira Junction – Kapoeta (90 km) – US$200 million			Upgrading to Asphalt and OPBM- **Not committed**
Kapoeta – Nadapal (US$260 million	Upgrading to all weather gravel (US$47 million) World Bank and GRSS	Upgrading to all weather gravel - Continued	Upgrading to Asphalt and OPBM- **Not committed**
Road Infrastructure Improvement in Kenya			
Nadapal/Nakodok – Lokichar (338 km) – US$594 million		Upgrading to asphalt – World Bank and GoK	OPBM - GoK
Lokichar – Marich Pass (107 km) US$200 million	Maintenance by GoK	Maintenance by GoK	Upgrading to Asphalt and long term performance-based

Interventions	Phase One 2014 - 2019	Phase Two 2015 - 2021	Phase Three 2017 - 2025
			maintenance (LTPBM)- **Not committed**
Marich Pass – Kapenguria (65 km)- US$160 million		Upgrading to Asphalt – JICA/AfDB (TBC)	LTPBMC - GoK
Kapenguria – Kitale-Lesseru (90 km) – US$ 140million		Upgrading to Asphalt – EU/EIB/KfW (TBC)	LTPBMC - GoK
Trade and Development Facilitation Initiatives			
Pastoralist Road Side Markets (5 sites in Kenya) – US$30 million		Design and establishment – World Bank	Operation – Community and private sector
Export Processing zones (2 sites in Kenya 2 sites in South Sudan) – US$7 million	Design, and site and services in South Sudan – World Bank	Design, and site and services in Kenya – World Bank	Operation – Private sector
One Stop Border Post – US$20 million		Design – World Bank	Establishment and operation – World Bank and Trade Mark East Africa (TBC)
ICT – US$40 million	Design and installation of fiber optic – South Sudan (World Bank)	Design and installation of fiber optic – Kenya (World Bank)	Operation and maintenance - PPP
Transport and trade facilitation Road Safety, HIV/AIDS prevention, social amenities, Institutional Development -US$73 million	Studies and implementation – World Bank	Studies and implementation – World Bank	Completing outstanding interventions and support to sustainability Completing – TBD Sustainability – GoK, GRSS, Private Sector, NGOs

Project Beneficiaries

12. The beneficiaries of the project will include: pastoralist communities, farmers and businesses through the road corridor, road users (passengers and freight), tradable sectors of the economy, agriculture, mining and ultimately, consumers and producers both inside and outside the sub-region. Through the export processing facilities and pastoralist road-side markets, the project will offer new jobs and income earning opportunities to the people in Turkana and West Pokot in the Kenyan territory and in Eastern Equatoria and the eastern part of central Equatoria states in South Sudan. Currently these regions have not received adequate attention and exhibit very high levels of poverty. Due to the poor state of this corridor, the inhabitants are occasionally cut off from the rest of Kenya and South Sudan, particularly during the rainy season. ICT users in the north-western part of Kenya, as well as throughout South Sudan, government departments, the private sector, especially small and medium enterprises, and development partners will also benefit from the reduced costs of internet. Improvement of the corridor will also attract investment for export oriented agricultural of development and mining in the project influence area.

13. *People's Voice: Consultations with the pastoralist* women in Turkana and West Pokot of Kenya helped to air the views of the population and confirmed that the project has broad support among the people living along the corridor who consider themselves direct beneficiaries. The

women were asked if they are aware of the project, if they are supportive of the project, what benefits they expect from the implementation of the project, and what complementary community development activities will help them to improve their livelihood. The views of the women , as said, are summarized as follows:

The Views of Pastoralist Women

- We are aware of the project and we very much support the project
- When the road is upgraded business will boom
- Some people will build house for living and business near the road
- We will be engaged in selling milk and goats other than selling charcoal as we do now
- Our goats will go to market; we will share milk with others and sell
- We will establish hotels and sell roasted goat meat
- We need veterinary services
- The community will engage in planting trees
- We need market where we sell our products
- Once the road is fixed the conflict between Pokots and Turkanas will be history
- We need feeder roads to the farm lands
- Irrigation to produce cash crop
- Education at university and polytechnic level
- Girls rescue center to protect girls from being kidnapped while going to school and get married at very young age
- We will come closer to the road and live like any ordinary women
- Transport livestock to market
- The community does not have slaughter house
- We need fishing nets
- Tourist hotel to sell and show traditional products
- We need market
- Women and the youth will be engaged in construction works while old men rest and wait for food

B. Detailed Description of Components

B.1. Road Infrastructure Improvement

14. The road infrastructure improvement supports both the connectivity and economic integration pillars of the project development objective. The physical connectivity has to be in place ahead of time to attract trade movement and facilitate development along the corridor, which in turn are the key elements for stimulating economic integration. Enhancing efficiency of the corridor and reducing transportation costs are attributable to the improvement of the road infrastructure.

15. The GoK through a World Bank supported project has carried out the design and prepared bidding documents that will be used for the upgrading of the entire road corridor

between Nadapal/Nakodok and Lesseru which is a distance of about 601 kms. The contracts will be carried out based on a measurement contract. To ensure sustainability, the upgrading works will be followed up by a long term Performance Based Maintenance (LPBM) arrangement.

16. HIV/AIDS prevention services to be delivered by the civil works contractors will focus on sensitization of employees of the construction contracts and local communities living around camp sites and material productions sites. Contractors will also collaborate with health authorities and non-governmental organizations (NGOs) operating in the project vicinity in the delivery of preventive services.

17. Environmental protection interventions are described in the Environmental and Social Management Plan, which will form part of the civil works contract. This involves planting road side vegetation, environment protection activities at bridge replacement sites.

B.2. Trade and Development Facilitation

18. The economic integration agenda supported by this project requires having in place efficient transit regime, better border management, including customs services to be facilitated through this component. The introduction of ITS, the corridor performance review, and piloting of corridor road safety action plan will contribute to enhancing trade and improve the efficiency and safety of the corridor. The support to the development of the social infrastructure, export processing zones and related services is the core for enhancing the production of tradable goods and facilitating economic integration.

Pastoralist Road Side Market Development

19. Following the strong demand of pastoralist women living near the corridor in Turkana and West Pokot counties, the road upgrading contracts will have a provisional sum for constructing pastoralist road side markets. Developing pilot pastoralist road side markets would help integrate the pastoralist communities along the parts of the corridor habited by Turkanas and Pokots through provision of sites for services, clean water, electrification, market shades, milk coolers, slaughter houses, veterinary posts, livestock holding area, and community information centers with fiber connection. KeNHA will prepare the design for five pastoralist road side markets, one for each of the road upgrading and the bridge replacement contracts. The location and detailed designs of the market place will be determined during implementation, in consultation with the pastoralist communities. Complementary facilities and sensitization of the pastoralist communities will be implemented under the Regional Pastoral Livelihood Resilience Project

Support to Customs Department of KRA

20. As part of the wider revenue administration reform and modernization program, the Customs Services Department has been implementing the Reforms and Modernization Program since 2004. The objective is to transform the department into a modern administration in

accordance with best practice as outlined in the World Trade Organization agreements and World Customs Organization Revised Kyoto Convention on simplification and harmonization of customs procedures. The customs reform initiative will cause a fundamental change in operations, especially at borders, which calls for more pronounced operational changes in the area of quality control of border post standard operating procedures (BPSOPs), risk management, post entry audits, classification, origin and valuation rules, and computerization. Currently, the department does not have the requisite skills to support these critical functions. Improved skills in these critical functions will directly impact how effectively the department will respond to the changing environment and successfully implement the reform program. KRA has requested support for the capacity building aspects of the customs reform initiative and implementation of the ICT initiatives, which aim to overhaul the ICT systems and operations, including risk management.

21. A protocol for the EAC common customs territory was enacted in 2004 and Kenya has started the implementation of the Protocol. A single customs territory for Uganda and Rwanda was established and has been in operation at Mombasa Port (Kilindini area) since 2013. South Sudan has been seeking to have such a facility at Mombasa Port and consultations between the two governments are in progress. An electronic cargo tracking system, which supports the single customs territory, has already been rolled out. The Rules of Origin that will help products certified by one country be accepted by EAC member countries have been rolled out since 2007. Common standards for some products and imports has been adopted by EAC member countries. Axle load control requirements have been harmonized.

22. In line with this, the project will support the provision of training to the staff of the Customs Department in the areas of legislation, BPSOPs, origin, valuation, classification, risk management and post entry audit. KRA established a border management unit in 2013 and the support under this project will target strengthening the unit through provision of training and equipping the office, as well as promoting better coordination with other border agencies.

23. The ICT reform is a large and complex undertaking, which will be financed by KRA and multiple development partners. This project supports the development of a second ICT Strategy and development of a disaster recovery and business continuity plans. This project will also support the provision of ICT to facilitate clearance of goods and collection of revenue to help Kenya Customs comply with the new transparency requirement of e-citizen registration, electronic collection of revenue and e- reporting of clearances.

24. The customs post at Nadapal on the South Sudan side has no basic infrastructure and operates with very limited staff. The headquarters of SSCS in Juba does not have adequate working space. At Nadapal on the Kenyan side there is a modest office that provides customs clearance services. There is also an office for immigration services. The UN has established a refugee screening facility for immigrants crossing to Kenya due to the conflict in South Sudan. The Kenyan customs post at Lokichoggio, about 25 km away from the border, has basic facilities. The customs services in South Sudan and Kenya apply different systems. Kenya uses SIMBA while South Sudan is attempting to use ASYCUDA ++. Currently all customs services in South Sudan are manual.

25. There is no transit agreement between Kenya and South Sudan. South Sudan is member of the NCTTCA, which is facilitating the efficient use of the Mombasa Port and movement of traffic along the northern corridor serving Uganda, Rwanda, Burundi, and Eastern DRC to which South Sudan has to be connected. South Sudan has applied to be a member of the EAC; it currently has an observer status. However, as it joins the community it has to adopt protocols governing regional transport within EAC. This project will help the two countries to harmonize customs procedures, and promote the exchange of information. The two countries will continue using different systems and the project will help in establishing a system that will allow seamless flow of information.

26. This project, inter alia, will support a road transport reform review with the objective of identifying the challenges for delivering cost effective and reliable transport services along the priority corridors and devise strategies to reduce transportation costs and enhance delivery of efficient transport services.

27. Trade Mark East Africa is supporting the SSCS in harmonization of legal frameworks and customs procedures with neighboring countries. In line with this, it has helped in the drafting of a MoU that was signed between SSCS and the Kenyan Revenue Authority Customs Services for Kenya. The MoU is focused on support that the Kenyan Customs Services could offer to its counterpart in South Sudan in regards to building institutional capability. The MoU also envisages helping South Sudan to benefit from the EAC common customs territory by providing a clearing facility at Mombasa Port. This project will help in facilitating the implementation of the MoU.

28. *Support to integrated border management.* Facilitate cross border movement through rationalizing and streamlining the number of formalities, number of agencies at the border post and user fee structures. Currently, service delivery mechanisms are based on cumbersome procedures and formalities through various institutions. Inter-institution coordination has to target one service delivery window. Integrating the procedures and personnel from both countries should be sought in the long term. The number of fees, fee rate, fee base, collection method, and lack of transparency are not supporting the objective of trade facilitation. Currently the fee structure is geared towards revenue maximization.

29. *Support to establishing an OSBP.* The current situation at the border crossing of Nadapal is characterized by a lack of interagency co-operation, no structured sharing of information, no co-ordination in operating hours between agencies on the same and opposite sides of the border, insufficient parking space, no ICT connectivity, and a lack of coverage and necessary equipment for physical inspections. The challenges on the South Sudan side are profound. The customs process is manual, as there is no power nor human resources to run an electronic based system, and moreover modern customs procedures and systems have not yet been adopted. Average crossing times for imports into South Sudan are 24 hours, but with a significant standard deviation. *The OSBP will be implemented following a design build (DB) arrangement in the third phase while under this phase support will be provided for developing the modalities for the OSBP and preparation of concept design and bidding documents for the DB contract.*

30. *Use of GPS technology to facilitate monitoring cargo trucks from Mombasa to Nadapal.* To further help the Customs Service at the border post to anticipate trucks coming from the

Mombasa Seaport, Customs can offer GPS tracking devices (where they are not already available) to each truck driver before they depart from the Seaport Customs Authority and let trucks carry them through the Kenya corridor before entering South Sudan. The GPS devices can be tracked from all weigh stations by the speed control alert center, immigration offices, Customs etc. This will help establish an effective end-to-end process from seaport via the road to the border post.

31. The two governments have resolved to establish OSBPs around Nadapal, drawing lessons from the other seven OSBPs between Kenya and its neighboring countries. The OSBP establishment process will build on the common framework of customs operations and legal agreements. This component will support the establishment of OSBPs on each side of the two countries, and address the challenges of connectivity and harmonization of procedures. The modalities of operation will be elaborated by the study proposed to be undertaken in the first phase of the program.

32. Gender issues will be considered carefully during the design phase of the OSBPs, to ensure that any intervention offers adequate protection for users, irrespective of gender. This will focus on a feasibility study, design and bidding documents for establishing OSBPs around Nadapal, as well as establishing the infrastructure required for the OSBPs, including parking lots, customs offices with adequate IT infrastructure and power supply, preparation of site and services for establishing banking and insurance services; and establishing axel load control station. It also covers a green lane, i.e., a dedicated lane for transporters/traders with simplified border procedures and an access road to the lane and a management system with the idea that the flow of eligible transporters would not be halted by congestion created by normal and high risk transporters. This sub-component will cover all border agencies present at the OSBP and include the development of standard operation procedures and a manual of procedures (for general use) covering both sides of the border, including the green lane.

Social infrastructure and social services delivery

33. S*ocial infrastructure and social services delivery, including HIV/AIDS prevention along the corridor.* Social services will focus on the socio-economic services to be provided at rest stops. In consultation with local communities, the project will provide basic amenities such as water, security control posts and build on the experience of road improvement projects carried out in a similar environment in Kenya, such as the intervention in the Isiolo – Moyale Road Improvement Project.

34. *HIV/AIDS prevention.* HIV/AIDS will focus on sensitizing key government, private sector and civil society organizations to enhance their engagement in the provision of services in combating HIV/AIDS, establishing counseling centers, sensitization campaigns, as well as improving the services provided at border posts and rest stops. The objective of the support to HIV/AIDS prevention is to promote activities conducive to the reduction of infection and transmission risks of HIV/AIDS and other sexually transmitted diseases and infections among the high risk groups along the corridor, targeting truck drivers and affected local populations. The support will be focused on sensitization, using existing government, private and NGO health facilities for testing and as wellness centers.

35. As this is a regional corridor, border posts, rest stops and towns along the corridor are considered to be hot spots for the spreading of HIV/AIDS; prevention services will focus on such locations. The services that will be provided will not include testing and other medical services that may generate hazardous waste. Such tasks will be carried out by established health centers.

Facilitating the establishment of rest stops, export processing zones and storage facilities

36. The establishment of rest stops involves the construction of a consolidated rest stop, weigh bridges, and police posts at Nadapal/Nakodok and other rest stops nearby Logichokio, Lodwar and Marich Pass. Resources permitting, construction of the rest stops will include a parking lot, security services and site development for basic health and social facilities to be provided by the private sector. Axle load control, customs and police checks are expected to be concentrated at border crossings. The engineering design for the rest stops has been prepared as part of the road detailed engineering design. The focus at this stage is to conduct and identify the services to be provided at the rest stop and prepare a site development plan.

37. The export processing zone will focus on identifying potential processing and light manufacturing activities to support the objective of the agriculture based export oriented development. The processing zone will focus on agricultural products processing and storage facilities. It also includes facilities, such as animal quarantine to facilitate the export of animal products and live animals. The study will also identify basic infrastructure required to attract investment to the site. The study will address issues related to certification of products, and simplification of the process for import-export.

38. The project will mainly finance provision of site and services to the rest stops and processing zones. The project will also support services for conducting ESIAs for rest stops, export processing zones, and storage facilities. The project will also update the design of the rest stops to fit the intended purpose. Direct investments for the services and processing plants are expected from the private sector while the project will support promotion activities.

B.3. Institutional Development and Program Management

39. The support to KeNHA for project coordination and management of components to be implemented by Kenya includes provision of TA and covering operating costs. The project will also strengthen the design review capacity of KeNHA through preparation of a design review manual and provision of TA to support the process of reviewing designs prepared by consultants by applying the manual.

40. *Support to MoTI of Kenya:* This includes support to project coordination and management for components to be implemented by Kenya, as well as the overall coordination of the regional operation to be hosted by MoTI, through provision of goods, technical assistance services, workshops and training and operating costs.

41. *Monitoring the performance of the Corridor:* This includes supporting MoTI in the monitoring of the performance of the corridor, in regards to assessing the achievements of the project outcome indicators, as well as institutional and systems development aspects envisioned

under this project. The performance monitoring will help to identify bottlenecks and adopt appropriate corridor efficiency improvement measures. The project will monitor border crossing time and effectiveness of the procedures, reduction of physical barriers along the corridors, effectiveness and efficiency of trade and transport facilitation measures, including the social and economic infrastructure, as well as the institutional and legal frameworks, which are the key indicator of the project facilitating the overall program objective. The project will carry out specific traffic surveys to determine the volume of traffic generated from the project area to help gather information on the increase in agricultural and livestock products in the project area. A traffic origin and destination survey will also be carried out at the border crossing to help determine traffic originating from Kenya and destined for South Sudan and vice -versa in order to measure the increase in trade volume between Kenya and South Sudan. The traffic survey results will be combined with the statistics on origin of cargo from the two countries at the border crossing stations, which will help to disaggregate the volume of cargo destined for Mombasa Port and goods imported from overseas and destined for South Sudan. The project will monitor transit time and transportation cost trends over the project life time. The monitoring results will help to establish the baseline data for a Corridor Performance Monitoring System that is expected to be developed for this specific corridor by the NCTTCA to which South Sudan is a member, after the completion of the project.

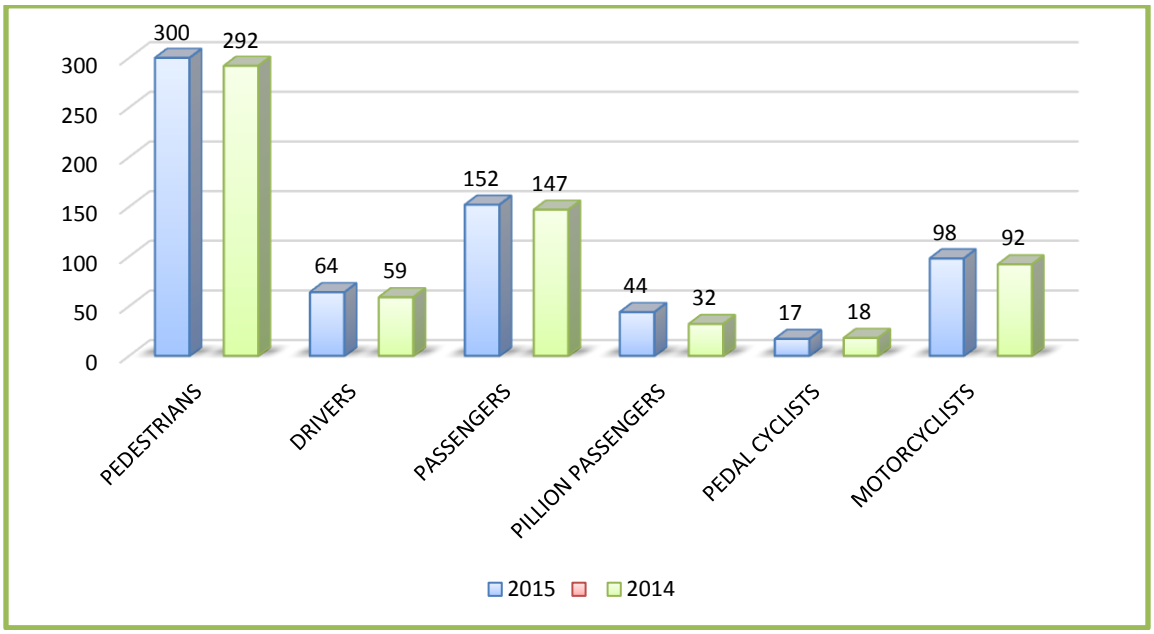
Road Safety

42. Through the support under the Bank financed Kenya Transport Sector Support Project a new institution, NTSA, has recently (2013) been established to manage road safety affairs in the country. Before NTSA's establishment management of road safety was spread among multiple entities, which posed challenges in coordinating road safety affairs including the collection of data. However, since its inception, NTSA has been able to collect data from 2013 calendar year to-date. According to available data from NTSA, in the year 2013 a total of 3,218 persons died as a result of road crashes compared to 2,907 in the year 2014, recording a minimal reduction. A comparative chart showing the fatalities is presented in Chart 1. It is evident that road safety remains a major challenge. The establishment of NTSA is therefore a move in the right direction. The proposed project will provide support for enhancing NTSA's capacity for effective execution of its mandate.

43. NTSA is under the MoTI. Enforcement and vehicle inspection is also the mandate of NTSA and it is carried out in a traditional way, with the former not effective. Post impact care is provided by the health system as part of the general emergency treatment services. Road design services include safety aspects, but there is no independent Road Safety audit. The GoK is keen to adopt the "Safe System" and has requested the support of the project in this regard, focusing on the transit corridor, including the Eldoret-Nadapal/Nakodok road, which is prone to road accidents and injuries. In regards to strengthening the implementation of the Safe System approach, the project will support: (i) strengthening the capacity of NTSA by supporting a needs assessment and developing an action plan to enhance road safety; (ii) supporting the adoption of a robust vehicle safety inspection manual and assessing the effectiveness of the vehicle inspection system, and (iii) through the Corridor Road Safety Action Plan implementation along the Eldoret – Nadapal/Nakodok road, address road infrastructure, enforcement, and post impact care, as a pilot.

44. The Road Safety actions along the corridor will support establishing an accident database and promote strategies that will help to reduce road accidents along the corridor, including sensitization and education of drivers, and improving trauma management. This will also include the undertaking of a road safety audit with detailed design for improvement of accident "black spots"; and the undertaking of a road safety management capacity review for the corridor in order to develop a pilot 'safe corridor' initiative. This is a multinational task.

Figure 2.1: Comparative Fatalities (number) in 2014 and 2015*



Note: The comparative figures are March-December 2014 and January-March 2015

45. *A pilot corridor Road Safety action plan under this project will be implemented by KeNHA in collaboration with NTSA.* The pilot intervention will support the implementation of "The Safe System", focusing on reducing injuries through road infrastructure improvement, enhancing enforcement, and improving emergency response. These will comprise physical works designed to mitigate road safety hazards identified under the international Road Assessment Program (iRAP) assessment of the project corridor. The methodology combines the findings from visual road inspections and road accident data to identify locations where there is a high risk of serious accidents. Appropriate remedial measures will be selected for these locations, resulting in a program of improvements for a particular road. It is expected that the works will include measures such as the provision of: (i) traffic calming - pedestrian crossings, animal crossing, rumble strips and traffic signs in built-up areas, (ii) increasing the space available for pedestrians and non-motorized traffic in populated areas, (iii) installation of roadside safety barriers, (iv) improvements of dangerous intersections, and (v) installing appropriate traffic signs and road markings at hazardous locations.

46. The pilot soft intervention implemented by NTSA will show what could be delivered in this domain, comprising driver education, publicity campaigns, and regulation enforcement, complementing the road safety related physical interventions along the corridor. The enforcement will be complemented with deployment of traffic speed controlling systems (speed control gantries, mobile traffic speed detection boards and speed guns-radar, etc.) Depending on the assessment of the safety features along the corridor the piloting intervention will include: infrastructure safety improvement, general deterrence-based traffic safety enforcement programs, supported by intensive publicity and awareness campaigns (e.g. speed, alcohol, safety belts, helmets, fatigue and commercial vehicles) and improved post-crash response and emergency medical and rehabilitation services.

47. *Support to the implementation of "The Safe System"- Enhancing Road Safety Capacity:* As discussed elsewhere, road safety remains a major challenge given the high level of fatalities recorded. At the national level, pedestrians account for 45 percent of the fatalities, and passengers 23 percent. This situation requires a concerted effort of all stakeholders and the project will support the promotion of the Safe Systems approach that will contribute to the objective of providing a safer road network, including transit corridors.

48. The Safe System is a scientific approach, which focuses on prevention of injury. The focus has shifted from efforts to change human behavior blamed for road crashes, to systemic analysis and multi-sectoral interventions aimed at reducing the number of fatalities. The aim of the Safe System approach is to ensure that in the event of a crash, the impact energies remain below the threshold likely to produce either death or serious injury. Humans are fragile; the unprotected cannot survive impacts that occur at greater than 30 km/hr. The Safe System seeks to address some of the causes for road incidences, including: poor road infrastructure (no speed calming measures, unguarded roadside hazards, lack of crosswalk facilities, no physical median, unpaved shoulders, no sidewalk facilities, and no separate lanes for motorcycles); poor driving behavior; unlicensed drivers; lack of enforcement; non-compliance with vehicle maintenance conspicuity; and poor post-crash emergency care. The Safe System approach considers that road safety is addressed by:

- Analyzing causes of both injuries and fatalities
- Reducing fatalities and injuries by addressing:
  - Institutional management/policy
  - Road infrastructure
  - Vehicle safety
  - Enforcement
  - Post–impact care

49. *Strengthening the lead agency for Road Safety (NTSA):* NTSA is responsible for the coordination of the key stakeholders leading the implementation of road safety actions. This project will focus on strengthening the NTSA through provision of TA and conducting a road safety assessment with the objective of identifying gaps and preparing a comprehensive road safety strategy that provides the road map for full scale implementation of the Safe System in Kenya. The assessment will also look into support provided by other development partners and NGOs and identify coordination mechanisms. In addition, the assessment will include conducting a Road Impact Assessment (RIA) - which covers the trunk roads, including the transit corridors, identifies the likely effect of proposed roads or policy actions on safety, and assesses the impact of plans with a wider scope in a road safety master plan. The TA to NTSA will focus on strengthening the road safety arm of the Authority, training road safety professionals, and enforcement and emergency response bodies, as well as sensitization of policy makers and key stakeholders.

50. *Ensuring compliance to vehicle safety requirements:* The project will support the adoption of a robust vehicle safety inspection manual and assess the effectiveness of the vehicle inspection system, based on international good practice. The growth of motor vehicles in the country makes it important to have harmonized global standards in vehicle safety, consumer

awareness schemes and incentives to accelerate the uptake of new safety technologies. The global and regional new car assessment program (NCAP) has already made significant inroads in raising public awareness and motivating the automotive industry to produce standard safety features in all of their models sold across the world. Major vehicle producing countries and regions have their own safety standards. Increasingly, vehicle standards are developed and applied globally by the UN World Forum for Harmonization of Vehicle Regulations.

51. This project will support the review of the vehicle safety standard checklist used for annual road worthiness inspection and registration of imported vehicles and upgrade it to a comprehensive vehicle safety inspection manual. The review process will look into global and regional vehicle safety standards and make them consistent in terms of setting the standard for vehicle inspection. Further, the project will support creating awareness among the county transport bureaus and promote private vehicle inspection services. Training will also be provided on the application of an updated vehicle inspection standard.

52. *Improving Road Safety aspects of the road infrastructure:* Corridor based road safety aspects for improvement of road infrastructure on the Eldoret/Lesseru – Nadapal/Nakodok road have been included under the road safety sub-component of this project. Under the pilot corridor road safety action plan, before implementing measures to reduce accident and injuries, the following assessments will be conducted: (a) road safety audit - defined as "a formal examination of a road/traffic project in which an independent, qualified team reports on the project's crash potential". This involves reviewing the design of the road upgrading with a road safety lens; (b) Road Safety Inspection – which involves conducting a systematic assessment of an existing road with respect to safety features, and identifying hazards and suggesting remedial measures; and (c) Black Spot Monitoring– an examination of the crash locations and types to identify the problem leading to the accident and introduction of countermeasures. Road infrastructure related works are included in the civil works contracts.

53. *Enhancing enforcement of road safety and Post-impact care:* As part of the Corridor Road Safety Action Plan, this project will facilitate the implementation of enhanced enforcement of road safety and post impact care as a pilot, focusing on selected accident prone corridors in Nairobi and along one of the transit corridors. The pilot interventions, involving the Ministry of Health and Police Commission will include:

54. *Enhancement of enforcement of road safety* through application of modern methods for road safety policing and enforcement focusing on:

- Co-operation between police and road safety authorities (e.g.: police drunk driving campaigns coordinated with Ministry of Health/Education messaging)
- Shift from offender apprehension ("we will catch you") to general deterrence ("we are watching") using:
  - Speed cameras (fixed and mobile)
  - Demerits or financial fines
  - Disqualification from driving

55. *Enhancing post-impact care:* This includes increased responsiveness to post–crash emergencies and improved ability of health and other systems to provide appropriate emergency treatment and longer term rehabilitation for crash victims through collaborative efforts between the transport and health sector to support emergency services, including:

- Identifying emergency response services providing health facilities close-by and along the Eldoret – Nadapal/Nakodok pilot road;
- Carrying out diagnostics of current capabilities and protocols of emergency crash services in the identified health centers (hospitals, clinics, etc.);
- Designing an action plan, improved protocols and guidelines for emergency response;
- Designing and implementation of improved emergency coordination system across partner agencies (e.g. police, ambulance services, hospitals, insurance companies);
- Training for emergency response personnel; and
- Acquisition of equipment to facilitate the work of crash emergency personnel, including communications equipment, to enhance response capability.

56. To strengthen the implementation of the actions indicated above, NTSA should partner with other development partners.

57. **Operating Costs:** Operating costs shall include staff travel expenditures and other travel related allowances with prior clearance from the heads of the individual implementing entities; equipment rental and maintenance; vehicle operation, maintenance and repair; office rental and maintenance, materials and supplies; utilities and communication expenses; and bank charges. Provision to cover operating costs for expenses must be related to the implementation of this specific project only. Operating costs financed by the project will be procured using the administrative procedures applicable to national administrations that are acceptable to the Bank.

58. **Training, Capacity Building and Workshops:** The implementing entities shall submit their annual training plans to IDA for clearance. The plans shall include, among other things, the names of the officers to be trained, the training institutions/facilitators, content, justification for the training, and the estimated cost.

Support to prepare follow-on projects

59. This sub-component will finance TA to support the preparation of the third phase of the regional project and development of future follow-on regional transport and trade facilitations projects. Specific tasks include TA for the development of concept designs, feasibility studies, detailed engineering designs, RAPs and ESIAs/ESMPs for follow-on projects.

B.4. Enhancing Internet Connectivity with Fiber Optics

60. *ICT:* The ICT component for this program includes construction of a fiber optic cable, alongside the part of the Juba - Eldoret road located in the Recipient's territory. The South Sudan portion is covered under the first project while the Kenya portion, between Nadapal/Nakodok and Eldoret, will be covered under the second project. Fiber spurs and rings will also be constructed to connect refugee camps, schools, hospitals and other strategic locations including

pastoralist road side markets, export processing zones, rest stops and community centers and service centers along the corridor in the Kenyan territory. To provide a fiber optic backbone connection from Kenya to South Sudan, the original plan was to build a 26-kilometer fiber optics cable from Lokichioggio to the Nadapal/Nakodok border point between Kenya and South Sudan, and to rehabilitate the rest of the cable to Eldoret. Lokichioggio had previously been a point of presence (POP) in Kenya between 2009-2011 connected to Kenya's national backbone and the national fiber optics hub in Eldoret.

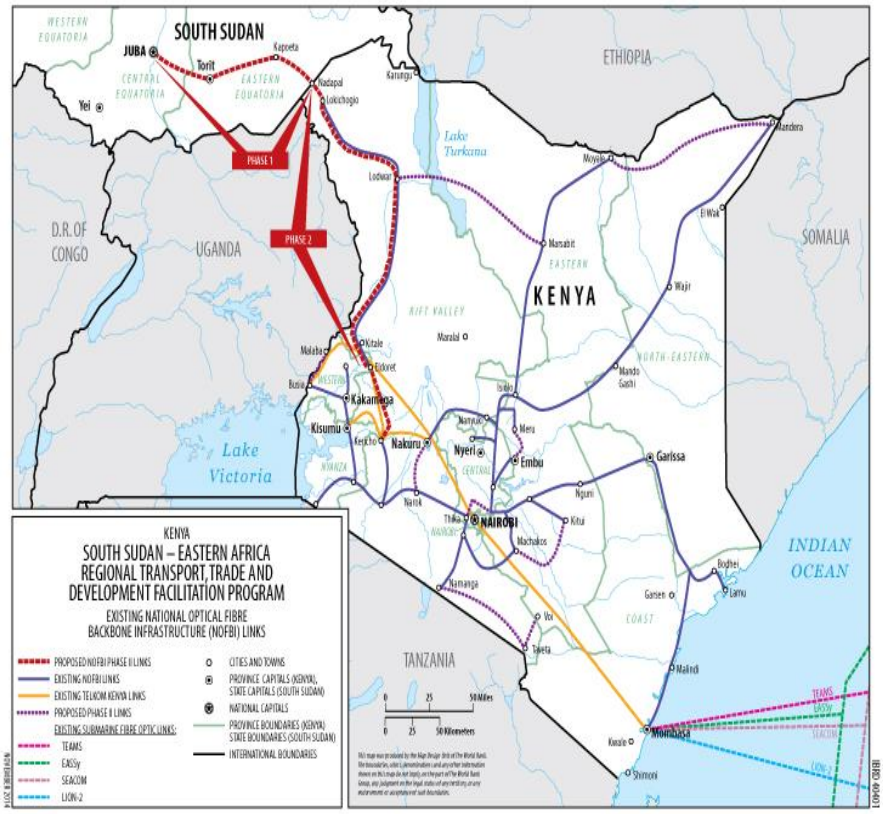
61. However, in a field trip in October 2014, between Nadapal/Nakodok and Eldoret, the POP in Lokichioggio was found to have been non-functional since 2011. The backbone fiber optic route from Lodwar to Lokichggio (about 300 kilometers) has been severely damaged by both drought and flood seasons. During the rainy season, the area in Lodwar (Kawalase seasonal river crossing) has always suffered from flooding. The floods have damaged not only the existing roads, but also washed away the topsoil that was covering the backbone. During the drought season, villagers do not have water. Many parts of the backbone fiber cable were exposed to the surface. Those exposed cables were mistaken as water pipes and were cut in many places by villagers seeking water.

62. In addition, the capacity of the fiber optic backbone from Eldoret to Lokichoggio has only 24 cores, which was considered by the Ministry to be insufficient even to fully support the Kenya side in the region if it is fully operational, let alone the additional traffic that may be expected from South Sudan and beyond. In addition to the SS-EARTTDF investment, two other projects in the region may drive additional internet traffic:

- investment credits under World Bank programs RCIP-5 (Uganda) and RCIP-6 (South Sudan) which will finance fiber optic cable between South Sudan and Uganda. This cable will provide back up and resilience for that network, and vice versa;
- a planned AfDB road and fiber project that will branch off from the Juba/Lokichoggio road in Ethiopia and which could also generate additional traffic from western Ethiopia.

63. After the field trip, it was concluded that the current national fiber optic backbone from Eldoret to Lokichoggio will require a revamp and upgrade. This decision was taken in consultation with the Kenya ICT Authority. The objective is to leverage roads and integrate with them on the design, the civil work, and environmental and social construction and build fiber optic backbone along this corridor. In the meantime, this fiber optic cable can be used to monitor road safety, introduce ITS infrastructure, and cross border post as a one-stop-shop between Kenya and South Sudan. From the social and economic impact, schools, hospitals, refugee camps, pastoralists on road side markets, and economic processing zones will benefit from this fiber optic backbone. The cable will also allow mobile service providers in the Turkana area to offer mobile broadband services from their base stations, which are currently connected only by microwave. Therefore, a sum of US$25 million of the Credit has been allocated onto Phase II.

Map 2.1. Fiber optic connectivity being constructed, in Phases 1 and 2, and the interconnection with Kenya's NOFBI



C. Specific Characteristics of the Corridor

64. In Kenya, the Nadapal/Nakodok - Eldoret segment offers the connection to Tanzania, going south bound after Eldoret, and branching out to Lamu port at around Lodwar (about 240 km away from Nadapal) to the future alternative port to Uganda and South Sudan. The Nadapal to Juba segment also offers the connection to Ethiopia and Djibouti from Kapoeta junction and to Uganda from Lobira junction. The EAC Corridor No 3 starts from Biharamulo (Rwanda) and passes through Mwanza (Tanzania) - Musoma (Tanzania) - Sirari (border between Tanzania and Kenya) - Kitale (Kenya) - Lodwar (Kenya) – Lokichoggio (Kenya) - Nadapal/Nakodok (border between South Sudan and Kenya) and ends at Juba (capital of South Sudan. Location map of the EAC corridors is presented as map 2.

Map 2.2. The EAC Corridor

65. The Juba - Nadapal - Eldoret road is part of a major regional trunk road that stretches from Mombasa to Nadapal/Nakodok, crossing the entire Kenya north-westerly direction, passing by Nairobi and Eldoret (also junction to Uganda, Rwanda and DRC). In South Sudan the same corridor extends from the south eastern to north western borders of South Sudan, designated as national Road 2 (N2), which crosses Torit, and Juba the capital, and links the main population settlement areas in the central and north western part of South Sudan, and ultimately proceeds to Sudan and Central African Republic.

66. The Nadapal-Juba road is currently a gravel road, which has a variable width of between 6 to 7 meters. The gravel material on this road is very abrasive and quickly changes to dust, and is a major cause for road accidents. The gravel material does not stand the heavily overloaded trucks and rampant potholes and ponds are created after every rainy season. Since 2005 the road has been repaired twice, which involved reshaping the road formation clearing and reshaping, side ditches, installation of pipe culvert at critical locations, and regravelling. Despite heavy repairs, the road cannot serve the current traffic and requires upgrading to an asphalt concrete standard. There are also several river crossings and wades along the road, and the upgrading will

involve the construction of a number of new bridges, some spanning up to 150 meters. The road traverses mostly flat terrain, except the few locations between Juba and Torit where the road runs on the foot of hills. The section around Narus passes through a rolling terrain ground.

67. The starting point for the upgrading will be at Nessitu junction to Nimule, about 20 km away from the White Nile. Nadapal is located about 340 km away from Nessitu. Torit is the only major town between Juba and the border, while Lirya, Lobira, Kapoeta, Narus and Nadapal are the small towns in between, which could provide basic services to road users. These towns are expected to become rest stops as the road is upgraded as a regional corridor; and could become hot spots with potential social risks, such as the spread of HIV/AIDS.

68. The road between Kapoeta and Boma is a dry weather road with about a 4 to 5 meter wide cleared track. A minimum level of spot improvement to make the difficult heavily damaged part is required to make the road passable. There is no major settlement in between, except a few farms and some pastoralist activity, despite the availability of abundant good agricultural land. The Lobira- Ikotos- Kitgum road is a narrow track 4 to 5 meters wide hardly passable during the rainy season, although there are some settlements and abundant fertile agricultural land.

69. The road between Nadapal/Nakodok and Eldoret is of the same standard and condition as the road section between Juba and Nadapal, in South Sudan, except most of it is to bituminous standards, though it has heavily deteriorated due to lack of maintenance. The road passes through a rolling and hilly terrain in some locations between Marich Pass and Lokichoggio, about 200 km, which require the construction of several pipes and box culverts. The road requires upgrading to bituminous road, based on the same standard adopted for the Juba-Nadapal section. The section between Nadapal and Eldoret is a semi-arid area and not densely populated. It is mainly used by pastoralists, and manifests high levels of poverty. Marich Pass Lokichoggio and Lodwar are the major settlement centers in between, which would also be hot spots. Due to the poor condition of the corridor, the region gets cut off from the rest of Kenya and South Sudan during the rainy season.

70. There are few road blocks/control points around Juba, Torit, Kapoeta, and Eldoret, other than the customs post at Nadapal. The customs post at Nadapal on the South Sudan side has no basic infrastructure and operates with very limited staff. The headquarters of SSCS in Juba does not have adequate working space. At Nadapal on the Kenyan side, there is only a military camp and a police post. The Kenyan customs post is at Lokichoggio, about 25 km away from the border, but it has basic facilities. There is no customs post at the border of Ethiopia and Uganda. As such movement across the borders is controlled by the border control police. The customs in South Sudan and Kenya apply different systems; Kenya uses SIMBA while South Sudan is attempting to use ASYCUDA ++. Currently all customs services in South Sudan are manual. There is no transit agreement between Kenya and South Sudan. South Sudan is member of the NCTTCA, which is facilitating the efficient use of the Mombasa Port and movement of traffic along the northern corridor serving Uganda, Rwanda, Burundi and Eastern DRC to which South Sudan has to be connected. South Sudan has applied to be a member of the EAC, and it currently has an observer status. However, as it joins the community it has to adopt protocols governing regional transport within EAC.

D. Summary of Components and Cost Estimates

71. The summary of the components and their estimated costs for the proposed project is presented below.

Table 2.2: Breakdown of Project Costs (Second Phase)

Item No	Components and Activities	Total Estimated Cost US$M (incl. tax)	IDA	GoK
1	**Component 1-Upgrading of Critical Road Infrastructure**			
1 (a)	Sub-component 1 (a) - Upgrading of Kalobeiyei River - Nadapal (88 km) road section			
1 (a) i	Sub-component 1 (a) i - Upgrading of Kalobeiyei River - Nadapal road section : civil work (cost including 20 percent contingencies- 7.5% for physical, 2.5% for emergency works, &10 % price contingencies)	137.0	115.0	22.0
1 (a) ii	Sub-component 1 (a) ii - Monitoring and Supervision Services	8.0	8.0	0.0
1 (b)	Sub-component 1 (a) - Upgrading of Lokitaung and Kalobeiyei River (80 km) road section			
1 (b) i	Sub-component 1 (b) i - Upgrading of Lokitaung and Kalobeiyei River (80 km) road section: civil work (cost including contingencies)	122.0	102.0	20.0
1 (b) ii	Sub-component 1 (b) ii - Monitoring and Supervision Services	7.0	7.0	0.0
1 (c)	Sub-component 1 (c) - Upgrading of Lokitaung – Lodwar (80 km) road section			
1 (c) i	Sub-component 1 (c) i - Upgrading of Lokitaung – Lodwar road section : civil work (cost including contingencies)	105.0	88.0	17.0
1 (c) ii	Sub-component 1 (c) ii - Monitoring and Supervision Services	7.0	7.0	0.0
1 (d)	Sub-component 1 (d) - Upgrading of Lodwar - Loichangamatak (about50 km) road section			
1 (d) i	Sub-component 1 (d) i - Upgrading of Lodwar - Loichangamatak road section: civil work (cost including contingencies)	94.0	81.0	13.0
1 (d) ii	Sub-component 1 (d) ii - Monitoring and Supervision Services	6.0	6.0	0.0
1 (e)	Sub-component 1 (f) - Replacement of Kainuk Bridge			
1 (e) i	Sub-component 1 (f) i - Replacement of Kainuk Bridge: civil work (cost including contingencies)	12.0	10.0	2.0
1 (e) ii	Sub-component 1 (f) ii - Supervision Services	1.0	1.0	0.0
1 (f)	Sub-component 1 (e) - Upgrading of Loichangamatak - Lokichar (about 40 km) road section			
1 (f) i	Sub-component 1 (d) i - Upgrading of Loichangamatak - Lokichar road section: civil work (cost including contingencies)	66.0	0.0	66.0
1 (f) ii	Sub-component 1 (e) ii - Monitoring and Supervision Services	4.0	0.0	4.0
1 (g)	Provision for implementation of RAPs	24.0	0.0	24.0
1 (h)	Project preparatory activities	1.0	1.0	0.0

Item No	Components and Activities	Total Estimated Cost US$M (incl. tax)	IDA	GoK
	Total Component 1	**594.0**	**426.0**	**168.0**
2	**Component 2- Facilitation of Regional Transport, Trade and Development**			
2 (a)	Sub-component 2 (a) - Support to KRA for the implementation of transport, trade and development facilitation			
2 (a) i	Sub-component 2 (a) i – quality control and harmonization of customs procedures;	1.0	1.0	0.0
2 (a) ii	Sub-component 2 (a) ii –designing an OSBP at the Kenya side (physical works will be implemented under phase 3 through a DB arrangement)	1.0	1.0	0.0
2 (a) iii	Sub – component 2 (a) iii - Provision of advisory services and equipment for the strengthening of the cross-border management unit of KRA and other border agencies	2.0	2.0	0.0
2 (a) iv	Sub – component 2 (a) iv - Support to the implementation of an integrated border management system	1.0	1.0	0.0
2 (a) v	Sub – component 2 (a) v - Support to the implementation of the MoU between Kenya Customs and South Sudan Customs Services	1.0	1.0	0.0
2 (a) vi	Sub – component 2 (a) vi - ICT to ensure revenue collection and facilitate clearance and release of goods.	2.0	2.0	0.0
2 (b)	Sub-component 2 (b) - Support to KeNHA for the implementation of transport, trade and development facilitation measures			
2 (b) i	Sub-component 2 (b) i – Enhancing social infrastructure and social services delivery, including HIV/AIDS prevention (civil works and sensitization costs included in road upgrading contracts)	1.0	1.0	0.0
2 (b) ii	Sub – component 2 (b) ii – Designing pilot pastoralist road side markets in selected locations along Kalobeiyei River - Nadapal , Lokitaung and Kalobeiyei River, Lokitaung – Lodwar, Lodwar – Lokichar, and Kainuk Bridge (construction cost included under component 1. design, civil work, building, equipment and supervision services	1.0	1.0	0.0
2 (b) iii	Establishing pastoralist road side markets in selected locations along Kalobeiyei River - Nadapal , Lokitaung and Kalobeiyei River, Lokitaung – Lodwar, Lodwar – Lokichar, and Kainuk Bridge, including, civil work, building, equipment and supervision services	29.0	25.0	4.0
2 (c)	Sub-component 2 (c) - Support to MoTI for the implementation of transport, trade and development facilitation measures, including support to provision of site and services at rest stops, export processing zones and storage facilities, as well as certification of export products and simplifying the process for import-export	3.5	3.5	0.0
	Total Component. 2	**42.5**	**38.5**	**4.0**
3	**Component 3- Support to Institutional Development and Program Management**			
3 (a)	Sub-component 3 (a) Strengthening KeNHA, ICTA and institutions under MoTI			
3 (a) i	Sub-component 3 (a) i - Strengthening road design review as well as contract management, value engineering, road	1.5	1.5	0.0

Item No	Components and Activities	Total Estimated Cost US$M (incl. tax)	IDA	GoK
	maintenance, safeguards and procurement management capacity of KeNHA			
3 (a) ii	Sub-component 3 (a) ii Enhancing project management capacity, maintenance management and engineering capabilities in the transport sector through supporting the Kenyan Roads Board; Engineers Board of Kenya; Ministry of Transport and Infrastructure, Resource Mobilization Department under the National Treasury, and State Law Office	1.5	1.5	0.0
3 (a) iii	Sub-component 3 (a) iii – Support to MoTI for monitoring project performance.	1.0	1.0	0.0
3 (a) iv	Sub-component 3 (a) iv - Support to strengthening the project management capacity of ICTA.	0.5	0.5	0.0
3 (b) i	Sub-component 3 (a) iv- Strengthening the capacity of the lead Road Safety Agency (the National Transport and Road Safety Authority) and vehicle safety inspection	2.0	2.0	0.0
3 (b) ii	Sub – component 3 (b) ii) - Corridor Road Safety assessment and implementation of pilot corridor Road Safety action plan along the Eldoret/Lesseru – Nadapal/Nakodok road	1.5	1.5	0.0
3 (c)	Sub-component 3 (b) - Provision of advisory services, training, logistical support and operating cost to sustain the management and coordination of Project implementation activities, including auditing and monitoring and evaluation, to all project implementing entities.	1.5	1.5	0.0
3 (d)	Sub-component 3 (c) – Support for preparation of follow on operations	1.0	1.0	0.0
	Total Component 3	**10.5**	**10.5**	**0.0**
4	**Component 4 - Enhancing Internet Connectivity**			
4 (a)	Sub-component 4 (a) i- Design and build of fiber optic cable, between Nadapal and Eldoret	27.0	23.0	4.0
4 (b)	Sub-component 4 (b)- design, bidding document preparation, and monitoring and supervision services for the installation of fiber optic	2.0	2.0	0.0
	Total component 4	**29.0**	**25.0**	**4.0**
	Total component.1-4:	**676.0**	**500.0**	**176.0**[16]

[16] The government contribution excludes US23.6 million required for implementation of the RAPs (compensation)

Annex 3: Implementation Arrangements

A. Implementation Arrangements

Project administration mechanisms

1. The overall program will be implemented by: (a) the PMTs of (i) the MoTI, (ii) KeNHA, (iii) KRA, and (iv) ICTA for components to be implemented in Kenya, and (b) the PMT of the MTRB of South Sudan, and the project implementation unit established under the SSCS of the Ministry of Finance and Economic Planning (MoFEP), with intensive engagement of the Ministry of Telecommunication and Postal Services (MoTPS) of South Sudan for components to be implemented in South Sudan. The overall program at sub-regional levels will be coordinated by the JIMC involving program countries and sub-regional communities (Intergovernmental Authority for Development -IGAD and EAC). MoTI will house the JIMC and will be responsible for overall program coordination. The NCTTCA will look after transit transport facilitation on the entire Juba-Eldoret corridor, upon completion of the project. (See Figure 3.1 for illustration).

Overall Program and Project Coordination

2. The overall program will mainly involve South Sudan and Kenya, and the implementation will be coordinated by the JIMC, co-chaired by the Minister of Transport, Roads and Bridges of South Sudan and Cabinet Secretary of MoTI of Kenya. The JIMC is considered to be operational since the joint meeting of October 18, 2012, in Nairobi. It has successfully overseen the donors' Consultative Meeting of January 29 and 30, 2013, held in Nairobi. The JIMC will comprise representatives of the Ministry of Finance, the Ministry responsible for Transport, the Ministry responsible for Commerce, and the Ministry of Interior from both countries, as well as the heads of the implementing entities. The JIMC will engage with the IGAD, EAC and NCTTCA on trade facilitation matters and inter-country coordination. The GRSS and the GoK will establish POCs chaired by the principal Secretaries of MTRB and MoTI, which will serve as the technical/operational arm of the JIMC. Details are presented in the country sections. The three phases will primarily involve South Sudan and Kenya and similar coordination and implementation arrangements will be applied to all phases, including this second phase.

Overall Program and Project Management

3. MoTI, in close coordination with MTRB, will host overall program coordination functions, and each implementing agency will be responsible for the implementation of its respective component or subcomponent of the project. MoTI will be responsible for overall coordination, in particular, of policy level issues and bilateral relations between the two ministries (MTRB and MoTI), as well as other key stakeholders, on the Kenyan side. MTRB will be responsible for overall coordination and implementation of the program in South Sudan.

4. Project execution will be carried out by the six implementing agencies (see Figure 1 for a schematic illustration), namely, MoTI, KeNHA, KRA, ICTA, MTRB and MoFEP/SSCS. The former five agencies have implemented Bank-financed projects and have experience on Bank-funded operations. This project will be mainstreamed into the operations of these institutions and form an integral part of their operations and investment programs.

5. The proposed project will be implemented as follows:

Table 3.1 Implementation Responsibility for the Second Project

Item	Components	Implementing entity
KENYA		
(a)	Sub-component 1 (a), 1 (b); 1 (c), 1 (d), 2 (b); 3 (a) i, and 3 (c)	KeNHA
(b)	Sub-component 2 (a),	KRA
(c)	Sub-component 2 (c), 3 (a) ii, 3 (a) iii, 3 (a) iv, and 3 (b)	MoTI
(d)	Component 4 and 3 (a) iv	ICTA

6. *Project Oversight Committee.* The GoK has established the POC to: (a) provide strategic and policy guidance for Project implementation; (b) liaise with the MoTB-SS; (c) review and approve annual work plans for the Project; and (d) review project financial reports. The POC will comprise the principal secretary (PS) of MoTI for Infrastructure as the chair, PS of MoTI for Transport as the co-chair, a representative of the National Treasury, and chief executive officers (CEOs) of all the entire project implementing entities. The process of establishing the POC falls under the administrative procedures of the GoK.

7. *Project Coordinator (PC):* To promote effective implementation, oversight and coordination of the project, GoK has appointed a PC for MoTI with qualifications and experience under Terms of Reference (ToR) satisfactory to the Association. The PC will be responsible for the overall coordination and reporting on the project, providing strategic oversight and preparation of project reports and acting as the secretary for the POC.

8. *Project Management Teams*. Each implementing agency will appoint a PMT, which will be empowered to manage the day-to-day activities of its components of the project. All the PMTs will comprise regular staff of the implementing agencies. Each PMT will be headed by a team leader and will comprise members with the appropriate skills and adequate experience and qualifications. The team leaders will report directly to the CEOs of KeNHA, ICTA and KRA. In case of the MoTI component, the team leader will report to the PS, Infrastructure.

9. KeNHA will establish a PMT that will consist entirely of full-time employees of the Authority and will comprise a project team leader, pavement specialist, construction specialist, contract management specialist, a financial management specialist, a procurement specialist, an environmental and social specialist and will draw on technical expertise both from in-house sources and from other relevant stakeholder bodies. KeNHA will be the main implementing entity of the project with overall fiduciary responsibility for project execution. The project will provide short term financial management, procurement, environmental and social safeguards consultants to support the PMT. The South Sudan National Bureau of Standards (SSNBS),

which was established in March 2012, will be responsible for technical aspects related to the certification of products, as well as ensuring standards of export and import trade. SSNBS will work closely with SSCS and MTRB.

10. The responsibilities of KeNHA will include the following: (a) procurement and contract management of consultancy and works contracts for the physical infrastructure related to the trade and development facilitation to be implemented under the program in South Sudan; (b) the management of the Designated Account (DA); (c) financial management and reporting on the overall program; (d) ensuring the execution of the audit of the project; (e) preparation of quarterly financial and bi-annual progress reports with inputs from KRA, ICTA and MoTI; and (e) oversight of the procurement and contract management activities of the other executing agencies. KeNHA has experience in implementation of Bank supported road projects and is familiar with Bank procedures. KeNHA-PMT will facilitate the National Corridor Management Committee (NCMC) functions and serve as the secretariat of the NCMC. KeNHA-PMT will be the technical arm of MoTI in the functions to be performed by the JIMC. A subsidiary agreement will be signed between the National Treasury of Kenya and KeNHA to pass over part of the credit proceeds in a form of a grant to KeNHA and specify the application of the funds and the responsibilities of the implementing entity to utilize for the intended purpose.

11. KeNHA has an Internal Audit Unit. This unit will review project financial affairs as part of their regular internal audit reviews, supported by a TA. The program will have a provision for financial, technical and environmental auditing.

12. KRA will establish a PMT consisting of: a program manager/team leader, a financial management specialist, a procurement specialist, and a customs specialist and will draw on technical expertise both from in-house sources and from other relevant stakeholder bodies. KRA has been implementing part of the EARTTFP and has acquired some experience in the application of World Bank financial management and procurement guidelines and procedures. The program will have a provision for short and long term consultant TAs (financial management, procurement, and customs consultant) to strengthen the capacity of the PMT. KRA will support the establishment of the one-stop rest stop at Nadapal/Nakodok on the Kenyan side.

13. KRA will be the recipient of the credit for the project and will be responsible for the implementation of the trade facilitation components in general and sub-component 2 (d), in particular. KRA will also be responsible for: (a) the management of the DA to be established under KRA; (b) financial management and reporting on the trade facilitation tasks; (c) ensuring the execution of the audit of the project; and (d) preparation of quarterly financial and bi-annual progress reports. A subsidiary agreement will be signed between the National Treasury of Kenya and KRA to pass over part of the credit proceeds in a form of a grant to KRA and specify the application of the funds and the responsibilities of the implementing entity to utilize for the intended purpose.

14. KRA has signed an MoU with SSCS to harmonize customs procedures and enhance the capacity of the SSCS. The program will support the implementation of the MoU.

15. ICTA will establish a PMT consisting of: a program manager/team leader, a financial management specialist, a procurement specialist, and an ICT specialist and will draw on technical expertise both from in-house sources and from other relevant stakeholder bodies. ICTA has been implementing the Kenya Transparency and Communications Infrastructure Program (TCIP) since 2007, and recently benefited from a second tranche of additional financing, and it has acquired some experience in the application of World Bank financial management and procurement guidelines and procedures. The project will have a provision for short and long term consultant TAs (financial management, procurement, and ICT consultants) to strengthen the capacity of the PMT. ICTA will support the installation of the fiber optic on the South Sudan side.

16. ICTA will be the recipient of the credit for the project and will be responsible for the implementation of the ICT component. ICTA will also be responsible for: (a) the management of the DA to be established under ICTA; (b) financial management and reporting on the ICT tasks; (c) ensuring the execution of the audit of the project; and (d) preparation of quarterly financial and bi-annual progress reports. A subsidiary agreement will be signed between the National Treasury of Kenya and ICTA to pass over part of the credit proceeds in a form of a grant to ICTA and specify the application of the funds and the responsibilities of the implementing entity to utilize for the intended purpose. ICTA will also sign a Project Agreement with the World Bank.

17. ICTA will sign a MoU with MoTPS of South Sudan to outline the coordination arrangement for the implementation of the ICT components in both territories. The project will support the implementation of the MoU.

18. MoTI, in addition to the coordination and oversight responsibilities, will implement the development facilitation activities. MoTI will be responsible for financial management and procurement activities to be implemented under the ministry.

19. The first project is planned to be implemented over a period of five years starting May 2014. The second project is planned to be implemented starting June 2015 over a period of six years, consisting of five years for the upgrading works, and one year for project winding up. The third project is expected once the second phase is effective. A tentative time frame for the project preparation and implementation is presented in Table 3.2. As the program will focus on South Sudan and Kenya, the second and third projects will concentrate on activities within the two countries, and thus, the same institutions implementing the first project will continue to be responsible for the execution of the tasks on the follow-on projects. Activities in other corridor countries like Ethiopia and Uganda are expected to be part of the AfDB initiative while border crossing facilitation between Kenya and Tanzania would be addressed under another program that would further develop EAC's corridor No 3.

Figure 3.1: Implementation Arrangement of the Project in Kenya

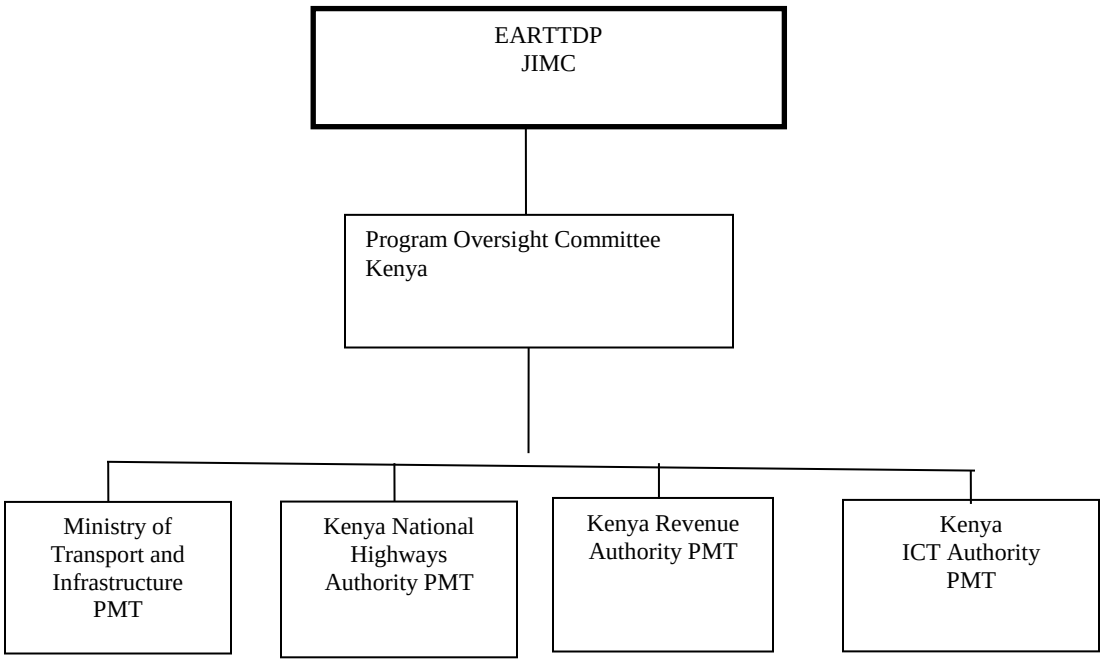


Table 3.2 Project Preparation and Implementation Time Frame

Project	Implementation Start Date	Project Effectiveness Date	Project End date
First Project	May 2014	December 2014	June 2019 (including one year defects liability period)
Second Project	June 2015	October 2015	June 2021 (maintenance to be carried out under performance base maintenance contracting as part of third phase)
Third Project	September 2017	January 2018	June 2025 (including five years maintenance period)

B. **Project Stakeholder Assessment**

20. There is strong support to the proposed program from the main stakeholders, including the participating countries and beneficiary groups living along the roads. Many development partners are also interested in supporting the program. As the program builds on the existing

initiatives of the participating countries to interconnect the sub-region, it has achieved strong ownership of the key stakeholders. This was demonstrated by the high turnout of ministerial level officials, parliamentarians, a representative of EAC, and development partners to the Nairobi Donors Consultative Meeting of January 29, 2013.

C. Financial Management, Disbursements and Procurement

Financial Management Arrangements

21. The World Bank requires the Recipient and the implementing agency to maintain adequate FM arrangements to ensure that accurate and timely financial information can be provided regarding credit resources and expenditures. A FM assessment[17] is aimed at ensuring that this requirement is met. A detailed FM Capacity assessment of KeNHA, KRA and MoTI was carried out in May 2013 and was updated in January 2015 together with the FM assessment for ICTA. The FM assessment for the implementing entities in South Sudan has been carried out and documented under the first project, and the FM assessment for the second project focuses on the implementing entities on the Kenyan side.

22. As a regional project with six principal implementing agencies, separate PMTs for MTRB, MoTI, KeNHA, KRA, and ICTA, and a project implementation unit (PIU) for SSCS will be set-up in each of the implementing agencies to provide project management services for the specific components the respective agencies will be responsible for implementing. Based on the current financial management systems and the planned mitigating measures, the FM risk for the project components in Kenya is assessed as Moderate.

Planning and Budgeting

23. The budgeting process follows the GoK procedures entitled: Government Financial Regulations and Procedures. These regulations underwent a review following the enactment of the Public Financial Management (PFM) Act 2012 and the new regulations were gazetted on March 20, 2015. The budget preparation process is spearheaded by the Principal Secretaries upon receiving a circular from National Treasury requiring all ministries to prepare their budgets within a set ceiling. Budgetary estimates are prepared by all the state corporations, ministries, departments and projects, consolidated and submitted to National Treasury through the respective line ministries. The estimates are then included in the respective ministries' printed estimates in line with the government budgeting system. The budgets are prepared in Hyperion (budgetary module) or in excel and uploaded into the Hyperion of the Integrated Financial Management System (IFMIS). The budgeting process is deemed adequate.

24. All four implementing entities annual budgets will also be analyzed per quarter, based on the work plans and the procurement plans, including cash flow forecasts for each component and will be submitted to the Bank at least two months before the beginning of the project fiscal year,

[17] FMA is conducted in accordance with OPCS guidelines titled "*Assessment of Financial Management Arrangements in World Bank-Financed Projects – Guidelines to Staff"* issued by the Financial Management Sector Board on October 15, 2003, and the Financial Management Manual for Bank-Financed Investment Operations issued on March 1, 2010.

after the necessary approvals from the implementing entities. The budget for each quarter will reflect the detailed specifications for project activities, schedules (including procurement plan), and expenditure on project activities scheduled respectively for the quarter.

25. ***Accounting Staff.*** MoTI, KeNHA, KRA, and ICTA have adequate and qualified staff to handle the project. The four entities are well-established, and have experience in managing Bank funded projects.

26. ***Information Systems.*** All project FM records will be maintained using a computerized financial management system and necessary training carried out for the accounting staff. KeNHA and ICTA have a computerized accounting system for projects. Though KRA uses SCALA to manage its accounting operations, it maintains the project accounts in Excel. MoTI is also using Excel for projects but with the re-engineered IFMIS and the new Chart of Accounts, ministries are able to generate project accounts directly from the re-engineered IFMIS upon configuring the project in IFMIS. All transactions should be recorded and accounted for.

Internal Controls and Internal Audit

27. ***Internal Audit.*** KeNHA, KRA, ICTA all have a strong internal audit functions with audit committees in place to offer oversight and ensure that issues raised by both internal and external audit reports are addressed by management. However, the turnover of internal auditors at ICTA is very high and needs to be checked. MoTI has a strong internal audit function but the audit committee was active only until September 2013. The committee then met quarterly to review audit findings from the internal audit departments. However, following the merger of the two key state departments, the committee was disbanded and is in the process of being reconstituted to cater for the needs of the consolidated ministry. The issue of membership of this ministerial audit committee that was drawn from staff is expected to change with the new Public Financial Management Act, 2012 whose regulations were gazetted on March 20, 2015. The audit committee composition and functions should be as prescribed in the regulations. The MoITI audit committee will be expected to oversee the adequacy of the internal control mechanisms instituted by MoTI by reviewing the audit issues raised by the Internal and External Auditors and monitoring the implementation of these issues to ensure that the issues being raised by auditors on inadequate internal controls do not recur.

28. The audit departments of the four implementing entities will be expected to audit the project activities.

29. ***FM Manuals***. KeNHA uses both the GoK procedures and its own developed procedures entitled 'Financial Policies, Guidelines & Procedures Manual'. MoTI uses GoK procedures entitled; Government Financial Regulations and Procedures. The guidelines have now been reviewed and gazetted to align them with the PFM Act 2012. KRA uses the FM manual entitled 'Finance Procedures Manual'. These manuals are considered adequate.

30. A Project Implementation Manual has been prepared and incorporates acceptable FM procedures including compliance with fiduciary standards and reliability of the FM systems.

31. Fixed Assets and Contracts Register: Fixed assets register relating to the project will be prepared and updated regularly using the information from the Cash Book. All new assets will be reflected in the register and a physical verification of fixed assets will be carried out at least annually. The Fixed Assets Register will reflect details of suppliers, description and location of goods, original cost, disposal of assets, asset reference (identification) number; serial or registration number; date of purchase and price (cost) and/or valuation, additions to the asset; condition of asset, useful life and residual value; and disposal.

32. A contracts register will be maintained in respect of all contracts with consultants, contractors, and suppliers. The PMTs will prepare contract status reports quarterly as part of the IFRs. Control procedures over fixed assets and contracts management will be the responsibility of the PMTs.

Financial Reporting and Monitoring

33. The respective PMTs will be responsible for the financial reporting on the components they will be responsible for. The PMTs will have the full responsibility for financial management, including managing the DA, preparing the withdrawal applications for necessary approval, management of the operational bank accounts, accounting and financial reporting. The Project financial specialists will support the PMTs in the maintenance of the accounting system and the appropriate preparation of the project's periodic financial reports during project implementation. Quarterly IFRs will be prepared by the project accountants/financial specialists for the purpose of monitoring the implementation of the project and submitted to the line ministries, Ministry of Finance/ National Treasury, and the World Bank. This includes a statement of sources and uses of Funds by main expenditure classifications; beginning and ending cash balances of the project; and supporting schedules comparing actual and planned expenditures. IFRs will be submitted to the Bank not later than 45 days after the end of the quarter. The format and content of the IFRs will be similar to what the entities have been using in the existing transport projects and will be attached to the Disbursement Letter. Each entity will be responsible for its own financial reporting.

34. The main schedules for the IFR will include:

(a) Statement of Sources and Uses of Funds (by major Component/ Activity);
(b) Statement of Cash Position for Project Funds from all Sources;
(c) Statements reconciling the balances on the various bank accounts (including the Project Account) to the bank balances shown on the statement of sources and uses of Funds;
(d) Statement of Expenditure (SOE) Withdrawal Schedules listing individual withdrawal applications relating to disbursements by the SOE based method, by reference number, date and amount;

35. The project will also prepare the project annual financial statements within three months after the end of the accounting year in accordance with accounting standards acceptable to the Bank- the International Public Sector Accounting Standards. The financial statements will be

submitted to the auditors within three months after the end of the financial year to facilitate the conduct of annual audits of the project.

External Auditing

36. The Auditor General in Kenya – Kenya National Audit Office has the constitutional responsibility for carrying out all audits of government entities and projects and will be responsible for the project audit. The Standard Audit ToR for World Bank funded projects have already been shared with the Auditor General and can be customized as appropriate. The audit would be in conformity with the Bank's audit requirements and in accordance with internationally recognized auditing standards. The auditor will express an opinion on the Financial Statements in compliance with International Standards on Auditing or International Standards of Supreme Audit Institutions and also prepare a Management Letter giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the Credit Agreement. External audits will be conducted annually and the audit report and management letter will be submitted to the Bank within six months after the end of the financial year audited. In addition, the project will conduct technical audits.

37. KeNHA is currently implementing the NCTIP, EATTFP, the KTSSP and the NUTRIP. The former Ministry of Roads now MoTI is implementing the KTSSP and NUTRIP. KRA is currently implementing the EATTFP. ICTA is implementing the TCIP projects. There are no overdue audit reports. However, KeNHA audit reports for the financial year ended June 30, 2014 received an 'except for 'qualified audit opinions qualification mainly on the basis of delay in project implementation. ICTA received an unqualified audit opinion whereas KRA received a qualified audit opinion with issues that have since been addressed. The State Department of Transport and State Department of Infrastructure which are the two directorates of MoTI received unqualified (clean) audit opinions but the auditor raised concerns in the management letter on the need to improve the internal controls.

38. The Bank encourages the disclosure of the project audit reports to the public in the spirit of being transparent. The audit reports that will be required to be submitted by the implementing entities and the due dates for submission are as shown below:

Audit Report	Due Date
MOTI, KeNHA, KRA and ICTA Annual audited financial statement and Management Letter for the project (Including reconciliations of the Designated Accounts with appropriate notes and disclosures and management letter responses).	Within six months after the end of each fiscal/financial year.

Fraud and Corruption

39. Possibility of circumventing the internal control system with colluding practices as bribes, abuse of administrative positions, mis-procurement, etc. is a critical issue and may include: (a) late submission of supporting documents; (b) poor filing of records; (c) lack of

system integration; (d) lack of budget discipline; (e) unauthorized commitment to suppliers, bypassing budget and expenses vetting procedures and; (f) unsecured safekeeping and transportation of funds. These are mitigated as follows: (i) specific aspects on corruption auditing would be included in the external audit TOR; (ii) the internal auditor would report directly to the MoTI as well as present quarterly reports to the Bank and to the POC; (iii) KeNHA, KRA, ICTA and MoTI have FM procedures manuals and these will be adopted for the project. The FM procedures manuals will be part of the PIM and will be approved before project effectiveness; (iv) strong FM arrangements (including qualified project accountant recruited (for South Sudan) under TORs acceptable to IDA, quarterly IFR including budget execution and monitoring; and (v) measures to improve transparency such as providing information on the project status to the public, and involvement of the MoTI in the project are built into the project design.

40. All the implementing entities in Kenya have existing policies on governance and anti-corruption. In addition, the new constitution has devoted a chapter on governance issues. Staff and stakeholders in these entities are guided by these policies in combating corruption and unethical business conduct. Further, the project has initiated a GRM.

Funds Flow, Banking and Disbursement

41. ***Banking Arrangement.*** The National Treasury (Kenya) will be required to open four DAs denominated in United States Dollars for MoTI, KRA, ICTA and KeNHA at Central Bank of Kenya. MoTI, KRA, ICTA and KeNHA will each open a project account denominated in KES and the KES accounts will be opened either in Central Bank of Kenya or in commercial banks acceptable to IDA based in Kenya.

42. Funds will flow from the World Bank to the Designated Accounts and to the Transaction/Project Accounts using the government exchequer requests system where payments of the eligible project activities can be made. Details of these accounts once opened, and the signatories, are to be submitted to the Bank to facilitate disbursements once the credit is declared effective.

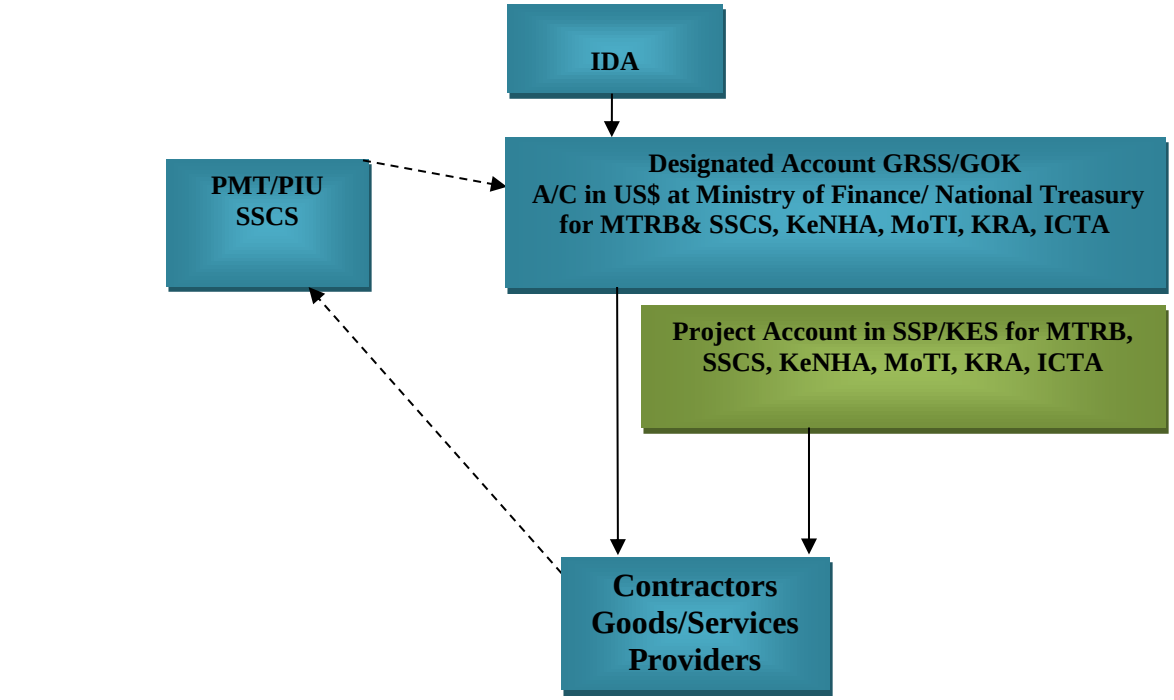
43. The Recipient shall maintain, until the completion of the Project, in a commercial bank, a separate account under terms and conditions acceptable to the Association, ("Counterpart Fund Account"), into which it shall deposit from time to time from its own resources, its counterpart contribution corresponding to its share of the cost of implementation of its respective part of the Project for each quarter.

44. The Recipient shall not later than 60 days after the Effective Date, deposit into the Counterpart Fund Account an initial advance corresponding to its share of the cost of implementation of its respective part of the Project for the first quarter of the Project implementation period, and thereafter replenish the Counterpart Fund Account on a quarterly basis, taking into account the balance of funds in the Counterpart Fund Account and projected expenditures for the following quarter.

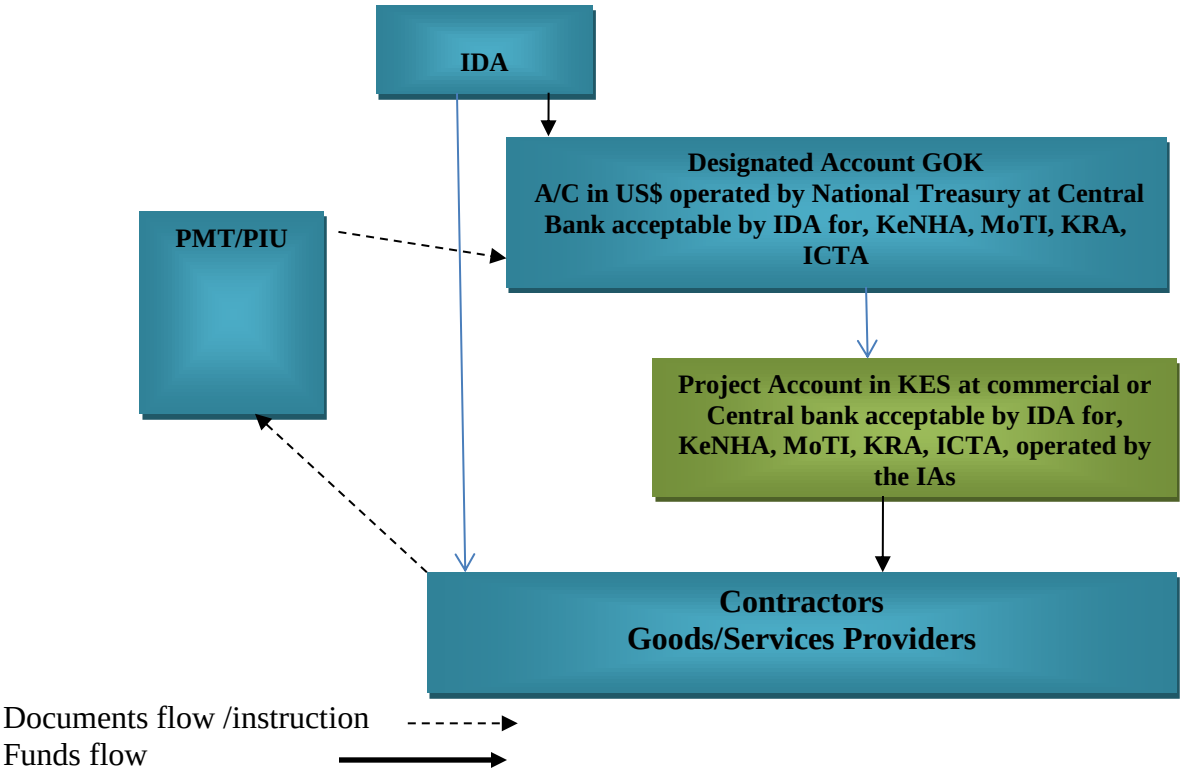
45. The Recipient shall ensure that funds deposited into the Counterpart Fund Account shall be used exclusively to finance expenditures under its respective Parts of the Project.

Figure 3.2: Flow of Funds for the Program

a) South Sudan



b) Kenya



46. The funds flow process will require that:

(a) the PMTs carry out due diligence on the activities of the project in accordance with criteria set under the credit and contained in the Financing Agreement;

(b) the PMTs determine the amount required for the activities; check the amount of funds required against the planned activities for which transfers are being requested, and make recommendations for payment. The documentation to back up the request will include their bank account details, the project document as well as other relevant information;

47. *Disbursement:* In Kenya, the project will use the transaction based SOE disbursement method. The Bank will give an initial advance with a ceiling as set out in the Disbursement Letter. Subsequently, the implementing entities will submit their SOE and the Bank will process the electronic withdrawal applications and advance funds into the DA. Funds will then be transferred from the DA at National Treasury (formerly Ministry of Finance) of Kenya into the project accounts of MoTI, KRA, ICTA and KeNHA and payments in relation to project eligible expenditures can be made from these accounts. Each of these implementing entities will be submitting their own withdrawal application to the Bank through the National Treasury.

48. Replenishment of the DA will follow World Bank procedures. Requests for replenishment of the DA will be submitted on a monthly basis or as required. The movements in the DA will be audited during the annual audit of the project.

49. Apart from the advance method of disbursement/payment described above, reimbursements can be requested from the Bank for eligible costs incurred by the implementing agency. The third method is the direct payment that may be used for payments to contractors or service providers upon recommendations of their satisfactory performance by the program authorized officials. Payments may also be made to the commercial bank for expenditures against IDA special commitments covering the commercial bank's Letter of Credit. All these options are detailed in the World Bank disbursement guidelines for projects dated May 2006.

Statement of expenditures

50. During implementation, necessary supporting documents will be sent to the Bank in connection with contracts that are above the prior review threshold, except for expenditures under contracts with an estimated value of: (a) US$300,000 or less for works; (b) US$200,000 for goods; (c) US$100,000 or less for Consulting Firms; (d) US$50,000 or less for Individual Consultants, and training, which will be claimed on the basis of SOEs. The documentation supporting expenditures will be retained at the project implementation unit and will be readily accessible for review by the external auditors and Bank supervision missions.

51. If ineligible expenditures are found to have been made from the designated and/or operating bank accounts, the implementing entities will be obligated to refund the same. If the DA remains inactive for more than six months, the implementing entities may be requested to refund to IDA amounts advanced to the DA.

52. All disbursements are subject to the conditions of the Financing Agreement and the procedures defined in the Disbursement Letter.

53. Detailed disbursement procedures will be documented in the PIM.

Conclusion and Supervision Plan

54. The project's FM arrangements require improvements in order for the systems to be adequate to provide, with reasonable assurance, accurate and timely information on the project's status as required by IDA. The FM risk is Moderate for KeNHA, MoTI, ICTA and KRA, requiring Bank supervision once a year. FM supervision will be consistent with a risk-based approach and will involve a collaborative approach with the Task Team, including Financial Controllers and procurement staff. This would cover all aspects of FM. Additional supervision activities will include desk review of quarterly IFRs and internal audit reports, audited Financial Statements and Management Letters as well as timely follow up of issues arising, and updating the FM rating in the Implementation Status report and the Portfolio and Risk Management System.

55. Financial Management Action Plan

Table 3.3: Financial Management Action Plan

	Action	**Responsibility**	**Due Date**
	MoTI and KRA to change from manual to a computerised accounting system in a manner satisfactory to the IDA	MoTI and KRA	By December 31, 2016
	Internal Audit to audit the project activities	All entities	During Implementation

56. Summary of allocation of credit proceeds for Kenya is presented in Table 3.4

Table 3.4: Allocation of Credit Proceeds - Kenya

Category	**Amount of the credit allocated (in US$)**	**Percentage of expenditures to be financed (inclusive of taxes[18])**
1. Goods, works, non-consulting services, consultants' services, Training and Operating Costs for Parts 2(c), 3 (a) ii, 3 (a) iii; 3(b) and 3 (c)i of the Project - MoTI	10,000,000	100%
2 (a) Goods, works, non-consulting services, consultants' services and Training for Part 1(a) i, 1(b) i, 1(c) i, 1(d) i , 1(e)i, and 2 (b) iii of the Project - KeNHA	421,000,000	84 %

[18] Tax provision is exclusively for civil works contracts.

Category	Amount of the credit allocated (in US$)	Percentage of expenditures to be financed (inclusive of taxes[18])
2 (b) Goods, works, non-consulting services, consultants' services, Training and Operating Costs for Part 1 (a) ii, 1 (b) ii, 1 (c) ii, 1 (d) ii, 1 (e) ii, , 2 (b) i, 2 (b) ii; 3 (a) i; 3 (c) ii and 3 (d) of the Project - KeNHA	34,500,000	100 %
3. Goods, works, non-consulting services, consultants' services, Training and Operating Costs for Part 2 (a) of the Project - KRA	8,000,000	100%
4 (a) Goods, works, non-consulting services, consultants' services, Training and Operating Costs for Part 4 (a) of the Project – ICTA	23,000,000	84%
4 (b) Goods, works, non-consulting services, consultants' services, Training and Operating Costs for Part 4 (b) and 3 (a) iv of the Project–ICTA	2,500,000	100%
5. Refund of Preparation Advance	1,000,000	Amount payable pursuant to Section 2.07 of the General Conditions
Total	500,000,000	

D. Procurement

57. KeNHA will be responsible for the procurement of consultancy and works contracts of the road upgrading and Kainuk bridge replacement, social infrastructure development, pastoralist road side markets and Road Safety along the corridor. KRA will be responsible for the procurement of consultancy services related to the trade and development facilitation listed under sub-component 2 (a). MoTI will be responsible for studies and implementation of the activities related to export processing zone development. ICTA will be responsible for procurement of consultancy and works contracts, as well as supply of goods under Component 4. MoTI and KeNHA have vast experience of managing procurement of Bank financed projects and are currently implementing four ongoing Bank-funded projects. KRA and ICTA have also acquired some experience in managing Bank financed projects. The procurement capacity assessment for the implementing entities in South Sudan was conducted while preparing the first project and all procurement issues related to the implementing entities in Kenya will be covered under this project.

58. The findings of the procurement capacity and risk assessment of the four implementing entities and national level procurement laws and practices are summarized as follows:

59. In Kenya public procurement is governed by the Public Procurement and Disposal Act of 2005 (PPDA) and the Public Procurement and Disposal Regulations of 2006. Under the PPDA, the Public Procurement Oversight Authority has been established in addition to the Directorate of Public Procurement in the National Treasury. The PPDA sets out the rules and procedures of public procurement and provides a mechanism for enforcement of the law. Some provisions of

PPDA are however not fully consistent with the World Bank procurement procedures, and therefore these may not be applied for the implementation of the project without modification.

60. The four project implementing entities in Kenya are well established institutions and have experience in management of procurement under Bank financed projects. With TA inputs to strengthen the procurement capacity, the institutions could manage the project with minimal risk. The transport sector is also increasingly moving toward open tender for civil works contracts to combat collusion challenges and the project will be informed by the results of this approach.

61. **Risk Assessment**: In Kenya, the Bank team carried out an assessment of MoTI, KeNHA ICTA, and KRA the four institutions responsible for project implementation under the second project. Each of the four implementing agencies has constituted a PMT, which reports to the Accounting Officer/CEO of their respective agencies. The PMT staff includes among other professional and technical staff, a PMT leader and a procurement officer. MoTI and KeNHA are currently implementing four ongoing IDA-funded projects namely: the NCTIP, EATTFP, KTSSP and NUTRIP through the same PMTs. KRA on the other hand is partly involved in the implementation of the EATTFP and its technical staff has also gained vast experience in project implementation under past Bank funded projects. ICTA has been implementing the Kenya Transparency and Communications Infrastructure Program since 2007, and it has acquired some experience in the application of World Bank financial management and procurement guidelines and procedures.

62. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement duties and management of their respective agencies.

63. The key issues and risks concerning procurement for implementation of the project that were identified and which require enhancement include systemic weaknesses in the areas of: (a) accountability of procurement decisions; (b) procurement record keeping; (c) capacity of procurement staff; (d) procurement planning; (e) procurement process; and (f) procurement oversight.

64. Although, no complaints were observed in awarding major Bank funded transport contracts, in recent years, due to overstretched capacity of the implementing institutions, some transport projects are challenged with inadequate quality design and bidding documents, delays in procurement process, weak contract management resulting in cost overruns, contractual claims and delayed contract completion. However, being cognizant of the experience gained by the implementing agencies from the ongoing projects, and deployment of the same PMTs of the ongoing projects for the implementation of the proposed project, the overall project risk for procurement is rated "Substantial". The project has adequate provision for TA support in design review and contract administration manual preparation and provide expert inputs to support the implementing entities in quality assurance and contract management. This additional support will strengthen the implementation of the GAP.

65. The strengthening of the procurement and consultancy and works contract management capacity of the implementing entities will help deliver good quality engineering designs and

bidding documents, as well as completion of contracts to desired levels of quality, time and budget. Therefore, the implementing entities and the World Bank will monitor the progress made in this aspect, throughout implementation, and the risk rating would be revisited.

Table 3.5: Risk Mitigation Action Plan for Kenya

Action	Responsible Institution	Status/Due Date
(a) Preparation of a Procurement Reference Guide that: (i) defines the roles and responsibilities of all staff involved in project implementation; (ii) sets out sequence and timelines for completion of procurement process decisions; and (iii) establishes minimum service standards for processing of payments	MoTI; KeNHA; ICTA and KRA	In PIM
(b) The preparation of work plans and procurement planning process to be aligned with the budgeting process	MoTI; KeNHA,; ICTA and KRA	In PIM
(c) Establish effective monitoring and tracking systems for: (i) procurement plan implementation; and (ii) payments to contractors and other service providers	MoTI; KeNHA; ICTA and KRA	In PIM
(d) Establish a well-structured procurement filing and records management system	MoTI; KeNHA; ICTA and KRA	12 months after project effectiveness
(e) Develop and agree with the Bank on a procurement training and capacity building plan for the PMT staff	MoTI; KeNHA; ICTA KRA and Bank	In PIM

66. Procurement under the program (EARTTDFP) to be funded by the World Bank will be undertaken in accordance with the following Guidelines of the World Bank: *"Procurement of Goods, Works and Non Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers"* dated January 2011, revised July 2014 (Procurement Guidelines); *"Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers"* dated January 2011 and revised July 2014 (Consultant Guidelines); *"Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants"*, dated October 15, 2006 and revised in January 2011; and the provisions stipulated in the Financing Agreement. NCB shall be in accordance with procedures acceptable to the Bank.

67. A first General Procurement Notice (GPN) for the project was published in the UNDB online website on March 7, 2013. The GPN will be updated as and when considered necessary for any outstanding International Competitive Bidding (ICB) and large consultancy services contracts, as appropriate. Specific Procurement Notices for goods and works to be procured under ICB and NCB and for consultant services will be advertised in at least one national newspaper of wide circulation and also internationally for ICB contracts. Whenever needed, training will be offered to enhance the skills of the PMTs procurement staff. Procurement plans for the first 18 months shall be prepared and will be updated at least annually. In addition, a project implementation manual is under preparation by GoK.

68. **Frequency of Procurement Supervision:** In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the implementing agencies recommends one supervision mission every twelve months to visit the field to carry out post review of procurement actions.

Goods, Works and Non Consulting Services

Details of the Procurement Arrangements Involving International Competitive Bidding and Other Methods -List of contract packages to be procured following ICB/Direct Contracting and Other Methods

Table 3.6: List of Contract Packages

1	2	3	4	5	6	7	8	9
Ref. No.	**Contract (Description)**	**Est. Cost (US$ million)**	**Procurement Method**	**Prequalification (yes/no)**	**Domestic Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Expected Bid-Opening Date**	**Implementing agencies**
Kenya National Highways Authority								
K.R. 1.1	Upgrading of Kalobeiyei River – Nadapal (88 km) road section	104.0	ICB	No	Yes	Prior	Sep 2015	KeNHA
K.R. 1.2	Upgrading of Lokitaung Junction to Kalobeiyei River (80 km) road section	96.0	ICB	No	Yes	Prior	Sep 2015	KeNHA
K.R. 1.3	Upgrading of Lokitaung Junction to Lodwar (80 km) road section	96.0	ICB	No	Yes	Prior	Sep 2015	KeNHA
K.R. 1.4	Replacement of Kainuk Bridge	17.4	ICB	No	Yes	Prior	Aug 2015	KeNHA
K.R. 1.5	Construction of special economic zones	3.5	ICB	No	Yes	Post	Jul 2017	MoTI
K.R. 1.6	Installation of fiber optic (design and build)	23.5	ICB	No	Yes	Prior	Jan 2016	ICTA
K.R. 1.7	ICT to facilitate clearance of goods and collection of revenue	2.0	ICB	No	Yes	Prior	Oct 2015	KRA
K.R. 1.8	Intelligent Transportation Systems	3.0	ICB	No	Yes	Prior	Jul 2016	KeNHA

Table 3.7: List of Consulting Assignment

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (US$ million)**	**Selection Method**	**Review by Bank (Prior/Post)**	**Expected proposals submission date**	**Implementing agency**

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (US$ million)**	**Selection Method**	**Review by Bank (Prior/Post)**	**Expected proposals submission date**	**Implementing agency**
KR 1.9	Design review and construction supervision services for the upgrading of the Nadapal – Kalobeyei River (88.1 km) road section.	5.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.10	Design review and construction supervision services for the upgrading of the Kalobeyei River – Lokitaung Junction (80 km) road section.	5.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.11	Design review and construction supervision services for the upgrading of the Lokitaung Junction – Lodwar River (80 km) road section.	5.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.12	Construction supervision services for replacement of Kainuk Bridge.	2.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.13	Supervision services for the construction of export processing zones	0.5	QCBS	Prior	Jul 2017	MoTI
KR 1.14	Monitoring and supervision services for the installation of fiber optic (design and build).	1.5	QCBS	Prior	Aug 2015	ICTA
KR 1.15	Customs procedures harmonization.	1.0	QCBS	Prior	Oct 2015	KRA
KR 1.16	Study, design, bidding document preparation, and ESIA for establishing OSBP at the Kenya side of Nakodok, through a DB arrangement.	1.0	QCBS	Prior	Oct 2015	KeNHA
KR 1.17	Advisory services and equipment for the strengthening of the cross border management unit of KRA.	2.0	QCBS	Prior	Oct 2015	KRA
KR 1.18	Integrated border management system.	1.0	QCBS	Prior	Oct 2015	KRA
KR 1.19	Implementation of the MOU between Kenya Customs and South Sudan Customs services.	1.0	QCBS	Prior	Oct 2015	KRA
KR 1.20	Social infrastructure and social services delivery needs assessment.	1.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.21	Corridor road safety assessment and pilot corridor road safety action plan.	1.0	QCBS	Prior	Sep 2015	MoTI

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost (US$ million)**	**Selection Method**	**Review by Bank (Prior/Post)**	**Expected proposals submission date**	**Implementing agency**
KR 1.22	Study, design and ESIA for developing pilot pastoralist road side markets.	1.0	QCBS	Prior	Aug 2015	KeNHA
KR 1.23	Preparation of strategic plan for the development of high capacity highways and expressways.	0.5	QCBS	Prior	Jan 2016	KeNHA
KR 1.24	Monitoring performance of the corridor and project.	1.0	QCBS	Prior	Aug 2015	MoTI
KR 1.25	Design review manual preparation.	1.0	QCBS	Prior	Jan 2016	KeNHA
KR 1.26	Advisory services for strengthening the capacity of the National Transport and Safety Authority.	1.0	QCBS	Prior	Oct 2015	MoTI
KR 1.27	Design and bidding document preparation and ESIA for follow on operations.	0.5	QCBS	Prior	Jul 2016	KeNHA

69. **Shortlists composed entirely of national consultants.** Shortlists for consultancy services and engineering and works supervision for contracts estimated to be equal to or less than US$300,000 may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

70. **Advertising.** Consultancy services for contracts estimated to be more than US$300,000 equivalent per contract shall be advertised in the UNDB on-line in addition to advertising in the national newspaper of wide circulation and/or regional newspaper in accordance with the provisions of paragraph 2.5 of the Consultant Guidelines.

Thresholds for Procurement Methods and Prior Review

71. Thresholds for procurement methods and for prior review are presented in the table below:

Table 3.8: Thresholds for Procurement Methods

Expenditure Category	Contract Value Threshold (US$)	Procurement/ Selection Method	Contracts Subject to Prior Review
Works	≥10,000,000	ICB	All
	<10,000,000	NCB	≥10,000,000
	<200,000	Shopping	None (Post review)
	All values	Direct Contracting	≥100,000
Goods & Non-Consulting Services	≥1,000,000	ICB	All
	<1,000,000	NCB	≥1,000,000
	<100,000	Shopping	None (Post review)
	All values	Direct Contracting	≥100,000
Consulting Services - Firms[1]	All Values	QCBS/ QBS/FBS/ LCS	≥500,000
	<300,000	CQS	None
	All values	SSS	≥100,000
Consulting Services – Individuals (IC)	All Values	IC – Qualification	≥200,000
	All Values	IC – SSS	≥100,000

Environmental and Social safeguards

Social safeguards

72. The project triggers two social safeguards policies: Indigenous Peoples OP/BP 4.10 (Indigenous Peoples) and Involuntary Resettlement (OP/BP 4.12). This safeguards section focuses on the instruments, which are under preparation and or review/update for the Kitale-Lesseru – Marich Pass-Lodwar-Nadapal Road in Kenya.

A.1 OP 4.10 (Indigenous Peoples):

Social Assessment of the Lesseru – Marich Pass-Lodwar-Nadapal-Nakodok Road

Purpose of the SA

73. An initial screening indicated that there are groups that meet the O.P. 4.10 criteria in the project corridor specifically in West Pokot and Turkana counties where the existing groups are the Pokots and Turkana who are classified as vulnerable and marginalized groups (VMG) as per the Constitution of Kenya. The project might impact on these VMGs. Because the Bank's screening indicates that VMGs are likely to be present in, or have collective attachment to the project corridor, a Social Assessment (SA) has been conducted. The vast majority of people in the project area meet the criteria for OP 4.10. Per the requirements of the policy, it is not required to prepare an Indigenous Peoples Plan. However, a SA was conducted, consulted upon and disclosed. The findings of the SA–including the process used in fostering free, prior, and informed consultations leading to broad community support of the project; including a grievance redress mechanism; addressing adverse impacts and/or providing benefit-sharing; and, establishing monitoring and evaluation, and reporting during implementation relating to the project-affected communities – have been included in the project as social risk mitigation measures and benefits.

74. The first purpose of the SA is to determine the characteristics of the existing social and bio-physical environments that may be impacted by this project. The second purpose is to provide the basis for an action plan to ensure that the project meets the requirements of the policy. As consultations continue through the life of the project, there may be additional commitments in the action plan. Accordingly, KeNHA has engaged a consultant to undertake a SA and the findings and recommendations are presented as follows:

Table 3.9: Socio-Economic Characteristics of Turkana

Social Structures	• Social organization is characterized as a patrilineal kinship system: property is transmitted in most cases from father to son, and the pattern of marital residence is patrilocal. • For the Turkana, the society is divided into clans, which are divided into sub-clans, and sub-clans subdivide into local patrilineal lineages. Each family is a member of a certain clan.
Political Organization	• Traditional leaders exist- Council of Elders. • However, power is now vested in national and county governments with political authority and administrative organizations representing the state.
Language	• Turkana tribe is part of the Nilotic tribes and constitutes the **second largest pastoralist community in Kenya** after the Maasai. They speak the **Turkana language**, which is Nilotic and similar to the Maasai language.
Religion	• Close to 95% of the people living in Turkana County adhere to traditional beliefs while 5-10% of the residents are Christians. The Turkana believe

	in a Supreme deity called Akuj. They believe that Akuj created the world and that he is in control of the blessings of life. They also believe in the existence of ancestors, ngipean or nikaram. As in most African traditional religions, traditional religious specialists in Turkana are present and play an active role in almost every community event.
Occupation and Economy	• The source of livelihood in all communities is livestock. Incomes from sale of livestock and livestock products play a significant role in their livelihood. Incomes increase during the rainy season in April to May and November from the sale of animals. Similarly, salaries do not feature as a significant source of income with exception of communities at Kalokol, Loiyangalani and Illeret. Fishing is a significant source of income for all communities sampled in this study with exception of North Horr. Basket weaving is a significant source of income for the Turkana communities at Kalokol and Lorengelup and to a lesser extent at Kang'arise. Basket weaving does not feature as a source of income for almost all of the households interviewed at Illeret, North Horr and Loiyangalani. All households reported some income from sales of crop.
Cultural Identity	• The Turkana have maintained their cultural identity, although majority are adopting the modern lifestyle. They practice several rituals during rites of passage including circumcision among others.

Table 3.10: Socio-Economic Characteristics of the Pokot

Social Structures	• The homestead is the social center for the Pokot. Here a man lives with his wives, each having her own house or hut. All members of the family live here and the stock is corralled here at night. The man of the family rules the homestead, telling the others what duties they are to perform. The extended family (kapor) is the most important social grouping among the Pokot. Especially important are the relatives of the mother who are the most active in assisting with the bride price or feast contributions.
Political Organisation	• The clan is the primary political grouping among the Pokot. All livestock and shambas ultimately belong to the clan rather than to individuals and decisions regarding these and many other matters are made at the clan level. There are about 25 clans and 150 sub-clans among the Pokot. Clans meet and interact in the extended families.
Language	• The Pokot language is one of the Para-Nilotic languages. The Para-Nilotic speaking peoples of Kenya include the Turkana, the Kalenjin and the Maasai groups. The Pokot language is included within the Kalenjin group though Pokot is the most different of all Kalenjin languages. The Pokot can communicate with other Kalenjin speakers, but only with great difficulty as many of their words are different. Alternate language names are Pokot, Suk, Pakot.
Religion	• In Pokot cosmology, the universe has two realms, the above and the below. The above, remote and unknowable, is the abode of the most powerful deities—Tororot, Asis (sun), and llat (rain); the below is the abode of humans, animals, and plants. Men and women are considered

	responsible for the peace and prosperity of the realm that they inhabit, but they must rely upon divine vitality and knowledge to achieve and maintain these conditions. The Pokot communicate with their deities through prayer and sacrifice: Tororot is said to listen to his creatures below, Asis to witness their activities, and llat to serve as a messenger between the two realms. Deities, in turn, communicate with humans, warning and rebuking them about their misconduct. Christianity has reshaped Pokot cosmology, primarily by reducing the number of deities, while augmenting their attributes. • **Religious Practitioners.** The divine messenger llat has a human counterpart called a *werkoyon* (prophet), who foresees disaster and recommends expiation, usually animal sacrifice, to alleviate it. A werkoyon may be either male or female; his or her ability to foresee and to advise is considered a divinely given gift, to be used on behalf of all Pokot.
Occupation and Economy	• Pastoralists Occupation: Cattle husbandry has traditionally been the center of the Pokot economy. Even the agricultural Pokot try to have a few cows to raise. Cattle have filled both an economic and social role among the Pokot and the more cattle one has the better. Products / Crafts Some bees are kept by the Pokot for production of honey and honey wine which is important in certain ceremonies. The Pokot also do some hunting, but not really as a means of subsistence. More and more Pokot are turning to panning gold part-time.
Cultural Identity	• There are some thirty-six named, exogamous patrilineal clans. Many of these clans are found among other Kalenjin groups; a few originated among the Turkana. Clan histories recount the movements of people from one locale to another, emphasizing the vulnerability of humans and their dependence upon supernatural benefactors to help them overcome hunger, thirst, and, ultimately, death itself; the attributes of these benefactors are praised in poetry and song. Clans are conceptualized as "pathways" and fellow clan members as children of the same "father" or "grandfather." Although members of the same clan are dispersed geographically and are differentiated internally, they are said to hold their herds in common. Unlike some East African cattle-keeping groups, the Pokot retain their clan affiliations throughout their lives; there is no ceremony to sever clanship in the event of marriage. Genealogical reckoning tends to be shallow, reaching back three to four generations.

75. **Impact of project on traditional way of life.** The tribes who either live beside or move around the proposed road rehabilitation, are mostly agro-pastoralists, depend on subsistence farming, livestock rearing and/or hunting wild animals. None of these livelihood activities, or their cultural and traditional way of life is affected by the rehabilitation of the road as almost all the farming, grazing and hunting activities are conducted at some distance from the road. The SA study has determined that there will be no loss of significant cultural historical reference of the pastoralist and farmers other than graves and limited loss of communal grazing land. In the consultations held during the preparation of RAPs and ESIAs by the three design consultants, the

local resident have raised some concerns about maintaining their traditional livelihoods once the road is built, but they have been generally very supportive of the road rehabilitation, as it would allow them to transport themselves and their produce to market more easily.

Potential harm of the project to local communities, including the pastoralist road side markets

76. The potential adverse impacts associated with the project include: (a) frequency of accidents, among vehicles and with other users of the road; (b) loss of land predominantly used for agriculture and grazing; (c) loss of numerous housing structures within markets and towns, as over 80 percent currently exist within 20 meters on either side of the proposed center of the road; (d) loss of shade for community meetings and income as a result of felling of numerous trees including mango trees on road side; (e) loss of cultural and religious properties (sacred trees, graves) identified along the road; (f) interference with social amenities (schools, health facilities, churches and boreholes) most of which are very near to the road project; (g) potential loss of lives and livestock due to speeding vehicles during and after construction; (h) large scale clearing of land and intensified demand for forest products for building materials and fuel by returnees; (i) increased Sexually Transmitted Diseases (STDs) including HIV/AIDs infections due to increased number of construction workers and other road users; and, (j) overstretching of few social infrastructures available in the area (house rent rise, water shortage and sanitation problem).

77. Overall, land acquisition and resettlement impacts of the project are modest with minimal risks associated with losses to lands and homes. Mitigation for these adverse impacts are reflected in the ESMPs and RAPs and they are as follows: (a) minimize land acquisition; (b) adequate compensation for loss of land; (c) planting of shade and fruit trees along the road; (d) minimize unnecessary felling of fruit trees; (e) demolish structures and cultural/religious assets with full permission and as per conditions set by the community and relocation in full conformity with the wishes of the community; (f) provide facilities for pedestrians and non-motorized traffic; (g) STDs sensitization campaigns training and distribution of awareness materials for information, education and communication on HIV/AIDs; and (h) improved security and use of non-forest products for construction materials.

Potential benefits to be shared with the local communities

78. The upgrading of the road will provide greater opportunity to the local farmers and pastoralists to have better access to the domestic and regional agricultural markets. The farmers and pastoralists would have the opportunity to be suppliers of agricultural products; processing plants and business; hence these will help local products to be sold at market prices and increase household income; contributing to improved livelihood of the local community.

79. The construction and maintenance works will also provide, in the short term, income generating jobs to the local people. The works contracts will have provision for basic services; such as boreholes for potable water for Project Affected People (PAPs).Women's participation in the project is guaranteed, as the project will provide employment for them (e.g. basic construction, clearing).

Potential benefits of the pastoralist roadside market

80. The pastoralist road side market infrastructure will help the local population sell dairy products and livestock at a better price. The markets will engage the pastoralist; in particular women to establish restaurants to prepare and sell food. The market place will attract investment for processing dairy products and meat products, which will help pastoralist in the project area to serve as out growers and input providers. The economic opportunities will help increase the income for the pastoralist community and improve their livelihood. The markets help engage in business the pastoralists and transform the way they live; by encouraging them to settle and have better access to social services, in particular education for their children.

Public Participation and Consultation

81. During the preparation of the detailed designs, the three design consultants prepared ESIA and RAP reports for the project and this involved consultation and participation of all stakeholders, especially the project affected persons and communities along the project corridor. The public consultations took the form of meetings and oral interviews with community opinion leaders and focus group discussions with youth, business, and women representatives. Additional public consultation and stakeholder engagement was conducted by the consultants who were contracted to undertake independent review and update of the ESIAs and RAPs reports for the corridor.

82. The SA study entailed comprehensive stakeholder and public engagement especially with the PAPs and overall community groups and the outcome of the consultations were that there is broad community support for the project even though the PAPs have certain concerns and fears in regard to the project. In each of the counties where Turkana and Pokot communities exist along the road corridor, the SA team conducted key informant interviews with among others local administrators, tribal chiefs and sub-chiefs, landlords and opinion leaders.

Grievance Redress

83. The PMT shall set up a Grievance and Redress Committee to receive and mediate compensation and other disputes. Grievances will be settled amicably whenever possible, with the possibility of negotiation for lost land or other assets. The committee shall be composed of a representative of each county and district together with officials of the PMT. It is expected that this committee will be able to amicably settle any claims and disputes, with a particular focus on land issues.

84. The traditional system is present in these communities and will operate according to the customary laws and practice of the locality to resolve disputes related to land.

85. In situations where the beneficiary is still not satisfied with the amount of redress and/or compensation payable to him/her, the PAP can seek redress from the Civil Court in accordance with the “Land Act 2012” to the highest court, as is common practice in Kenya. However, the property cannot be demolished until the issue is resolved. Compensation will only be paid to a

PAP after receiving his/her written consent. All grievances will be settled locally through the GRM. No legal costs will be borne by the project.

86. In situations where the complainant is still not satisfied with the outcome of the grievance redress procedure, he/she can seek redress from the court at the District and County level, as well the High court. However, no property can be acquired or asset demolished until the issue is resolved.

Social Monitoring and Management Plan

87. Table 3.11 below sets out the key actions that have been agreed between the GoK and the communities. The measures pertaining to environmental and resettlement issues are also included in the ESMP and RAP, respectively. Monitoring is a long-term process, which should begin at the start of construction and continue throughout the life of the road project. Its purpose is to establish benchmarks so that the nature and magnitude of anticipated social impacts can be continually assessed. So monitoring involves the continuous or periodic review of construction and maintenance activities to determine the effectiveness of recommended mitigation measures.

88. The responsibility for the incorporation of mitigation measures for the rehabilitation of the roads lies with the supervising engineer, who must ensure that the contractor implements all specified mitigation measures. KeNHA through the supervising engineer and the environment officer will have to oversee the supervision of the road during construction to ensure that the contactor conforms to the mitigation measures. Social monitoring should adopt a cross-sectoral approach to ensure that mitigation measures are well implemented.

89. Simple monitoring systems should be set up during construction by the supervising engineer and contractor and during operation by KeNHA, so that potential social and environmental problematic areas can be detected well in advance and the appropriate remedial action taken. Many of the potentially significant negative impacts identified in the SA relate to the construction and operation phase of the project. Mitigation and support measures are therefore, best achieved through the incorporation of suitable clauses in the contractual documents, which are enforced by the supervising engineer.

Table 3.11: Social Management and Monitoring Plan

Socio Aspect and Impact	Proposed mitigation and Aspect for Monitoring	Responsibility for intervention and Monitoring During Design, Construction and Operation Period	Responsibility for Mitigation, Monitoring and/or Maintenance During operation	Monitoring Means	Recommended Frequency of Monitoring
Land Acquisition Impact: Loss of agricultural land (minimal) by owners of acquired land; also loss of land by educational and religious institutions like schools, churches and mosques Loss of numerous housing structures especially those that linearly exist within 40 meters on either side of the proposed road center.	Minimize land acquisition; Adequate compensation (RAP); Compensation for loss of land and current market rates; Land is communally owned in certain Counties like Turkana and West Pokot, so communities have agreed to provide land-for-land compensation; cash compensation will be provided at full replacement cost loss of structures and for relocation as part of disturbance allowance and construction of structures; PAPs will be allowed to salvage construction materials	GoK	Project GoK	Household farm size; new resettlement sites Compensation for loss of structures and land	Annually
Impact: Loss of trees and income as a result of felling of numerous trees on road side	Planting of shade and fruit trees in the resettlement sites; Minimize unnecessary felling of trees Compensation cash for loss of trees and replacement cost	Communities	Project	Number of new trees planted	Annually
Impact: Loss of cultural and religious properties (sacred trees, graves, churches, mosques, cemeteries, communal grazing areas, etc.) identified along the road	Demolish with full permission and as per conditions set by the community Relocation/reconstruction in full conformity with the wishes of the community	GoK	Project	Community support level	After implementation of every phase
Loss of livelihood, such as businesses; Impact: Interference with source of livelihood (most businesses are very near to the road project in the Right of Way (ROW)	Relocation of businesses, pushed back from the RoW along the road, but within the same location through the implementation of the RAP. Establishment of formal market centers for PAPs to re-establish businesses Provision of income restoration support to re-establish lost businesses and income	GoK	Project PIU	Site visits and interviews with the PAPs.	Bi-annually
Traffic and Safety Impact: Loss of lives and livestock due to speeding vehicles during and after construction	Sensitization of the community along the road regarding speed calming facilities for pedestrians and non-motorized traffic, especially also at the migratory	Contractor	Project PIU	Traffic records on number and nature of accidents.	Monthly

Socio Aspect and Impact	Proposed mitigation and Aspect for Monitoring	Responsibility for intervention and Monitoring During Design, Construction and Operation Period	Responsibility for Mitigation, Monitoring and/or Maintenance During operation	Monitoring Means	Recommended Frequency of Monitoring
	animal route crossing Set up and maintain all traffic safety measures				
Influx of Project workers Impact: Overstretching of few social infrastructures available in the area (house rent rise, water shortage and sanitation problem)	Camp sites to accommodate workers at a distance from the community residences and towns. Provision of good and sufficient water supply, sanitation and waste disposal facilities in camp sites. In some cases, the camp sites will include more permanent structures that can be converted to community structures (e.g. schools, clinics, community facilities, etc.) after construction is completed.	Contractor Communities	Project	M&E visits.	Monthly
Impact: Increased STDs including HIV/AIDs infections due to increased number of foreign workers including commercial sex workers from Juba, and Uganda	STDs sensitization campaigns. Training and distribution of awareness materials for information, education and communication on HIV/AIDs Distribution of condoms, and encouraging status testing.	GoK – MOH	Project PIU Project PIU Project PIU	Monitoring number of sensitization programs Number of residents visiting Voluntary Counseling and Testing Centers	Monthly
Labor requirements Impact: Increased employment opportunities and skills acquisition	Priority to be given to local communities in all vacancies; Special efforts to offer employment to women; Skills improvement and on job training programs to locals	GoK & Contractor	Project	Employment rate	Annually
Security of project workers	Open door policy to facilitate information flow to and from host communities to enhance cordial relationship Each County Commissioner to be responsible for security on sections of the road within their Counties	GoK	Project County	Acceptance level Number of reported cases of insecurity	Monthly Weekly
Impact: Reduced transportation cost and availability of high class transportation facilities	Improved business and lifestyle of the communities.	Contractor	County	Percentage change in transport cost	Monthly
Impact: Rapid economic growth in Turkana, West Pokot and Trans Nzoia Counties	Improve security Promote private property rights	GoK	GoK/County	Economic growth rate	Annually
Impact: Reduced road efficiency and effectiveness if it is not maintained	Road maintenance program	GoK	GoK/County	Maintenance reports	Annually

A.2 OP 4.12 (Involuntary Resettlement):

90. The road upgrading will follow the existing alignment, except at Kamatira and Kitale town realignments. The realignment in Kitale town may require involuntary resettlement and land acquisition of some roadside businesses. The three RAP reports for the Lesseru- Nadapal road upgrading have been updated, re-drafted and disclosed in country and at the Infoshop before the project appraisal concluded on March 31, 2015.

91. According to the RAPs, in the three sections, in total about 1,808 households representing 10,067 PAPs will be affected by the road rehabilitation and upgrading works, as they will lose business structures, residential buildings, fences, gates and trees. The project will also affect some religious institutions like mosques and churches, administrative building, classrooms, communal water points, graves, communal grazing areas and public toilets. Compensation will be paid to replace the affected structures in the designated resettlement areas identified in proximity to the affected neighborhoods. The total amount of compensation is estimated at KES 2,147,419,945 (equivalent to US$24 million), to be paid by GoK. The involuntary resettlement impact can be summarized as follows based on the draft RAPs.

Lesseru - Marich Pass

92. The road rehabilitation and upgrading between Lesseru and Marich Pass will affect a total 384 structures consisting of commercial, residential and institutional structures. Eighty four point fifteen (84.15) acres of land will be acquired. The majority of the PAPs are roadside vendors who ply their trade along the road corridor. An estimated 384 structures (temporary, permanent, semi-permanent, makeshift), which are mainly temporary or semi-permanent, will be affected as is shown below. An estimated 140 PAPs are property/structure owners (landlords), 169 PAPs are tenants, and 75 PAPs are mobile roadside vendors with no fixed or temporary abode, and 16 landowners. The Project Affected People are estimated to be approximately 2,199 or about 384 households of which 16 households (about 84 people) will have to be permanently resettled. The compensation for structures and properties is estimated at KES 561,092,118.4 (equivalent to US$6.2 million).

Marich Pass-Lodwar

93. The overall impact of the project is minimal in view of the fact that no land and 280 households (about 1,557 PAPs) will be affected with the majority being roadside vendors who ply their trade along the road corridor. An estimated 408 structures (temporary, permanent, semi-permanent, makeshift), which are mainly temporary or semi-permanent, will be affected as is shown below. An estimated 208 trees and 43 graves will also be affected. The majority of people to be affected are from Turkana South with a total of 178 affected households. In Turkana Central, a total of 72 households will be affected; and, in Pokot Central, a total of 30 households will be affected in Orwa Sub location at Orwa Trading Cener and Marich Pass. The impact of the road works on the section between Lodwar and Marich Pass will only be temporary displacement of a total of 280 PAHs representing about 1,557 PAPs of which 98 PAHs (about 545 PAPs) are in the Lodwar – Loichangamatak road section to be financed by IDA. This makes

the total PAPs in the Bank financed sections 6,772 (1,242 PAHs). The total amount of compensation for business and residential structures, as well as trees is estimated at KES 159,235,791.00 (equivalent to US$1.7 million).

Lodwar-Nakodok

94. ***Project Affected Persons***. The census was conducted following the design co-ordinates. The proposed rehabilitation activities will largely be along the current Lodwar to Nakodok road that has been redesigned and scheduled for rehabilitation. The cut-off date for the proposed rehabilitation of Lodwar-Lokichogio-Nakodok Road project is December 8, 2014, when the census of PAPs began. The cut-off dates were validated during the community consultation meetings held at the seven centers. The total number of households and institutions (Individual land owners, structure owners, businessmen and institutions) that will be affected by the road project is 1,144 (6,227 people). ***Vulnerable Groups*** - In the project area, there are vulnerable groups who were identified during the RAP review survey including 3,723 children out of a population of 6,227 PAPs, 21 orphaned children, 14 physically challenged persons, 58 widows and 3 terminally ill persons. Children are the most vulnerable members of the population due to the fact that they form nearly half the PAP population and the effects related to displacement and disintegration of families. Squatters are also very vulnerable. The vulnerable groups will be given extra support during the resettlement exercise where dedicated assistance will be offered in order to ensure that they receive compensation in good time and the resettlement is carried out without further suffering. The total amount of compensation for business and residential structures, as well as trees is estimated at KES 1,427,092,036 (equivalent to US$15.7 million). A summary of the Project Affected persons is presented in Table 3. 12.

Table 3.12: Lesseru –Nadapal/Nakodok Road Upgrading Project Affected People (PAPs)

Road Section	Total PAPs		People to be Permanently Resettled		Partially Affected People	
	Number of House Holds	PAPs	Number of House Holds	PAPs	Number of House Holds	PAPs
Lesseru – Marich Pass	384	2,283	16	84	368	2,199
Marich Pass - Lodwar	280	1,557			280	1,557
Lodwar – Nadapal/Nakodok	1,144	6,227	605	3,291	539	2,936
Total	**1,808**	**10,067**	**621**	**3,375**	**1,187**	**6,692**

E. Environmental Safeguards

95. The project triggers OP 4.01 (Environmental Assessment), Physical Cultural Resources (OP 4.11), and OP 4.04 (Natural Habitats), as the road runs quite close to some natural habitats,

and the ESIAs include mitigation measures. The road upgrading design in Kenya was sub-divided into three parts and ESIAs and RAPs prepared by the three consultants have reported different impact levels. The 3 ESIAs and 3 RAPs prepared by the design consultants have been reviewed and updated by independent consultants. KeNHA has submitted to the Bank the updated ESIAs and RAPs, the reviewed and cleared instruments were disclosed locally and at the Infoshop.

96. The updated safeguard instruments have indicated the precaution to be taken during the widening works and realignment, in particular, if the construction method will involve blasting. In addition, adequate slope stabilization measures have to be undertaken to protect from potential future geo-hazard risks. Seasonal migration of animals is observed between South Turkana National Park and Nasolot Park to the west of the road and to avoid collision with wild life the project will place during operation and maintenance between Kainuk and Kakonga at 5 km interval animal crossing warning signs, speed calming measures (e.g. speed bumps, rumble strips, etc.), and clearance of the right of way to improve motorists sight of the corridor. In addition, hazardous waste that can be consumed by wildlife animals should be carefully managed, such as covering bitumen drums at all times. Littering of work areas should also be prohibited at all times. For prudent management of construction waste, the contractors and the Client should continuously consult with Kenya Wildlife Services that will assist the project with independent monitoring. The project will also sensitize local communities on road safety and provide adequate pedestrian crossing signs and speed calming measures in sensitive areas, including towns, villages and customary local people and animal crossing locations.

97. At Lodwar and Kainuk towns, next to an existing bridge, replacement bridges will be constructed, but such activity will not have new impact on the environment as the sites are already exposed. The section between Nadapal and Lodwar follows the existing alignment except for minor spot realignments at culvert construction locations to replace the drifts at the seasonal water crossings. This section of the road is scarcely populated with clearly identified lack of water, which will need to be carefully considered during construction (as reflected in the Environmental and Social Impact Assessment - ESIA) to avoid pressure on already existing water use. These impact minimization measures are captured in the ESMPs and should be monitored during the construction period.

98. The project is assigned EA category A, as the ESIAs and one of the three RAPs includes compensating some 6,227 PAPs. It is estimated that the project does indeed have major and irreversible impacts – on certain sections of the road that need to be re-shaped for safety and engineering reasons, on local communities (resettlement, livelihood restoration, social conflict), on nearby natural habitats, and on health and safety. Overall, the specific and cumulative impacts of the road are substantial. The road runs quite close to some natural habitats, and the ESIAs include mitigation measures. The overall effect is that thousands of people will be affected by the road, and there is recognition that the works and eventual transportation links through a socially troubled region could cause or enable some social conflict.

99. The updated ESIAs for the three sections (Lesseru – Marich Pass; Marich Pass – Lodwar; and Lodwar – Nadapal) and the RAP for Lodwar – Nadapal were submitted to the Infoshop on February 10, 2015 for disclosure. The ESIAs for Lodwar – Nadapal and Lodwar – Marich Pass

were disclosed locally on February 10, 2015, and the ESIA for Lesseru – Marich Pass was disclosed on February 11, 2015. The RAP for Lodwar – Nadapal was locally disclosed on February 11, 2015. The RAPs for the remaining two sections and the SA were disclosed as follows: The RAP for Lesseru – Marich Pass was disclosed locally on March 2, 2015 and at the Infoshop on March 3, 2015. The RAP for Marich Pass –Lodwar was disclosed locally on March 3, 2015 and at the Infoshop on March 9, 2015. The SA was disclosed locally on March 4, 2015 and at the InfoShop on March 5, 2015. The three ESIAs and the RAP for the Lodwar – Nadapal section, were disclosed at the Infoshop 120 days before the planned Board Date and thus meet the Pelosi disclosure requirement. The remaining RAPs for the two road sections and the SA were disclosed before appraisal.

100. It is noted that for the first project the upgrading of the Juba-Nadapal road in South Sudan territory follows the existing route and the civil works will be carried out within the existing right of way. The environmental assessment did not identify significant or irreversible adverse impacts, therefore the first project was assigned the environmental category B. For the first project, the ESIA and RAP were prepared, consulted upon, and disclosed in South Sudan and at the InfoShop on November 11, 2013.

101. *OP 4.04 Natural Habitats:* The project has also triggered OP 4.04 as the road runs quite close to some natural habitats, and the ESIAs include mitigation measures.

102. *OP 4.11 Physical Cultural Resources* was triggered given the possibility that there may be known or unknown cultural assets and/or sites in the project area, however, the public consultations did not reveal significant cultural resources in the project area of influence. The ESIAs include measures for handling cultural assets along with the chance find procedures, which will be included into the contracts.

102. *Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF):* The proposed project will adopt the framework documents prepared for Kenya by the Regional Pastoral Livelihood Resilience Project approved in FY13, for screening and management of the environmental and social impacts of community support activities such as the construction of pastoralist road side markets, to be identified in the course of project implementation. ESIAs and RAPs will also be prepared for the One Stop Border Post and Export Processing zones upon identification of the location and design of the sites. Any additional ESMPs and RAPs required to address safeguard issues that emerge during contracts implementation will be prepared based on the principles and procedures set out in the ESIAs and RAPs prepared for this project, as well as the ESMF and RPF disclosed on November 26, 2013 for the Eldoret - Nadapal road. ESIAs and RAPs for the social infrastructure and export processing zones to be identified during project implementation will also be prepared based on the same ESMF and RPF.

103. *Application of Safeguard Instruments consistently across the entire Nadapal – Eldoret road:* The section to be financed by the World Bank (Nadapal to Lokichar) has less environmental impact, except the impact on creating pressure on the water resources in the project area for obtaining water for construction, which will be overcome by drilling new water wells by the contractors. The environmentally sensitive section between Lesseru and Marich Pass will be financed by EU/EIB/KFW and JICA/AfDB. No financier has been identified yet for

the upgrading of the Lodwar – Marich Pass section, which is associated with the impact on animal crossing. The safeguard documents prepared for the project by KeNHA will be applied to all the contracts to be financed by the World Bank and other development partners. However, the civil works are on the existing road and will be carried out on a different schedule, one not being dependent on the other section. KeNHA will coordinate and lead the joint supervision effort across the three sections, as required, depending on the timing for commencement of the construction works to be financed by the other development partners. Additional resources, as required, will be provided by the project under the institutional and project management component.

104. *Safeguards management capacity:* KeNHA has capacity to lead the preparation of safeguard instruments for World Bank financed projects and follow-up with implementation of mitigation measures. KeNHA has capacity to implement the RAPs as well. However, as the number of projects to be administered by KeNHA is increasing, its safeguards management capacity needs to be further strengthened. The project includes a provision for hiring an additional safeguards specialist for KeNHA.

105. *Alternatives considered to minimize adverse safeguard-related impacts:* The Nadapal/Nadokok – Eldoret section of the project follows existing road for rehabilitation and upgrading works except the spot improvement of the alignment on the hilly parts of the road. Alternative options of constructing a dual carriage way or widening the existing road in heavily traffic urban sections were also assessed as part of the ESIA. After due consideration, KeNHA decided to construct realignment around Kamatira town to improve the sharp curves and steep gradients and to minimize the number of traffic accidents currently observed at this section of the road. A bypass option was considered for Kitale town crossing, but the administration decided to keep the alignment that passes through town.

106. During implementation of the project, the Bank's safeguards team will work closely with government to ensure the technical assistance and capacity building required at central and county government levels for effective implementation of the ESIA, RAP and ESMPs. It is also critical that the GoK project implementation unit commits to the regular monitoring program and partners with the county administrations to ensure the mitigation measures defined in ESMPs and other safeguards instruments are implemented on schedule. One of the ESIA recommendations includes hiring of an independent consultant to be engaged by KeNHA to support the safeguards supervision and follow up of implementation of mitigation measures.

107. The table below identifies the different safeguard policies that are going to be triggered by this program:

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[x]	[ ]
Natural Habitats (OP/BP 4.04)	[x]	[ ]
Pest Management (OP 4.09)	[ ]	[x]
Physical Cultural Resources (OP/BP 4.11)	[x]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[x]	[ ]
Indigenous Peoples (OP/BP 4.10)	[x]	[ ]
Forests (OP/BP 4.36)	[ ]	[x]
Safety of Dams (OP/BP 4.37)	[ ]	[x]

Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[x]
Projects on International Waterways (OP/BP 7.50)	[ ]	[x]

108. ***Responsibilities for safeguard screening and mitigation.*** KeNHA and participating counties are responsible for safeguards implementation. KeNHA and County Transport Bureaus are responsible for the coordination of overall project implementation at all levels including issues related to environmental and social safeguards management and environmental sustainability. The implementing institutions have limited capacity to support or supervise environmental and social safeguard management activities. Although KeNHA has a dedicated unit for safeguards management with more experience implementing the WB safeguards policies, the project will hire environmental and social TA specialists as required. The Environmental and Social Management Unit of KeNHA will also communicate on a regular basis with the Bank project team regarding environmental and social safeguard issues, and would play a lead role in increasing the level of awareness on environmental management at all project levels. Among the GoK safeguards responsibilities are: (a) oversight of safeguards instruments implementation in SS-EARTTDFP; (b) liaison with national and county environmental offices on a regular basis; (c) review of compliance with the ESMP, RAP and other safeguard instruments; and (d) capacity building for all levels of project stakeholders. The project PIM will clarify and reinforce responsibilities for implementing and monitoring the environmental and social safeguard aspects of the project, and provide technical support to the implementing institutions for the sound implementation of the ESMP, RAP, and other environmental and social safeguard instruments.

109. ***Consultations and Disclosure.*** KeNHA has consulted participating communities and local NGOs on the project's environmental and social aspects during the drafting of the initial set of ESIAs and will hold another set of consultations during independent review and update of these ESIAs. Consultations with vulnerable and marginalized communities are conducted in a culturally appropriate manner, including consultations during development of the SA. All safeguards instruments have been disclosed in Kenya and in the Bank Infoshop. These include :

- ESIA and RAP for Lodwar – Nadapal section
- ESIA and RAP for Marich Pass- Lodwar section
- ESIA and RAP for Lesseru - Marich Pass section
- Social Assessment

Monitoring and Evaluation

110. The overall program has designed and includes a set of monitoring indicators that are intended to work at both the national and corridor levels, in line with the results framework. The indicators would be replicated in subsequent phases to allow the effective measurement of the outcome and results of the project(s) and aggregated to provide results for the overall program. These indicators, together with the monitoring and evaluation arrangements, are detailed in Annex 1. The indicators will be collected, monitored, reported, and disseminated by MoTI and

*By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

MTRB after endorsement by the JIMC/POCs. Data will be disaggregated by gender. The project will also monitor the impact of the project in reducing poverty and improving livelihoods.

111. The overall responsibility for monitoring and evaluation of outcomes of the program will formally lie with MTRB and KeNHA. The two institutions will prepare half yearly progress reports that will include contributions from all implementing entities, and forward these to IDA, via the JIMC, within one month from the end of the reporting period. These reports will detail physical progress of the various sub-projects and the project monitoring indicators as per the project's results framework (see Annex 1). The reports will also contain a summary of the status of the implementation of the ESMPs and RAPs for the improvement of the physical infrastructure.

112. The project will carry out an early mid-term review, about two years into implementation, as stipulated in the Financing Agreement.

Grievance Redress Mechanism

World Bank Grievance Redress

113. Communities and individuals who believe that they are adversely affected by a WB supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's GRS. The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

GoK Grievance Redress Mechanism

114. A formal GRM for development projects is not yet established in Kenya. This will be addressed as the governance improvement initiatives mature and a GRM that meets international good practices prevails. Currently, Kenya has established a new system that addresses political level complaints after the recent elections in April 2013, and this may expand into development matters. At times, citizens air their concerns and grievances through local administration and the media, but often responses are not delivered. Depending on the case, citizens seldom appeal to the justice system.

115. The project may be faced with issues related to quality of work, safety, environmental and social issues, as well as complaints on contract awards. Such issues are proposed to be directed to the POCs established for the implementation of this specific project. Residents in the project area and road users could address their concerns to the POCs through county and district level administrations in Kenya. Complaints related to contract awards could be directly

submitted to the POCs, which shall be dealt with as per the provision of the procurement regulation of the respective county, and written responses shall be delivered to the aggrieved. The JIMC Complaints regarding matters related to corruption may also directly be made to the Anti-corruption Commissions. Complaints could also be reported to the Grievance Commissions. Appeals could also be made to the justice system. Works and consultancy services contracts have an inbuilt mechanism for mediation and dispute resolution and all cases have to be dealt with in accordance with the contract provisions. Social and environmental issues, including resettlement and compensation related complaints, will be handled through a Grievance Redress Committee, which will send reports to the POCs through local administrations. Such complaints could also be reported to Grievance bodies in the respective county, including customary courts. Appeals could also be made through the court system in each county.

116. In addition to the indicators included in the Results Framework, the project will monitor the following Grievance Redressing indicators: (a) number of grievances registered; (b) percentage of grievances resolved; (c) percentage of grievances redressed within a stipulated time period; (d) time required to resolve complaints (disaggregated by different types of grievances); (e) percentage of complainants satisfied with response and grievance redress process; (f) percentage of project beneficiaries that have access to the GRM.

117. The implementing institutions may do the following to facilitate the GRM: (a) assign a phone/fax number for receiving feedback and advertising this in all project communication prominently; (b) set up easy-to-access suggestion/grievance boxes in villages close to work sites; (c) designate local volunteer grievance redress coordinators to facilitate grievance receipt; (d) record keeping, tracking and communication; (e) assign grievance resolution responsibilities to existing staff (preferably specialists mapped to the M&E Unit); (f) devise a low-cost grievance tracking mechanism; and (g) set time frames for grievance resolution, according to the type of grievance.

Sustainability

118. The program is expected to address sustainability issues related to infrastructure investments and facilitation measures, through enhanced ownership and by establishing trade facilitation groups. The road upgrading implemented under the traditional contracts will be followed up by long term PBMC contracts. KRB will allocate maintenance funds through KeNHA for follow-on maintenance operations after the end of the traditional contract period, until the end of the project design life-time, and subsequent operations. KRB encourages all maintenance contracts to be carried out under performance based maintenance contract arrangements. The social infrastructure will be mainstreamed within the domestic institutional framework, but will evolve towards offering fee-based services. The management of the facilities to be provided at the pastoralist road side markets will be outsourced or leased to the private sector.

119. KRB is collecting about US$300 million a year from fuel levy and transit tolls. The transit tolls are dedicated for the maintenance of the regional corridors. The fuel levy revenues are mainly applied for maintenance, while no more than 10 percent is used for development

through annuity programs. KRB is currently able to finance about 52,000 km of the road network. To provide adequate maintenance funding for the core network of about 90,000 km, KRB's Board has requested an increase in the fuel levy from the current KES 9 to KES 18 per liter or to 38 percent of the landing price. South Sudan is also expected to establish a mechanism to ensure a stable flow of funding for maintenance.

Role of Partners

120. The potential development partners that would support the infrastructure upgrading and trade facilitation measures along the Juba – Eldoret corridor, include: the AfDB, China EXIM Bank, EU, EIB, JICA, and the World Bank. The USAID has supported the South Sudan corridors diagnostics study, and is active in trade facilitation and promoting agricultural development. Trade Mark East Africa could also be potential partners in the promotion of the trade facilitation measures. In addition, AfDB has the intention of promoting the development of the Kampala-Juba-Addis Ababa corridor, which calls for forging partnerships, as the corridor shares a major part of the Juba-Nadapal/Nakodok road. The governments of South Sudan and Kenya held s donors' Consultative Meeting on January 29 and 30, 2013 and discussed the road map for development partners' engagement.

Annex 4: Implementation Support Plan

Strategy and Approach for Implementation Support

1. The strategy for implementation support has been developed based on the nature of the program and its risk profile. It will aim at making implementation support to the client more flexible and efficient, and will focus on implementation of the risk mitigation measures defined in the Risk assessment section (main text), namely the delivery quality and design risk, as well as the traditional supervision focus areas including safeguards and fiduciary aspects.

2. Formal supervision and field visits will be carried out semi-annually, and will focus on:

(a) **Technical inputs**. Engineering inputs are required to review bid documents to ensure fair competition through proper technical specifications and fair assessment of the technical aspects of bids. A very experienced transport engineer will review the detailed designs for the road upgrading, the accident black spots and the proposed civil engineering works at the border crossings. During construction and commissioning, close technical supervision will be provided to ensure technical, environmental and social contractual obligations are met. The team's engineer will conduct site visits on a semi-annual basis throughout project implementation. Inputs will also be provided by a trade facilitation specialist on the establishment of the Corridor Management Committee, the Corridor Performance Monitoring System, harmonization of customs procedure, strengthening the KRA Customs Department, and the proposed technical assistance and studies. ICT and ITS specialist will provide input for the supervision of the ICT component, ICT for KRA, and the introduction of ITS for KeNHA.

(b) **Fiduciary requirements and inputs**. The Bank's FM specialists, and the procurement specialists, based in Kenya, will provide training, before the commencement of project implementation. The team will support the MoTI, KeNHA, KRA and ICTA in their FM capacity and to improve procurement management efficiency. The FM specialist and the procurement specialist will both be based in the country office to provide timely support. Supervision of FM arrangements will be carried out semi-annually as part of the project supervision plan and support will be provided on a timely basis to respond to client needs. Procurement supervision will be carried out on a timely basis as required by the client.

(c) **Safeguards.** The environment and social specialists will support relevant counterpart staff and provide any necessary training. On the social side, supervision will focus on the implementation of the agreed RAP, and the Social Infrastructure and Services, including HIV/AIDS and road safety sub-components. Field visits will be made on a semi-annual basis. GoK will conduct safeguards supervision of all contracts financed through the World Bank and other co-financiers, on the entire Lesseru-Nadapal/Nakodok road and ensure that the safeguard instruments adopted for the

project are implemented appropriately and consistently. The Bank team will work closely with GoK on the supervision.

(d) **Client Relations**. The task team leader will coordinate the Bank team to ensure project implementation is consistent with Bank requirements, as specified in the legal documents. He will meet with senior officials on a regular basis to keep them apprised of program progress and issues requiring resolution at their level.

Implementation Support Plan

3. The main focus in terms of support to implementation would be as follows:

Time	Focus	Skills Needed	Resource Estimate (Staff Weeks/year)	
First twelve months	Team Leadership	Management, supervision, coordination	Task Team Leader (TTL) Co-TTL ICT sector cross support	6 6 3
	Project Support	Supervision, coordination	Transport Engineer/specialist Transport Economist	6 6
	Technical	Road engineering, design, technical supervision, trade facilitation expertise	Transport/highway Engineer Trade Facilitation Specialist	6 4
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS and road safety	Social Specialists Gender Specialist HIV/AIDS Specialist Road Safety Specialist	6 2 1 2
	Environment	Bank norms knowledge, environmental safeguards	Environmental Specialists	6
	Procurement	Procurement experience, Banks procurement norms knowledge, training	Procurement Specialists	8
	Financial Management	FM experience, knowledge of Bank FM norms, training	FM Specialists	8
12-48 months	Team Leadership	Project management, supervision, coordination	Task Team Leader Co-TTL ICT sector cross support	6 6 3
	Project Support	Supervision, coordination	Transport Specialist Transport Economist	6 4
	Technical	Road engineering, supervision, trade facilitation expertise	Transport Engineer Trade Facilitation Specialist	8 6
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS and road safety	Social Specialists Gender Specialist HIV/AIDS Specialist Road Safety Specialist	6 2 2 2
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialists	6
	Procurement	Procurement reviews and supervision, training as needed	Procurement Specialists	8

	Financial Management	FM reviews and supervision, training and monitoring	FM Specialists	8
48-60 months	Team Leadership	Project management, supervision, coordination	Task Team Leader Co-TTL ICT sector cross support	6 6 3
	Project Support	Supervision, coordination	Transport Specialist Transport Economist	6 4
	Technical	Road engineering, supervision, trade facilitation expertise	Transport Engineer Trade Facilitation Specialist	6 6
	Social	Social safeguards, land acquisition and resettlement, gender, HIV/AIDS and road safety	Social Specialists Gender Specialist HIV/AIDS Specialist Road Safety Specialist	6 2 2 2
	Environment	Environmental safeguards, supervision and monitoring, training as needed	Environmental Specialists	4
	Procurement	Procurement reviews, training as needed	Procurement Specialists	8
	Financial Management	FM reviews, training and monitoring	FM Specialists	8

4. The following skills mix is required for implementation support:

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	6 Staff Weeks/year	Two/year	HQ based
Transport/Highway Engineer	6 Staff Weeks/year	Two/year	Region based
Trade Facilitation Specialist	8 Staff Weeks/year	Two/year	HQ based
Transport Economist	6 Staff Weeks/year	Two/year	HQ based
Transport Specialist	6 Staff Weeks/year	Two/year	Country based
ICT Sector Specialist	3 Staff weeks/year (falling to 2 after first three years)	Two/year	HQ based
Social Specialists	6 Staff Weeks/year	Two/year	HQ, Region &Country based
Environmental Specialists	6 Staff Weeks/year	Two/year	HQ, Region &Country based
Procurement Specialists	8 Staff Weeks/year	n/a	Country based
FM Specialists	8 Staff Weeks/year	n/a	Country based
HIV/AIDS Specialist	2 Staff Weeks/year	n/a	HQ, Region, &Country based
Road Safety Specialist	2 Staff Week/year	n/a	HQ based
Gender Specialist	2 Staff Week/year	n/a	HQ, Region, & Country based

Annex 5: Economic and Financial Analysis

Economic Analysis

1. The economic analysis for the upgrading of the road infrastructure, Eldoret/Lesseru – Nadapal/Nakodok road corridor, which constitutes the substantial part of the project investment was carried out in three sections: (a) Nadapal/Nakodok – Lodwar (analysis sub-divided in three sections); (b) Lodwar - Marich Pass; and (c) Marich Pass - Eldoret/Lasseru. The KeNHA engaged three international consultants to undertake the feasibility study and detail engineering design. The three consultants produced the first feasibility study reports based on the traffic count and preliminary design in 2012. After the national level peer review of the feasibility studies and draft final engineering standards, KeNHA decided to undertake the review of the engineering designs and feasibility studies to ensure the consistency of the assumptions in the traffic growth rates, and adopt the optimal design appropriate to the design traffic levels of the three section. Accordingly the consultants for the Nadapal/Nakodok – Lodwar road section submitted revised reports in December 2014 while the consultants for the other two second delivered the revised reports in January 2015. The latest review didn't include traffic counting and this economic analysis relied on the traffic count data collected in 2012 as was the case for all the three revised feasibility studies. To assess the regional dimension of the project this economic analysis section has presented the key outcomes of the economic analysis and design for the Juba-Nadapal road section in the South Sudan territory.

2. The economic analysis was undertaken using the Highway Development and Management Model, Version 4 (HDM-4), using the conventional approach of comparing the estimated road users and agency benefits and costs in the "do-something" scenario, when the new road is rehabilitated, against the "do-minimum" scenario, involving the status quo, and the continuation of the current maintenance regime. The economic analysis includes base year traffic flows, traffic growth rates and forecasts of generated and diverted traffic.

3. The results of the economic analysis for the three road sections in Kenya as well as the Juba –Nadapal are summarized in Table 5.1. The results for the four sections have shown an EIRR ranging from 21.0 percent to 34.6 percent, and NPV ranging from US$25 million to US$353 million, demonstrating that the upgrading of the corridor is economically viable.

Table 5.1: Program Corridor Economic Analysis

Road Section	Length (km)	Traffic flow			Cost estimate US$ m		Economic analysis		
		AADT	Generated	Diverted	Total	Per km	EIRR (%)	NPV (US$ m)	Sensitivity analysis EIRR
Nakodok/Nadapal-Kalobeyei	88	357 (520)	*113-115*	36	93.3	1.05	24.7	24.97	18.2
Kalobeyei - Lokitaung junction (lot 6)	80	368 (644)			93.1	1.16	21.0	30.16	15.8
Lokitaung junction-Lodwar (lot 5)	80				81.8	1.02	26.5	38.48	19.3
Lodwar – Marich Pass	197	154-262 *(1537)5*	*see note 6*	*70/140*	284.9	1.44	24.7	196	23.1

Marich Pass - Eldoret	158	193 to +10,000	*see note 7*	17	208.5	1.28	34.6	306.83	29.7
Juba-Nadapal	363	71-135[1]	127-135	70	820.00[2]	2.26	21.1	353.90	19.5[3]

Notes

1. The figures show the range of traffic flow over the Nesitu (start of the project- junction to Torit and Nimule) to Torit section. The AADT along the Juba-Nesitu section is 723 while the estimate of the generated traffic is 1038.
2. Cost estimates include supervision and OPRC maintenance and is based on detailed design.
3. EIRR is only > 12% + NPV positive if short-term labor + regional (economic outputs from the Road Zone of Influence) benefits are included
4. The traffic figures in italic include motorcycles.
5. The traffic figures show the range of traffic flows between Lodwar and Marich Pass. The figure in italics shows the traffic flow in the urban area of Lodwar.
6. The consultant determined generated traffic factors ranging from 1.0 to 1.6 of the normal traffic.
7. The consultant estimated a 4.6% growth rate for generated traffic.

Trade and Transit Traffic flow

4. This section highlights the essential trade flows in the region and outlines the key features of the corridors linking Juba to the Port of Mombasa. A summary of traffic through the Port of Mombasa (see Table 5.2) highlights the trade growth in the sub-region over the period 2002-2009. Imports to the region show a strong average annual growth of 11.2 percent, whereas exports remain almost stagnant at 0.4 percent growth. In addition, over the same period, container traffic has doubled. The table also provides an estimate of the flow of imports and exports to and from South Sudan.

Table 5.2: Mombasa Port Traffic (2002 – 2009) and to South Sudan

	2002 ('000s tons)	2006	2009	Annual growth
Imports				
Container + general cargo, dry + bulk cargo	7,844	11,846	16,507	11.2%
Transit cargo[1]	1,875	4,347	3,612	13.7%
Exports				
Container + general cargo, dry + bulk cargo	2,380	2,255	2,450	0.4%
Transit cargo[1]	340	335	368	1.1%
Total –imports+exports	**10,240**	**14,101**	**18,957**	**9.2%**
Container traffic (TEU)	**305,427**	**479,355**	**618,816**	**10.6%**
South Sudan				
Imports	92.8	130.0	155.7	9.7%
Exports	0.16	7.8	11.66	1007.8%
Total – South Sudan	**92.96**	**137.8**	**167.36**	**11.4%**

Note - 1 Included in total cargo

Source: Kenya Ports Authority - Corridor Diagnostic Study Northern and Central Corridors of East Africa – USAID/DfID – Nathan Associates Inc. April 2011

5. Mombasa is the principal port for the East Africa region serving the countries of the EAC and others. Port traffic flow shows the countries, apart from Kenya, that rely on Mombasa for the bulk of their international trade are: (a) Uganda, (b) Tanzania, (c) Burundi, (d) Rwanda, (e) South Sudan, (f) DRC, and (g) Somalia. Tanzanian trade is conducted primarily through Dar-es-Salaam. However in periods of port congestion some trade diverts temporarily to Mombasa. The primary users of Mombasa are Kenya and Uganda.

6. Ugandan exports to South Sudan are approximately 1,390,000 tons per year, but not all these exports are imported through Mombasa. The two main origins of this trade are Ugandan exports of indigenous origin and Ugandan trade to South Sudan of international origin.

Indigenous exports comprise primarily Ugandan agricultural exports and raw materials not directly linked to any international trade movements, and goods and products transformed within Uganda (Kampala/Gulu) and therefore not directly transported.

7. Ugandan exports with an international origin comprise finished imported goods, which have entered through the port of Mombasa. But due to the poor condition of alternative routes through Kenya and the well-established importance of Kampala as a logistical, trading, processing, customs clearing and redistribution center; imports and exports are routed through Kampala or Gulu. These goods transported to Kampala become part of the Ugandan-South Sudan export flows, even if their landfall was Mombasa.

8. Although Kenya is one of the major manufacturers of consumable goods in the sub-region, South Sudan with an oil dependent economy, accounts for about only 12 percent of Kenyan exports. Trade between South Sudan and Ethiopia, and between Uganda and Ethiopia, is restricted due to lack of reliable all-season road access.

9. The major upgrading of the Port of Lamu aims to relieve congestion at Mombasa. This development will significantly influence transport demand along the corridor and the development of transport links to South Sudan.

Regional Connectivity, Transport and Trade facilitation

10. The road between Eldoret in Kenya to Juba in South Sudan, known as the Kenya - South Sudan Link Road, is one of the major corridors linking Southern Sudan to the Port of Mombasa. This corridor forms part of Corridor No.3 of the EAC Road Network, which starts from the northern border of Tanzania at Isebania and passes through Kisumu, Kitale, Lodwar, Lokichoggio to Nadapal and finally to Juba.

11. The project road is a branch of the main trunk route known as the Northern Corridor linking the Kenyan port of Mombasa on the Indian Ocean to landlocked EAC countries, and large areas of DRC's hinterland that are inaccessible from the Atlantic Ocean. Specifically, the project road is a link along the Mombasa - Nairobi - Nakuru - Eldoret - Lodwar - Nadapal - Juba route into South Sudan.

12. The project corridor is a strategic regional transport artery. After the project road is upgraded from Eldoret to Juba, it will serve both the capital of South Sudan, and the eastern part of South Sudan, the location of the main oil exploitation areas.

13. Almost all of South Sudan's links to the outside world prior to the civil war were northwards to Khartoum and Port Sudan, but these have been disrupted following the conflict between South Sudan and Sudan. Thus, South Sudan depends completely on Kenyan and Ugandan road networks. The condition of these networks determines, to a large extent, the cost of South Sudan's business with the outside world. There are currently four road corridors along which South Sudan’s regional and international trade and commerce flows, the corridors are:

A. Eldoret - Malaba - Jinja - Kampala - Gulu - Kaya - Yei - Juba,
B. Eldoret - Malaba - Jinja - Kampala - Gulu - Nimule - Juba,

C. Eldoret - Malaba - Soroti - Gulu - Nimule - Juba, and
D. Eldoret - Kitale - Marich Pass - Lodwar - Nadapal - Juba.

14. All the four corridors are in constant use. However, traffic along corridor D, Eldoret-Nadapal/Nakodok-Juba, has been in decline for a number of years due to its deteriorating condition. This deterioration has accelerated in recent years to the extent that large portions have degraded to gravel or earth road standard. Although Corridor C is the shortest, transit traffic via Uganda passes through Kampala as road conditions are better and the terrain is less rugged. However, the route through Kampala is longer than the route through Nadapal/Nakodok.

15. In the recent past, when the road condition was much better, goods, passengers and services flowed from Kenya to Juba via Lodwar and Nadapal/Nakodok. The project road's international function has declined - with traffic diverting to corridors A, B and C above. Comparison of travel time between Mombasa and Juba along the four corridors when all were in a passable condition is shown in Table 5.3.

Table 5.3: Key Features of the Corridors

Corridor	Distance: Mombasa to Juba	Time: Mombasa to Juba	Transit regimes	Corridor transport modes
1. Eldoret–Kaya–Juba	1,950 km	7-11 days	Two	Road, rail + pipeline
2. Eldoret–Kampala–NimuleJuba	1,820 km	6-9 days	Two	Road, rail + pipeline
3 Eldoret–Soroti–Nimule–Juba	1,630 km	6-9 days	Two	Road, rail, + pipeline
4. Eldoret–Nadapal[19]–Juba	1,745 km	5-8 days	One	Road, rail, + pipeline

Source: Juba–Nadapal Feasibility Study Report, June 2010

16. The gains from the upgrading of the road infrastructure must be supported by enhancing the transit efficiency of the corridor. Thus, the program includes sound trade and transport facilitation measures: (a) harmonizing customs procedures and establishing efficient arrangements for cross-border traffic management, establishing one stop border post at Nadapal; (b) putting in place efficient transit agreements facilitating the movement of traffic between the port of Mombasa and Juba; (c) establishing adequate and efficient financial and social infrastructure, including banking and insurance services, HIV/AIDS prevention activities, and establishing rest stops; (d) facilitating the development of export processing zones and storage facilities; (e) enhancing road safety; and (f) overloading control.

Technical

Corridor Profile

17. The road starts at Lesseru (about 15 km south west of Eldoret) and traverses a low-lying marshy section for the first 5 km. The road traverses a terrain that is predominantly rolling through Lugari and Trans Nzoia before reaching the urban settlement of Kitale. The road section between Lesseru, Kitale and Kapenguria traverses an area with reliable annual rainfall. The road section between Kapenguria and Marich Pass traverses an area with unreliable annual rainfall.

[19] The Lamu port, which branches off at about 400 km away from Nadapal makes the distance between Juba and the Port about 1,600 km.

18. From Marich Pass (elevation 953 m) to Kainuk, the road traverses flat and slightly rolling terrain. The road descends gradually to reach Kainuk (elevation 832 m). From Kainuk to Lokichar, the road gradually rises in elevation for about 10 km north of Kainuk (elevation 950 m) and then begins a gradual descend to Lokichar (elevation 768 m). From Lokichar to Lodwar, the terrain is very flat for the first 50 km and then the road descends to an elevation of 500 m in Lodwar.

19. The Nadapal - Lodwar road crosses generally a flat to rolling terrain, except the partly mountainous terrain towards Nadapal. The project area is semi-arid with low intensity of rain, and water is in short supply during the dry season.

20. The Juba - Nadapal road extends along 363.2 km of gently undulating terrain passing between high mountain ranges from Nadapal through Kapoeta, Boya Hills and Torit ending at Juba on the bank of the White Nile. The section between Juba and Kapoeta has intensive rain for about five to six months in a year. The project upgrading works will be starting from Nesitu, making the total length to be upgraded 337 km as per the final design.

Road condition

21. Road conditions vary considerably along the program corridor from fair to poor and in some sections the road has degraded to gravel or an earth road. The road conditions are summarized in Table 5.4.

Table 5.4: Existing Road Conditions along the Program Corridor

Road Section	Road Condition
Eldoret/Lesseru - Marich Pass	Road conditions are poor between Marich Pass and Kapenguria. From Kapenguria to Kitale road conditions are fair. Between Kitale and Lasseru/Eldoret road conditions are fair but shoulder erosion is extensive.
Lodwar–Marich Pass	Heavy traffic involved in relief operations from Mombasa to South Sudan coupled with insufficient maintenance has resulted in accelerated deterioration. Most of the bituminous surfacing is failing or has been destroyed. Only occasional grading keeps the road passable.
Nadapal–Lodwar	Nadapal to Lokichoggio is essentially an earth road, the gravel surface having eroded. Lockichoggio to Lodwar is in a fair to poor condition with extensive potholing throughout.
Juba–Nadapal	Road conditions are fair to good but insufficient maintenance turns the road to a poor condition during heavy rain.

Geometric and pavement standards

22. The proposals for road upgrading are summarized in Table 5.5 for a single carriageway width of 7 meters and shoulders 2 meters wide throughout the corridor, except the section from A1/B2 Junction to A/1/C45 Junction in Kenya, which is a dual carriageway. The shoulder for the Juba–Nadapal segment consists of a 1.5 meters surfaced section and an additional un-surfaced shoulder 0.5 meter on each side. The additional 0.5 meter will also be surfaced to make it

consistent with the Kenyan side. The shoulder between Logichoggio and Juba will also be used for the installation of fiber optics and requires adequate sealing.

23. Due to the high traffic level between Lesseru and Marich Pass section, in particular between Lesseru and Kapenguria, the geometric design had to consider the adoption of dual carriageways and grade separate junctions in some section. Basic capacity for the entire road was calculated using appropriate equivalent factors for each section as given in the Kenya Road Design Manual (RDM) Part 1 and geometric design traffic calculations made by the consultant.

24. The proposed geometric standards are as follows: (i) dual carriageway of 14 m carriageway and 1.5 m shoulders on both sides; and (ii) single carriageway (cross section type II) of 7.0 m carriageway and 2.0m shoulders on both sides.

25. The RDM recommends a dual carriageway where the design volume exceeds 8,000 passenger car unit (pcu) especially if the road is located in a rural area. If the road is close to a major town, then a single carriageway may carry a design volume of up to 15,000 pcu. The consultant therefore recommended a dual carriageway for the section between A1/B2 Junction to A1/C45 Junction and cross-section type II for the remainder length of the project road. The section that requires a dual carriageway lies within an urban setting and was further analyzed using Highway Capacity Manual - 2000 as an urban road by computing the maximum hourly volume from the collected traffic volume data projected to a future 10 years period.

26. All the critical existing junctions (intersections) along the project road were analyzed for sufficiency in terms of their capacity to handle the forecasted traffic and this was done using the guidelines stipulated in the RDM. Among the critical junctions which were considered for capacity check of turning movement counts A104/B2 junction and A1/B2 junction were designed as grade separated junctions.

A summary of the proposed pavement standards is presented in Table 5.5.

Table 5.5: Proposed pavement standards for road upgrading

Pavement Structure	Eldoret/Lesseru - Marich Pass	Marich Pass Lodwar	Nadapal–Lodwar	Juba–Nadapal
Wearing course	50mm asphaltic concrete sealed with 10/14 and 35 mm AC shoulder	Double Bituminous Surface Treatment	Double Bituminous Surface Treatment	450mm AC
Binder Course		75mm DBM and 35 mm AC	75mm dense bitumen macadam and 35 mm AC	
Base	125 mm DBM	175mm cement stabilized GCS carriageway and shoulder	150mm cement stabilized graded crushed stone (GCS) carriageway and shoulder	200mm dense bitumen macadam
Sub-base	125mm graded crushed stone cement treated (2 %) carriageway and shoulder	200 mm cement /lime natural material gravel carriageway and shoulder	175mm cement improved gravel carriageway and shoulder	350mm natural gravel
Subgrade	350mm of recycled existing pavement		350mm of improved subgrade carriageway and shoulder	Recycled and compacted existing pavement
Shoulders	as main carriageway			Double surface dressing w/course; base and sub-base as main carriageway

Alternatives Design Options Assessment

27. A comparative assessment of upgrading the road to an AC or DBST standard was conducted and the findings are presented in Box 1.

Box 1. Comparison between AC and DSD/DBST treatments

Asphalt Concrete Surfacing	Double Bituminous Surface Treatment
• More expensive than DBST • Usually a minimum thickness of 50mm, placed as a viscous liquid in one continuous operation • Material can be re-used (recycled) by removal, crushing and re-laying as base course • Numerous additives available to enhance performance under varying range of conditions • Requires suitable, durable crushed rock aggregate to provide strength • Is easier to work with and lay	• Cheaper alternative to asphalt concrete • Can be very thin, as it is placed on the surface in layers • Subsequent seals (e.g. for maintenance purposes) can be simply sprayed over the old seal, provided that underlying materials have remained sound • Numerous additives and extra treatments can be utilized to enhance performance under varying conditions • Requires suitable, durable crushed rock aggregate to provide durability • Some experience is required to work with and lay correctly otherwise it can become a disaster

Source: Juba–Nadapal Road Feasibility Study Report, SMEC, June 2010

Gravel Road Option

28. The option of upgrading the road segments dilapidated to nearly earth road to a gravel standard and sustaining it with continuous on a road serving high volume of traffic appears to be expensive over the road life cycle for the following reasons:

(a) The existing road is in very poor state and requires complete reconstruction, which requires high initial cost, which will warrant sealing to protect the investment from being washed out during the long and heavy rain season.

(b) As a regional corridor, the traffic mix using the road will be dominated by heavy vehicles, which will sharply increase the AADT in terms of passenger car unit (AADT-pcu) and surpass the upper limit for a low volume road, about 300 vehicles per day, a threshold which calls for surfaced road.

(c) The gravel loss in a highly trafficked road could excessively be high and requires frequent re-gravelling, which has cost implication and leads to adverse environmental impact due to depletion of road maintenance and construction materials.

(d) This challenge is more pronounced in areas where the rainy season is long and intensive, which will not allow any intermittent spot improvement and ultimately leads to creation of big ponds on the carriageway, at the end of the season. This requires frequent reconstruction and heavy repair works, which is a costly operation.

(e) Moreover, dust on a heavily trafficked gravel road will increase safety risk. The gravel material commonly used as sub-base/gravel wearing course (Murrum) is very abrasive and quickly changes to dust and traffic accidents on re-graveled roads was observed to be high.

(f) The high cost for reconstructing the road to a maintainable gravel road standard and high maintenance cost compounded with high safety risks will not make the gravel option attractive, as a long-term solution.

29. However, in the areas that receive less rain and lateritic material is in abundance, staged construction could be considered, whereby the surfacing work could be followed within a period of two to five years, i.e. before the traffic increase. Likewise, if the uncertainty of traffic growth will be high, for instance, due to insecurity in the South Sudan part, providing an all season gravel road in the interim period would be an economical approach. In this regard, to ensure all season access, the construction of bridges and upgrading the road in stages, starting with gravel sub-base, in areas where the intensity of rain is low, lateritic material is in abundance and the traffic volume is lower has been considered.

Overall Assessment of the Design and Contracting Arrangement

30. Considering that the project has been designed by three international consultants and the reports are peer reviewed by KeNHA, the project opted to use the existing design and bidding

documents for the reconstruction/upgrading works. Adequate contingencies are provided and the project will support KeNHA to carry out value engineering exercises throughout the project period to monitor cost overrun. To ensure sustainability, the upgraded roads will be under long-term PBMC. The project will support the design and preparation of the bidding documents for the PBMC. GoK will establish a dedicated project account and deposit US$3 million for the first year maintenance and continue providing the maintenance funds through the Kenya Roads Board.

31. The two design firms (for Marich Pass – Lodwar and Lodwar-Nadapal/Nakodok) recommended placing DBST over 75 millimeter thick DBM to control cracks as well as climatic factors. A low volume sealed road option, such as Otta seal, is not considered by the designers, due to the anticipated traffic volume and nature, which will constitute mainly heavy trucks. The wearing course will be influenced by traffic nature and volume, climate factors, terrain, availability of material, maintenance risk, safety, and ultimately the level of service. Further, the design documents on the three design contracts on the Kenyan side have recommended the application of AC on the shoulder, which appears to be expensive and may not be necessary, given the temporary use of this part of the road.

32. The treatment of the sub-grade and sub-base materials is determined on the basis of the results of the materials test, and as such the proposed measures are not considered conservative, except for the case of the use of stabilized crushed stone as a sub-base material.

33. Structures are designed with limited historical hydrological data and based on consultations with local people on high flood level and frequency, which leads to a conservative design, but often safe. The bill of quantity estimation also relies on the accuracy of survey data and due diligence in undertaking adequate materials test, soil investigation, and investigation of availability of material; which are often weaknesses of a design process and the main cause for cost overrun.

34. Summaries of the traffic and economic analysis for the four segments are presented as follows:

LODWAR-NADAPAL ROAD

Traffic Survey and Forecast

35. KeNHA through the Consultant that has carried out the feasibility study has estimated the normal diverted and generated traffic levels, for the Nadapal/Nakodok to Lodwar road. A summary of the traffic levels estimate is presented in Table 5.6.

Table 5.6: Normal, Diverted and Generated Traffic

Vehicle Type	Normal Traffic (AADT)		Diverted Traffic (AADT)		Generated Traffic (AADT)	
	Lodwar - Lokichoggio	Lokicho-Nadapal	Lodwar – Lokicho	Lokicho-Nadapal	Lodwar – Lokicho-	Lokicho-Nadapal
Motor Cycle	276	163			14	8
Cars	58	131			3	7
Pickups, jeeps, vans	175	151			9	8
Matatus /minibuses	35	10			2	1
Buses	5	-			20	20
Light Goods Vehicle (LGV)	19	17			1	1
Medium Goods Vehicles – MGV (2 axles)	29	11	1	1	1	1
Heavy Good Vehicles - HGV (3&4 axles)	35	24	1	1	2	1
Heavy Good Vehicles - HGV (5,6 & 7axles)	10	12	34	34	76	76
Others (Tractors, etc.)	2	1	-	-	-	-
ADT (with motor cycles)	644	520	36	36	127	123
ADT (without motor cycles)	368	357			113	115[20]

Source: Nadapal- Lodwar Feasibility and Preliminary Design Report, May 2012

36. The normal traffic, the existing traffic on the project road that would continue using the road whether it were improved or not, is calculated based on traffic surveys carried out in two segments: (i) Lodwar to Lokichoggio, and (ii) Lokichoggio to Nadapal. The survey data was adjusted for seasonal traffic variation, based on the historical traffic record of the KeNHA. This takes into consideration the low traffic season and high traffic season of the region. It was established that at the time of undertaking this traffic survey, the ADT was about 10 percent below AADT.

37. The section towards Nadapal has more cars, jeeps and 4WDs, which are mostly registered to Sudanese and Ugandan drivers. These are used for transportation of passengers and for transportation of consumer goods. Sudanese living near the border at Nadapal, obtain a lot of their commodities from Lokichoggio including fuel for vehicles. Public buses and most matatus do not travel beyond Lokichoggio due to the poor state of the road. Motorcycles are also a major means of public transport comprising about 31 percent in the section closer to the border. The OD survey carried out, in 2012, at Likichogio council barrier shows that the proportion of vehicle destined to South Sudan was 34.5 percent while the 23.3 percent originated from South Sudan.

38. It is anticipated that traffic likely to be diverted to the project road will be derived from the A104 trunk road. This is due to the fact that the heavy commercial vehicles which currently travel to South Sudan using the Uganda route via Malaba will prefer the project road because it

[20] 191 (with motor cycle) and 183 (without motor cycle). The increase is mainly due to the new cement product transportation demand, which revised during the economic re-evaluation carried out by the World Bank.

is shorter, in terms of travel time, compared to the Uganda route which would result into substantial savings in vehicle operating costs. A traffic survey was done at Malaba, in 2012, to establish the volume of the diverted traffic. The survey comprised 7-day traffic counts and 7-day OD surveys. A total of 644 heavy commercial vehicle drivers were interviewed whose daily sample volume was estimated at 27 percent.

39. From the OD survey, 5.12 percent of heavy commercial vehicles travel to/from Juba, South Sudan. Further analysis of the OD data showed that this percentage comprises 0.2 percent, 2.2 percent and 2.8 percent of the medium goods vehicles, heavy goods vehicles (3&4 axles) and heavy goods vehicles (5&6 axles) respectively.

40. Construction of a highway from Lamu port through Lodwar to Sudan is expected to generate heavy traffic volume, which will have an impact on the project road. Thus the traffic that likely to be generated upon completion of the LAPSSET transport corridor project is assessed as generated traffic. In addition, it is envisaged that significant non-motorized traffic will convert to motorized traffic. Similarly, some air transport will also convert to road transport, as the passengers and goods transport to the airport at Lokichoggio, will be transported by road after the road-upgrading project is completed.

Economic Analysis

41. The economic analysis used Highway Development and Management (HDM-4) model. The analysis period was 10 years. For the economic analysis a discount rate of 12 percent was adopted. A salvage value of 20 percent is assumed. Two alternatives: (a) maintain existing road (Base Case); and (b) reconstruction were compared. The economic analysis result for the reconstruction option is presented in Table 5.7.

Table 5.7: HDM-4 Analysis Results for Normal Run

Investment Option (Reconstruction)		NPV (US$ million)	EIRR (%)
Nakodok/Nadapal-Kalobeyei	Nadapal-Lokichogio-	23.43	28.1
	Lokichogio-Kalobeyei	24.97	24.7
Kalobeyei-Lokitaung		30.16	21.0
Lokitaung-Lodwar		38.48	26.5

42. Results of the normal run show that it is economically viable to reconstruct the project road. The EIRR is greater than the discount rate of 12 percent and the NPV is positive which also give a B/C ratio greater than 1.

Sensitivity Test

43. A sensitivity analysis has been done for the reconstruction option, assuming a low traffic growth scenario. Sensitivity testing was carried out for a cost overrun of 20 percent. The results are shown in Table 5.8.

Table 5.8: Sensitivity Test results

Investment Option (Reconstruction)	Sub-section	NPV (US$ million)	EIRR (%)
Nakodok/Nadapal-Kalobeyei (lot 7)	Nadapal-Lokichogio-	25.28	27.2
	Lokichogio - Kalobeyei	16.46	18.2
Kalobeyei - Lokitaung (lot 6)		16.55	15.8
Lokitaung- Lodwar (lot 5)		26.53	19.3

44. The economic indicators show that the project will be economically viable even if the traffic growth were reduced to the low growth scenario. Findings from the analysis indicate that the EIRR is greater than the discount rate while the NPV is also positive.

45. The Kenyan economy as a whole will benefit significantly from upgrading of the major regional/ international transport arteries to South Sudan. There will be substantial multiplier effects throughout the Kenyan economy from the transport infrastructure upgrading. Kenya will have an enhanced role in the logistics and transport chain between Kenya and South Sudan after creating the new direct access to South Sudan. Moreover, trade between the two countries will increase. The value added of this trade is substantial and rapidly growing as South Sudan develops.

46. Improvement of the road is estimated to result in about 0.3 percent additional growth in Kenya's GDP, the value added would represent about US$100 million, significantly more than the saving from transport cost savings alone. The improvement of this corridor will contribute to increasing fishing at Lake Turkana, which is currently limited to subsistence consumption. Rain fed agriculture, cattle breading, and animal husbandry are expected to enhance as a result of improved access to extension services and market.

LODWAR - MARICH PASS ROAD

Traffic Analysis

47. KeNHA through the consultant that carried out the feasibility study has estimated the normal diverted and generated traffic levels for the Lodwar – Marich Pass road. The normal traffic that is already using the road without project case (WOP) and which will continue to use the road after improvement was established as a base year traffic, based on traffic counts carried out as part of the feasibility study. The traffic count was adjusted for seasonal variations. A summary of the normal traffic is presented in Table 5.9. Generated traffic expected to be induced as additional trips by road users as a result of lowering transport cost is estimated based on trip generation factors, established by the consultant as shown in Table 5.9.

Table 5.9: Normal Traffic Lodwar- Marich Pass Road

Vehicle Type	Marich Pass-Kainuk 29.35km	Kainuk-Lokichar (Lokori Jctn)-80.77km	Lokichar/ Lokori- Lodwar (km190.7) -80.6 km	Lodwar (km190.7)-Lodwar (km 196.9) – 6.17km	Generated Traffic Factor
Cars/4WD	9	4	4	459	1.6
4x4	50	145	141	773	1.6
Pickup	3	3	2	113	1.5
Matatu	8	12	3	27	1.3
Medium Bus	1	1	0	1	1.2
Bus	8	6	6	11	1.2
Light Goods Vehicle (LGV)	11	16	12	26	1.2
Medium Goods Vehicles –MGV (2 axles)	13	19	29	57	1.0
Heavy Good Vehicles - HGV (3 axles)	29	36	37	55	1.0
Articulated Trucks	22	20	18	15	1.0
ADT- Total	**154**	**262**	**252**	**1537**	

Source: Lodwar- Marich pass feasibility Study and Preliminary Design Report, July 2012

48. *Diverted Traffic*, a traffic that in the Without Project situation is using other roads or routes, and that with the improvements will divert from its existing route to the project route because of some perceived advantage brought about by the improvements due to faster travel times or fewer administrative or border delays, and absence of non-tariff barriers is calculated by the consultant. The consultant has conducted OD surveys and has estimated diverted traffic using gravity model.

49. Based on the assessment of the consultant, the transit time to South Sudan via the project corridor is 4 times shorter (approximately 26 hours versus 100 hours) compared to transiting through Uganda due to inter alia: (i) there is no Kenya – Uganda border delay, which is very congested as the border post has to process not only Sudan traffic but pure Uganda bound traffic which is considerable; (ii) there is no Uganda – South Sudan border delay which due to a lack of facilities can take up to 36 hours; (iii) the project route has a border crossing Kenya – South Sudan but due to the much smaller number of vehicles crossing plus the very much smaller number of other vehicles, crossing times are much shorter at approximately 8 hours; and (iv) the current logistical chain from Mombasa to Sudan involves transiting through Kampala or Gulu where cargo is received by Ugandan agents and warehoused and re-processed.

50. The trade model run by the feasibility consultant indicated that in 2009 the traffic from Uganda to South Sudan was about 1,714 metric ton per day (mt/day), converted to be about 87 trucks. The gravity model run by the consultant predicted that from the traffic routed through Uganda for logistics reason, most of this could divert to the project road, provided that the logistical framework along the north-western Kenya and South Sudan itself is enhanced. Further, the OD survey indicated that the transit traffic from Mombasa to Juba in 2012 was about 37 vehicles, which is about the same as the estimates by the other feasibility studies carried out for the upgrading of the Juba-Eldoret corridor.

Economic Analysis

51. The economic analysis used HDM-4. The analysis period was 20 years. Analysis has been done for the "With" and "Without" project cases. The project road has already deteriorated from paved to gravel or earth road due to neglect of maintenance. No paved road maintenance can be economically carried out on it. Therefore, the reconstruction option is taken forward. For the economic analysis, a discount rate of 12 percent was adopted. A salvage value of 20 percent is assumed.

52. The consultant has considered four pavement designs based on two traffic classes and two pavement types, namely: Traffic classes T1 and T2 and pavement Type 5 and Type 11. The HDM-4 first runs were carried out to determine the optimum pavement design for each of the four sections: Section 1, Section 2, Section 3 and Section 4. The analysis was also carried out with a single pavement design throughout. The economic analysis result for the reconstruction option is presented in Table 5.10.

Table 5.10: HDM-4 Analysis Results for Normal Run with Optimum Pavement Type

Section	Optimum Pavement Type	EIRR (%)
Section 1	T1 Type 5	21.0
Section 2	T1 Type 5	21.9
Section 3	T1 Type 5	22.0
Section 4	T1 Type 5	19.2

Source: Marich Pass- Lodwar Feasibility Study, January 2015

53. The analysis for a uniform pavement throughout the Lodwar Marich Pass section shows that when the road is designed for T1 Type 5 it gives the optimum values of EIRR 24.7 and NPV US$196 million. Thus, this pavement design standard is adopted is adopted for Lodwar – Marich Pass section.

Sensitivity Test

54. A sensitivity analysis has been done for the optimum pavement alternative T1 Type 5 for all sections of the Lodwar – Marich Pass. The analysis was done for worst-case scenario, for decrease in benefits of by 20 percent and a cost overrun of 20 percent and the result shows EIRR 15.8 of and NPV US$65 million.

55. In general the project to improve the Marich Pass to Lodwar section is highly recommended. The benefits accrue from roughness improvements and particularly from avoidance of border delays.

MARICH PASS - LESSERU/ELDORET ROAD

Traffic Analysis

56. KeNHA through the consultant engaged to undertake the feasibility study and engineering design has estimated the normal diverted and generated traffic levels, for the Lesseru – Marich Pass road. The normal traffic that is already using the road without project case (WOP) and which will continue to use the road after improvement was established as a base year traffic based on traffic counts carried out as part the feasibility study and preliminary design. The traffic count was adjusted for seasonal variations. A summary of the normal traffic is presented in Table 5.11.

Table 5.11: Annual Average Daily Traffic (both directions)

Survey Station	Direction/ Section	Motor Cycle	Car	Pick-up, 4x4	Matatu & minibus	Bus	Light Truck	Medium Truck (2 axle)	Heavy Trucks (3&4 axle)	Heavy Trucks (5&6 axle	Others (Tractors etc.)	Total
A104/ B2 Junction	Eldoret	143	1,226	1,030	1,773	185	106	477	303	1,931	30	7204
	Turbo	85	625	533	840	109	47	256	191	1,796	21	4502
	Kitale	94	684	549	953	85	72	240	123	147	21	2968
Nangili	Moi's bridge-Malitisa	344	638	788	585	62	143	176	111	114	44	3005
Moi's Bridge	Eldoret-Kitale	1,206	663	561	805	56	169	357	234	212	127	4,389
A1/ B2 Junction	Kitale	4,285	3,837	2,613	2,911	222	73	581	204	175	83	14985
	Eldoret	2,492	2,273	1,475	1,443	116	50	374	141	130	51	8544
	Webuye	2,436	2,047	1,506	1,582	128	49	346	106	78	79	8359
A1/ C45 (1) Junction	Kitale	5,053	5,268	3,095	2,508	191	37	534	125	66	31	16909
	Eldoret	3,725	4,277	2,598	2,446	187	30	486	117	68	26	13961
	A1	2,152	1,386	759	123	12	20	77	17	5	6	4558
A1/ C48 (1) Junction	A1	486	112	68	13	6	6	10	6	5	2	715
	Kitale	85	21	13	3	2	1	0	1	0	1	125
	Cherangany	401	91	55	10	5	5	10	6	5	2	590
A1/ C48 (2) Junction	A1	5,140	2,671	1,526	1,630	100	109	137	85	53	15	11467
	Kitale	2,756	1,397	922	1,120	74	79	108	68	32	11	6566
	Cherangany	3,032	1,505	745	587	42	51	54	35	26	12	6090
Maili Saba	Kapenguria	565	373	498	486	25	75	127	91	63	50	2347
Makutano	Kapenguria	1,543	1,257	853	44	39	35	108	64	27	42	4013
Kapenguria	Ortum	696	239	371	25	21	45	68	70	23	16	1574
Ortum	Marich	315	48	190	17	27	53	54	69	55	10	838
Marich Pass Junction	Lodwar	43	5	55	3	9	11	23	31	14	0	193
	Sigor	99	2	22	5	0	3	9	2	2	0	135
	Ortum	44	4	54	3	1	14	5	2	0	0	128

Source: Marich Pass – Lasseru Preliminary Design Report, September 2012

57. *Diverted traffic:* The assessment of the consultant was that when parallel routes exist, traffic would usually travel on the quickest and cheapest route, although this may not necessarily be the shortest. Thus, given the road network in the project area, diverted traffic will likely come from the A104 road to B2 road. This will most likely be composed of heavy trucks going to Southern Sudan and currently have to go through Uganda due to the poor state of the project road. The consultant, based on Origin-Destination Survey, estimated that 17 heavy vehicles per day destined to South Sudan would be diverted to the Lesseru-Marich Pass road. The traffic count appears to be about half of the estimate done by other consultants undertaking a feasibility study along the Eldoret-Nadapal- Juba road. This may be related to the timing of the OD survey, which was carried out in mid-2012, the time South Sudan had to pass through challenging austerity measures due to the disruption in oil revenues. The updated feasibility study has also maintained the same diverted traffic level (17 vehicles) while assuming that such traffic will

grow at the same rate as the normal traffic on the project road as recommended in Overseas Road Note 5 (Transport Research Laboratory -TRL, 2005). The other surveys for Lodwar-Marich Pass and Lodwar-Nadapal road were carried out at the beginning of the austerity measure and are expected to represent worst-case scenario.

58. *Generated traffic:* converted and induced traffic, which occurs due to the improvement of the project road was estimated by the consultant. The consultant forecasted the generated traffic using demand relationships. The price elasticity of demand for transport measures the responsiveness of traffic to a change in transport costs following a road investment.

59. The average elasticity for transport and storage versus GDP was established to be 1.1. This means that for every 1 percent growth in GDP, the transport sector grew by 1.1 percent during the period under review, 2007 to 2011. Generated traffic for the project road was therefore estimated from the product of average elasticity for transport and storage versus GDP. Estimated growth in generated traffic was established to be 4.6 percent, as presented in the traffic study report of 2012 and the updated feasibility study report of January 2015. While the consultant was re-analyzing the generated traffic growth rate, as presented in the updated feasibility study dated January 2015, it was assumed that the oil discovery in northern Turkana would increase the heavy vehicles growth rate by 1 percent, although the transportation of the oil is assumed to be by pipe line or rail direct to the sea port. Likewise, due to the establishment of a new cement plant in West Pokot (Cemtech Kenya), expected to produce about 24 million bags of cement per year starting in 2017, the heavy vehicle growth rate was assumed to increase by 1 percent.

Economic Analysis

60. The economic analysis is based on a 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). A discount rate of 12 percent, a standard conversion factor of 0.80 for converting financial costs to economic costs, a residual value of 15 percent and rehabilitation period of 4 years. The base year is 2017. The economic costs consist of (i) the capital investment costs and (ii) the routine and periodic maintenance expenses. The benefits consist of savings in (i) vehicle operating costs; and (ii) motorized traffic travel time for passengers and cargo. The revised design adopted T2 Type 12 pavement for the Lesseru – Marich Pass section. The measures of project worth used are the EIRR, B/C ratio and NPV. A summary of the economic analysis is presented in Table 5.12 below.

Table 5.12: HDM-4 Analysis Results

With Project Alternative		NPV (US$ million)	EIRR %	B/C Ratio
Reconstruction of Lesseru-Kitale - Marich Pass (B2/A1) road		306.8	34.6	2.174
Sensitivity test and risk analysis		216.9	29.7	1.537
		278.6	29.9	1.645

WORLD BANK ECONOMIC RE-EVALUATION

61. The purpose of the review and economic re-evaluation is to ascertain that the feasibility studies carried out by the three firms were consistent and to assess whether possible uncertainties were considered during the economic analysis. In this process, the traffic analysis and forecasts, upgrading/ improvement options, as well as the input parameters and economic evaluation using HDM 4, comparing the "With" and "Without" project cases had been reviewed in accordance with acceptable professional standards. The review has given more emphasis to the sections between Marich Pass – Lodwar and Lodwar –Nadapal/Nakodok, which have relatively lower traffic and the existing road condition is by far poor compared to the section between Lesseru – Marich Pass.

Basic Assumptions of the Feasibility Studies

62. **Marich Pass – Lodwar Road Improvement Project**

(a) Trends in GDP, Population and GDP per capita, were analyzed to serve as a basis to establish traffic growth rates for the "with" and "without" project scenarios for "Low" "Medium" and "High". GDP growth scenarios, for different vehicle categories.

(b) Demand elasticity for private vehicle trips, public transport and commercial freight traffic were applied.

(c) Origin – Destination surveys for a Traffic Assignment Model under the "With" and "Without" project scenarios, to determine route preference for diverted traffic were used.

(d) Generated traffic associated with induced additional travel due to reduction in transport cost had also been forecast.

63. **Lodwar – Lokichogio – Nadapal / Nadok Road Improvement Project**

(a) Traffic growth was estimated for the two road sections (Lodwar to Lokichogio and Lokichogio – Nadapal), for a period of ten years after completion of the project and a more general future projection for 10 years thereafter, over a total project life (design period) of twenty years, considering three scenarios, "low", "medium" and "high", for normal, diverted, generated traffic.

(b) The LAPSSET traffic was not considered as new traffic to avoid double counting.

(c) The most important generated traffic considered by the feasibility study was the traffic originating from the cement plant located at Pokot (cemetechsanghi). First phase production is estimated at 600,000 tons per year and reaching about 1.2 million tons per year. It is assumed that all of the cement will be hauled to South Sudan, generating about 40 to 55 truck trips per day.

(d) Converted/induced generated traffic from non-motorized to motorized traffic was estimated and projected.

Comparative Assessment of the Economic Evaluation of the Two Road Sections

64. The feasibility studies for Nadapal-Lodwar and Lodwar-Marich Pass applied an acceptable standard method in establishing the economic viability, within the broad framework of Cost Benefit Analysis using the Highway Development Management Model (HDM-4).

65. The two consulting firms appropriately made comparisons of improvements, with varying analytical rigor, in specifically selecting an optimum standard on the basis of highest returns. In general, both consultants adopted the following approach:

(a) Marking comparisons of the "With" and "Without" Options – in accordance with incremental net benefit arising from project road improvements. In the case of the Marich Pass – Lodwar, however, there was no "Without" maintenance costs as the consultant noted that lack of maintenance and the deterioration of the pavement from bituminous to gravel and from gravel to earth is the reason for the proposed road improvement project.

(b) Identifying the costs and benefits and determining their economic values.

(c) Project costs included the resource costs of road improvement and maintenance. Capital costs of improvement have been based on engineers cost estimate and unit cost analysis for the intervention options.

(d) For both projects economic feasibility studies, the main sources of benefits will be from (i) savings in vehicle operating costs (VOCs) for normal, generated and diverted traffic, (ii) time savings for passengers and cargo delay, and (iii) savings in maintenance costs for only one of the project roads (Lodwar – Lokichgio – Nadapol). While time values for passengers in different categories of vehicles have been estimated based on employment and income distribution, and average value of cargo and time, using ongoing market rate of interest.

(e) The number of vehicle classes is generally about the same, with ten for the Marich Pass- Lodwar road improvement project and only nine for the Lodwar – Nadapal road improvement project. Motorcycles are included in vehicle classes.

(f) While both consultants for Lodwar - Marich Pass and Lodwar Ndapal/Nakodok stated that they used updated VOC parameters, there are marked differences in basic inputs such as annual kilometers covered, and economic prices of vehicles, replacement tire, fuel, maintenance labor, etc.

Cost Estimates

66. The latest cost estimates provided by the consultants, which are based on the final design and current market prices, were applied for the economic re-evaluation. The financial cost estimates, inclusive of taxes, based on the updated design bill of quantities and the current market rates are shown in Table 5.13

Table 5.13 Upgrading Cost Estimates

Road Section	Length (km)	Total Cost ('000 USD)	Cost/km ('000 USD)
Nadapal/Nakodok – Lodwar Road			
Section 1(Lodwar to Lokitaung Junction)	80	81,760	1,022
Section 2 (Lokitaung Junction to Kalobeyei Bridge)	80	93,120	1,164
Section 3 (Kalobeyei Bridge to Nakidok	88	93,278	1,059
Total	**248**	**268,158**	**1,080**
Lodwar - Marich Pass Road			
Section 1(Marich Pass to Kainuk)	29.35	45,055	1,499
Section 2 (Kainuk to Lokichar)	80.77	111,358	1,379
Section 3 &4 (Lokichar to Lodwar and Lodwar town section)	86.88	128,503	1,480
Total	**197.0**	**284,916**	**1,466**
Lesseru – Marich Pass Road			
Section 1(Lesseru – Morokwijit)	81	88,238	1,089
Section 2 (Morokwijit – Marich Pass)	82	120,230	1,466
Total	163	208,468	1,279

Economic Re-evaluation Results

67. The review of the Economic analysis has been done using the Highway Development and Management (HDM-4 Model, version 2.08). The analysis period is 20 years for the whole road projects. A discount rate of 12 percent was applied which is consistent with the opportunity cost of capital in Kenya. A standard conversion factor of 0.80 was used.

68. The base sensitivity scenario analysis was done using the medium traffic growth rates and the engineers cost estimate. The sensitivity analysis was done considering 20 percent traffic reduction and 20 percent cost increase. A summary of the results of the economic re-evaluation is presented in Table 5.14.

Table 5.14: HDM-4 Re-evaluation Analysis Results for Base sensitivity scenario and Sensitivity Analysis

Road Section	Base Case Scenario		Sensitivity Analysis	
	NPV (US$ millions)	EIRR (%)	NPV (US$ millions)	EIRR (%)
Lesseru – Marichpass	373.6	39.7	289.3	31.6
Marich Pass – Lodwar	46.8	15.1	19.1	13.1
Lodwar –Nadapal/Nakodok	84.1	19.4	19.9	14.3

Annex 6: Background on ICT Projects

1. **Three phases of IDA credits for Kenya ICT Project**. In 2007, the World Bank ICT unit engaged with the Kenya Ministry of ICT about an IDA credit for Kenya Transparency and Communication Infrastructure Project (KTCIP) under the Regional Communications Infrastructure Program (RCIP) SOP1[21]. RCIP SOP1 included three participating countries – Kenya, Burundi and Madagascar, with a credit to Kenya in the amount of US$114.4 million (Credit No. 4284-KE). A US$30 million credit in Madagascar (that was later reduced to US$15 million following the political crisis) and a US$20.1 million grant to Burundi. The combined project was approved by the Board on March 29, 2007. A first additional financing (AFI) was approved by the Board in March 2012 in the amount of US$55.1 million (Credit 5092-KE), followed by a second additional financing (AF2) that was approved by the Board on March 26, 2014 in the amount of US$30 million (credit 5408-KE). Both AF1 and AF2 pertain only to activities in Kenya. The closing date for the original project and AF1 and AF2 is December 31, 2016.

2. **Implementation of the first phase of RCIP.** Ratings for the overall RCIP1 project on progress towards the PDO and implementation are currently Moderately Satisfactory, but these reflect the performance of the Madagascar and Burundi which have been suffering significant delays. Implementation of the Kenya component of RCIP 1 has accelerated over the last few years, particularly following the project restructurings that allowed for increased technical assistance to support implementation of the project.

3. **The recently approved second additional financing.** The AF2 aligns with plans for transformation within Kenya's political governance system under Vision 2030, which aims to "create transparent, accountable, ethical and results-oriented government institutions". While the re-engineered Kenya Integrated Financial Management Information System (KIFMIS) and eGovernment services funded under AF1 specifically support the government's strategy of "promoting results-based management within the public service" and "encouraging public access to information and data", AF2 is used for complementing existing project activities and enabling the Kenyan National Government to work closely with county governments to enhance ICT reforms.

4. Specifically, the funding will carry out the following activities:

   (a) For Nairobi City County – the funding will assist with the development and rollout of the Integrated County Management (ICM) Tool which will have functionality for revenue collection, revenue management and other related features, but which do not duplicate any functionalities of the existing IFMIS; the second application is the Unified Communications System (UCS).

   (b) For two counties – the funding will assist in the development of ICT roadmaps, and the development and rollout of the ICM Tool for revenue collection and

[21] The project was previously presented as an adaptable program loan (APL) to the Executive Directors and was approved on May 23, 2008. The project then added a first additional financing which was approved on May 4, 2012.

management and two other applications which are not included in the IFMIS program.

(c) For 44 Counties – the funding will assist in the development of ICT roadmaps.

5. **The rating of the RCIP was satisfactory in March 2014**. The project in Madagascar has been restructured with a partial cancellation of funds, so that those funds could be reallocated, within the portfolio, to projects covering emergency areas. Project implementation is now back on track, and the project has committed 85 percent of project funds and the main contracts are progressing well. In Burundi, the main project component is the development of a backbone network through a PPP, which is 80 percent completed and is already delivering connectivity to fiber in Bujumbura at much reduced rates. Fiduciary ratings, including financial management and procurement, were satisfactory.

6. **Key results achieved through KTCIP (original and first additional financing).** For the Kenya credits progress toward the targets of the project indicators is moderately successful. Key achievements over the last few months/years under the different thematic areas include:

(a) **Digital inclusion:** The project has connected government[22] as well as up to 56 university institutions (through the Kenya Education Network Trust/KENET) to high speed internet, with the international connectivity through submarine fiber to be available for the next 20 years, and is also supporting establishment of a Network Operating Center (NOC). It has successfully completed the Computers for the Community program (branded *Wezesha*) an initiative to support up to 17,000 university students to buy their own laptops. It has also launched the Digital Villages Program, having attributed so far the first 37 Digital Villages/Pasha centers loans[23].

(b) **Content:** The project has supported development of a number of content applications, for example the Kenya Films Board, and organized two rounds of financing for content development for the government information portal (also supported through the project) and the private sector (a program branded *Tandaa*)[24].

(c) **eGovernment applications.** The project has supported digitization of Company Registry (25 million records scanned) and of the High Court Registry (30 million records scanned), reducing time pressures on the legal system. The project has also digitized the Citizen Registry Database (CRD, or Birth and Death Registry), along with installing the application that went with it – this application has formed the basis for many others needing a clean population database.

[22] Previously, government computers were sharing a 0.5 Mb link, but due to the project a capacity of 80 Mb has been procured, which increases the available bandwidth by 46 times. Each megabit is now 5.4 times cheaper. The GoK's own network connecting government buildings (GCCN) and a data center (GDC), means the resources can now be shared amongst more institutions. The savings in the first year were in the order of US$10m (reducing communications expenses from US$26m to US$16m per year).

[23] The loans are destined to provide financing for entrepreneurs to set up digital access centers throughout the country through a revolving fund mechanism. Experience to date is mixed, and the project team is working on several measures to address the weaknesses.

[24] Content grants have been awarded in different areas, from development of digital content for TV, online applications for asking health questions, online e-learning portals, farmer mobile banking services, mobile phone utilities for the blind, etc.

(d) **Shared Services:** The Government developed a conceptual framework for a shared services approach to delivery of eGovernment services to increase efficiencies, avoid duplication, and save costs. Through business process re-engineering efforts, all processes have been remapped to identify common elements, which is the basis for shared services implementation. The project is also financing technical assistance for the Kenyatta National Hospital (KNH) to establish an information system for patient record management and resources for the hospital. Through AF1, the project supported the rollout of IFMIS to the county level. The IFMIS System was upgraded in February 2013 to a new software release including additional functionalities in national and county governments respectively with more robust workflows and analytical reporting capabilities.

(e) The project is supporting all systems integration work, as well as strategic advisory services to government on the rollout and change management associated with the system. Furthermore the project has funded initial emergency connectivity (which now needs to be upgraded to a more permanent solution) for all users including the counties to be able to connect to the system, as well as the end-user devices for users to be able to access the system. The project is also financing technical assistance on PFM, to strengthen the institutions that will now be able to benefit from an improved system. The new system is enabling government to more efficiently and transparently manage its finances in a paperless environment, with possibilities for improved audit trails. The current IFMIS system is being rolled out to the counties – and the objective is for IFMIS to interface with the ICM tool for revenue collection application in those counties where it will be installed.

(f) **Public Key Infrastructure (PKI):** The project has now installed PKI[25] infrastructure at the Communications Authority of Kenya (CAK), which will act as the root server. This infrastructure has been up and running since October 2013. It has been integrated into the KRA systems so that it can be used to identify and authenticate users electronically, with the potential to significantly reduce fraud.

(g) **Business Process Outsourcing (BPO)/ and IT-Enabled Services (ITES) support:** Finally, a number of skills-related initiatives in support of the Business Process Outsourcing (BPO) and IT-enabled Services (ITES) industry were introduced during the February 2010 restructuring: (i) an initiative, in association with Carnegie Mellon University has established and delivered a Software Developer Certification, and, (ii) a Center of Excellence for BPO has been established, curriculum developed, and the program is now being expanded through partnership with the private sector and other institutions. These initiatives will benefit ICT developers and entrepreneurs who can now obtain information on state of the art practices in software development, and who can join the ranks of the professionally recognized developers once accredited.

[25] Public-Key Infrastructure (PKI) is a set of hardware, software, people, policies and procedures needed to create, manage, distribute, use, store and revoke digital certificates.

7. **Major milestones on-going in KTCIP.** Over the remaining implementation period, the project is establishing a Transport Information Management System (TIMS), a second phase for Company Registry, and an on-line business registry (eBusiness registry). It is also supporting the digitization of Kenya News Agency (KNA) making a whole collection of Kenya's historic and cultural patrimony since independence available on a public online platform that will also support purchase of such materials. In addition, the project is providing support for scaling up the Open Data initiative and to continue implementation of IFMIS and the shared services platform. Finally, the project will move towards implementation of the IT business incubator, which will promote innovation and entrepreneurs in developing web-enabled businesses.

8. **Motivation for the second additional financing.** The government of Kenya has recently promulgated a new constitution, in which 47 counties have been created. Together with recent elections, this presents the country with a unique prospect to improve governance, transparency and citizen inclusion. Partnering with the World Bank at this critical juncture enables the Bank to respond to this opportunity in a holistic, timely, and thoughtful way.

9. Furthermore, in parallel with the implementation of the remaining activities under the original credit, and those undertaken under AF1, the government would like to take advantage of the team that is in place on the client side and the implementation momentum achieved to extend the scope of selected project activities that complement what has already been done. These activities will primarily contribute to the increased transparency and efficiency in eGovernment services development objective at the county level.

10. Government has requested that these activities be implemented through an additional financing to KTCIP because they would be both incremental and deepening to existing activities in the project. They will also help establish elements of good governance in the new county structures and the interaction between county and central government.

11. **Implementation Arrangements -- ICT Authority:** The ICT Board has been the original implementing agency for the project responsible for overall coordination and for ensuring fiduciary compliance, including procurement and financial management. The ICT Board has been merged with E-Government and Government Information Technology Services (GITS) to form the Information Communication and Technology Authority (also called ICT Authority or ICTA). All activities under the original financing and AF1 are currently already either being led or taken forward with the key participation of the ICTA. ICTA's Board acts as the Project Governance Oversight Committee for the project (PGOC) and has continued to work with other partners in the implementation of specific components in the project. The AF1 mostly kept the same implementation arrangements of the original financing, with one adaptation: given the strategic importance of IFMIS, and the fact that its implementation actually went much beyond the KTCIP AF project scope, an IFMIS steering committee[26] guides implementation of those activities and one of its representatives sits in the PGOC.

[26] IFMIS ***Steering Committee members***: Cabinet Secretary, National Treasury (Chair); Cabinet Secretary, Ministry of Devolution and Planning; Principal Secretary, National Treasury; CBK Governor; KRA Commissioner General; Financial Secretary; Auditor General; Economic Secretary; Director, IFMIS Department

12. With the introduction of the additional activities under AF2, the initial implementation structure has been kept, again with one adaption. The Steering Committee (SC) comprises the PS of the relevant ministries, relevant accounting officers and representatives from governors (ICT Secretary). The SC has been guiding implementation of activities in the counties and a representative from this group sits in the PGOC. The SC can co-opt other members as needed.

13. ICTA continues to manage the procurement and financial management functions for the whole project, including the AF2 activities. Preparation of procurement documents (i.e., Bidding and Request for Proposals), for example, is the responsibility of ICTA but with technical input from the counties.

14. Similarly, the ICT Component on building fiber optic cables along the road with US$25 million under South Sudan – Eastern Africa Regional Transport, Trade and Development Facilitation Project (Second Phase of Program) will have a similar arrangement as the original KTCIP, AF1 and AF2, where ICTA will be responsible to manage from technical design, project implementation, to preparation of procurement documents. In the meantime, ICTA will also coordinate with both the Ministry of Telecommunication and Postal Services of South Sudan to ensure design and architecture consistency and Kenya Authorities under the MoTI, such as KeNHA, KeRRA, KURA, and other relevant Authorities and organizations.

Annex 7: Background on the Juba-Eldoret Corridor and Turkana Area

A. Regional and Country Context

1. The Eastern Africa sub-region comprising Kenya, Uganda, Tanzania, Burundi, Rwanda, Ethiopia, eastern Democratic Republic of Congo, and South Sudan recorded an average annual economic growth rate of about 5 percent over the last decade. The sub-region is potentially a large regional market of over 200 million people. However, it remains one of the poorest and furthermore, the Eastern Africa sub-region includes the most populous landlocked country (Ethiopia) in the world, the newly born natural resource endowed landlocked country South Sudan, and eastern part of one of the largest countries in Africa (Democratic Republic of Congo). This sub-region is much influenced by developments in Sudan and Djibouti. Relatively poor transport links among these countries, the less than satisfactory performance of the ports of Mombasa and Dar-es-Salaam and other related constraints to the movement of goods and people, impede access to intra and inter regional markets and contribute to the under development in the sub-region.

2. Recent studies on trade flows within Eastern Africa show that Uganda is the largest market for Kenyan exports, accounting for over 60 percent of total exports within the EAC, while Tanzania is the largest exporter to Kenya accounting for 65 percent of its total exports within EAC. Kenya is the largest market for Uganda exports within EAC followed by Rwanda. While on the basis of export destinations by country, Uganda accounts for about 34 percent of Kenyan exports, United Kingdom 29 percent, Tanzania 22 percent, and South Sudan 12 percent among others. The discovery of commercial quantities of oil in Uganda and northern Kenya could change these proportions given that petroleum products comprise a significant portion of the Kenyan exports to Uganda. Regional trade has been enhanced with the establishment of the EAC. An efficient transport network within EAC block and links with its neighbors is crucial for the promotion of regional integration. Uganda is a major trade partner to South Sudan. However, trade between Ethiopia and South Sudan as well as Uganda is restricted due to lack of transport access. This program targets enhancing trade among South Sudan, Uganda, Ethiopia and Kenya, as well as the surrounding regions and the international market. Nadapal area is the confluence of the three landlocked countries and coastal Kenya, which forms an economic quadrangle that stimulates growth and trade.

3. The various regional economic cooperation blocks, i.e. Common Market for Eastern and Southern Africa (COMESA), Southern Africa Development Community (SADC) and EAC, have put in place the essential conditions for increased intra-regional trade and co-operation. For example, the EAC's transport agenda puts a lot of emphasis on creating trade corridors without borders and barriers and on facilitating trade and promoting economic integration throughout the sub-region. The sub-region is part of a major regional market, including the three economic blocks (EAC-COMESA-SADC), with a combined GDP of approximately US$1,096[27] billion, and population of roughly 590 million in 2011. Of the three regional blocks, SADC is the economic "giant", with a total GDP of US$644 billion in 2011, followed by COMESA with a

[27] World Bank Data Bank, Countries and Economies, 2011

combined GDP of US$518[28] billion in 2011. The GDP for EAC countries in 2011 was estimated to be about US$95 billion and it has grown to US$109 billion in 2013. Kenya's GDP was estimated at US$44.1[29] billion in 2013 (after the rebasing of the GDP was estimated at US$55.3 billion in 2014).

B. Sectoral and Institutional Context

Transport Infrastructure

4. The transport environment exhibits the relatively poor condition of the transport infrastructure, high cost of fuel, high logistical costs and other barriers such as market entry restrictions, customs regulations and informal cartels along the regional transport corridors of South Sudan and limited competition in the trucking industry. Promotion of increased trade and sustained economic growth require modern regional infrastructure including effective and efficient transport services, and improvement of regional environment for investment, business, trade and movement of people. A study by the World Bank, "Africa Infrastructure Country Diagnostic" notes that infrastructure deficit is holding back per capita economic growth in Africa by two percentage points per year and reducing productivity of firms by as much as 40 percent.

Regional Corridors

5. The AU/NEPAD integration initiative has emphasized connecting neighboring countries and sub-regions through the construction of missing transport and ICT links. The initiative facilitates the completion of the missing or unreliable parts of the road network in the sub-region that connects to the trans-African highways, countries and major economic and settlement centers, and supporting transport and trade facilitation action plans promoted by the transit transport coordination groups and regional economic communities. In addition, the initiative promotes economic development along the regional corridors to take advantage of the transport infrastructure and trade facilitation measures. The major trans-African corridors include the great eastern Africa highway stretching from Cairo to Cape Town connecting many of the eastern and southern African countries; Djibouti – Dakar, and Mombasa-Goma (Eastern DRC) – Dakar highways connecting eastern, central and western African countries.

6. The great eastern Africa highway is nearly complete, except the missing link between Moyale (border of Ethiopia and Kenya) and Isolo, northern Kenya, which is under construction. The east-west corridors are developed on both ends, but the challenge is to complete the missing links crossing central African countries, in particular the link from Goma (DRC) to Burkina Faso crossing Central African Republic and Niger; and the link from Ndjamena (Chad) to Bamako (Mali) crossing Niger. There is also a proposal to link Djibouti /Port Sudan – to Dakar by rail, but closing the gap in the existing rail network, in particular, crossing the Sahel countries is a major challenge. NEPAD/AU and regional economic communities are also promoting sub-regional corridors, inter alia Kampala-Juba-Addis; Juba-Eldoret-Musoma (Tanzania)-Lusaka;

[28] The estimate includes the GDP of the seven countries common to SADAC and COMESA, in the amount of about US$66.7 billion

[29] World Bank (2013) - World Development Indicators.

and the Great Lake (Lake Victoria) circuit, which are essential for enhancing trade and economic growth in the sub-region this program is targeting.

7. Eastern Africa is served by two main transit transport corridors, namely (a) the Northern Corridor that connects the port of Mombasa to Nairobi, Kampala, Kigali, Bujumbura and Eastern DRC with branches to Lake Victoria, Sudan, Ethiopia and Tanzania; and (b) the Central Corridor that connects the port of Dar-es-Salaam to Kampala with branches to Kigali, Bujumbura, Lusaka and DRC. The two corridors serve the landlocked countries of Rwanda, Uganda, and Burundi, and are strategically located to serve other countries including Ethiopia, South Sudan, DRC, Malawi and Zambia once the existing bottlenecks that limit or prevent any transit trade traffic between East, West and Southern Africa (the north-south link between the Central and Northern Corridors) are removed. The major challenge in enhancing interconnectivity and trade in the countries in the target sub-region is related to trade facilitation and the state of the road network, which is either in poor condition or missing, in particular the routes connecting Juba to Eldoret along the northern corridor via Nadapal (border between South Sudan and Kenya) and the Kampala-Juba-Addis corridor which shares the major part of the Juba-Nadapal road, as well as the Boma (border between Ethiopia and South Sudan)-Lobira-Kitgum (Uganda) links.

8. The regional link roads closer to the borders of South Sudan are missing or traffic has to rely on unreliable earth road. The traditional trade routes[30] between Sudan and South Sudan are currently not accessible due to insecurity and conflict. Moreover, the distance is prohibitive to the use of north-south routes as import – export corridor, and South Sudan relies on Mombasa Port and striving to open access to Djibouti Port. The new port development initiative at Lamu, in Kenya is emerging as a competitive port in the region and future road links will be influenced in creating shorter access to this port.

Modal Split

9. These transport corridors are multi modal, comprising of road, railway, inland waterways, and oil pipeline in Kenya. The bottlenecks include missing links both over land and inland waterways.

10. *Road Infrastructure.* The transport system in the region is dominated by road transport, except the few rail links connecting Mombasa to Kampala and Djibouti to Addis. The eastern neighboring countries of South Sudan have in place arterial roads connecting different parts of their hinterlands. The classified road network size in Kenya, Ethiopia, Uganda, Sudan and South Sudan is about 160,886 km, 104,556km, 48,662 km, 31,000 km and 17,000 km, respectively. The road network size in the sub-region by category is presented below in Table 7.1.

[30] The north south links between Sudan and South Sudan (the rail line to Wau (north west of South Sudan), river transport between Kosti and Juba, crossing Malakal, and the dry weather road corridor crossing the conflict affected area of Abiyie)

Table 7.1: Road Network Size in the Sub-region

Road Category	Kenya	Ethiopia	Uganda	Sudan	South Sudan
Primary/National Roads	13,687	22,431	20,562	6,700	4,000
Secondary and Tertiary	134,650	77,567[31]	22,500[32]	24,300	13,000
Urban Roads	12,549	4,556	5,600	No Data	No Data
Total	160,886	104,556	48,662	31,000	17,000

11. *Railways.* The Kenya-Uganda railway line accounts for less than 6 percent of the cargo shipped overland in East Africa. The performance of the railways has been particularly poor in recent times despite being concessioned to the private sector. The concession has been facing severe challenges which threatened its existence due to underperformance and failure to meet agreed performance targets. The Kenya-Uganda Railway concession has been restructured bringing in new investors and injecting fresh capital into the venture, and its performance is expected to improve in the short term. The rail line connecting Mombasa – Nairobi and Kampala branches out at Tororo/Malaba (border between Kenya and Uganda) and links Soroti-Lira-Gulu (in Uganda about 100 km from the border of South Sudan). However, this route has been neglected for years and requires major rehabilitation to provide service. Nonetheless, one of the future rail line links between South Sudan and the East African railways network is the extension of Port Sudan – Wau (North West of South Sudan) railways, which passes through Juba and Gulu and merges with the currently operational rail line at Tororo. There is also a proposal to rehabilitate the Tororo-Gulu rail line and develop a dry port at Gulu to serve South Sudan. Ethiopia has a rail line link between Djibouti and Addis, which is currently under upgrading. There is also a plan to extend this line to Omorate, in Ethiopia, about 50 km away from the border of South Sudan, which could be linked to the Nadapal corridor at Narus. The future rail link between Djibouti and Omorate will follow the road corridor, which constitutes the Djibouti Mojo section (about 700 km) and Mojo-Arbaminch-Omorate section (about 680 km).

12. *Inland waterways.* The River Nile is navigable all season, although, currently the section Juba to Kosti (in Sudan) is in use by old fleets inherited by a private company from the former Sudan Inland River Navigation Corporation. The river ports that serve Juba, Bore, and Malakal are not well developed and there is no adequate navigation aid. The Juba-Kosti reach also require spot dredging to allow safe passage of barges. Sobat River linking Gambella (in Ethiopia) and Malakal (in South Sudan) is navigable for most of the year, but not often used by commercial fleets. In the region, Lake Victoria is widely used to transport goods and people in the great region area. Transshipment from the pipeline and rail line connecting Mombasa to Kisumu (in Kenya) to the great lake countries is an attractive option of transport of goods. The Lake Victoria circuit is also linked to Dar-es-Salaam Port by road and rail line and this is one option for linking South Sudan to Tanzania and Dar Port, via the Eldoret/Kisumu and Musoma corridor.

13. *Oil pipeline.* An oil pipeline connects Mombasa to Eldoret and Kisumu (Lake Port) in Western Kenya which serves the East African countries. The pipeline provides transport services at competitive prices and decongests the busiest part of the Northern Corridor over and above keeping off the heavy tankers carrying inflammable petroleum products on the roads. Due

[31] In additional about 50,000 km of unclassified roads are developed and maintained by local communities (districts)
[32] Exclusive of community access roads estimate at about 30,000 km

to increased demand for petroleum products in the region, the pipeline is facing capacity constraints. The discovery of oil in Uganda makes this mode of transport even more important in the region.

14. The key features of the main corridors are summarized in Table 7.2.

Table 7.2 Key Features of the Main Corridors

Designation of Corridor	Distance from Juba to sea port (Km)	Specific features
Nimule one/Kampala	1,820	Two transit regime; road, rail, pipeline link
Nimule two/Soroti	1,630	Two transit regime; road, rail, pipeline link
Nadapal[33]	1,745	One transit regime; road, rail, pipeline link
Boma	1,900	Two transit regime; road, rail link
Omorate	1,750	Two transit regime; road, rail link
Lobira	1,600	Two transit regime; road, rail, pipeline link
Kaya	1,950	Two transit regime; road, rail, pipeline link
Port Sudan-West/Wau	2,900	One transit regime; rail , road link
Port Sudan-Nile/Malakal	2,500	One transit regime; river, road, rail link
Gambella-Bore-Juba	1,800	Two transit regime; river, road ,rail link

Trade and logistics

15. The trade flow in eastern Africa is dominated by imports, which represents about 80[34] percent of the total trade volume, while export trade constitutes only about 20 percent. An assessment[35] carried out for identifying the development potentials along the regional corridors in eastern and southern Africa show that the exportable items from the region are limited and focused on mining products, including export of oil from South Sudan.

Table 7.3: Exports from Africa

Source/Location	Commodity	Mode	Existing Volumes	New/ Additional Annual Production (tons)
Northern Uganda	Oil - Crude	Road and rail	none	100,000 bbl day = 4.7 million tpa
Malawi/ Zambia	Tobacco	Road /road	180,000	50,000
Mozambique	Agriculture/Forestry	Road/	Nominal export	assume 500,000 tpa
Mozambique	Sugar	Rail, barge	100,000 tpa est.	150,000 tpa est.
Zambia	Copper	Road /rail	800,000 tpa	400,000 tpa
DRC Copper belt	Copper	Rail road	50,000 tpa	200,000 tpa
Eastern DRC	Iron Ore	Rail	non	up to 50 million tpa
Zambia /Lusaka	Agriculture	Road/ air	50,000 tpa	100,000 tpa

[33] The Lamu port, which spurs at about 400 km away from Nadapal and make the distance between Juba and the Port about 1,600 km.
[34] Trade Mark East Africa, presentation to the Juba-Eldoret road financing donors' consultative meeting, Nairobi, January 2013.
[35] Nathan Associates, Definition and Investment Strategy for a Core Strategic Transport Network for Eastern and Southern Africa, Volime 3 Regional Transport Model Report, October 2011.

Source/Location	Commodity	Mode	Existing Volumes	New/ Additional Annual Production (tons)
region				
Southern Sudan	Oil	Pipeline	Assume 5 mtpa	Assume 10 million tpa
Mozambique	Sugar	Rail/ barge	150,000 tpa est.	150,000 tpa est.
Zimbabwe	Copper	Rail	none	2.5 mill tpa
Burundi/Tanzania	Nickel	Rail /road	none	Assume 0.7 mtpa

16. South Sudan imports basic consumables from Kenya, which is the region's largest consumable product producer. Agricultural and consumable goods are also imported from Uganda. Trading between South Sudan and Ethiopia is limited to the northern part of South Sudan as there is no reliable road link to the more populous southern and central parts of South Sudan. Trade between Sudan and South Sudan is at its historical low level due to the conflict, but as the situation normalizes, cross-border trade is expected to rise.

17. The National Bureau of Statistics (NBS) released preliminary estimates of South Sudan's GDP to be US$13.2 billion for 2010. Export was US$9.5 billion or 72 percent of the GDP while import was US$5.3 billion or 40 percent of GDP. Non-oil domestic production was US$3.7 billion or 28 percent of GDP of which agriculture accounts about US$1.6 billion or (12.7 percent). The balance, US$2 billion or (15.3 percent) represented GDP share of the remaining sectors. Oil was and will be for some time the main export, and was transported using the pipeline via Port Sudan. However, imports are brought from the neighboring countries, and overseas via Port Sudan, Mombasa and from the neighboring countries mainly by road. Trade between South Sudan and Uganda, in agricultural produce and building materials, etc. reached as high as US$1 billion, in 2008. This translates into a total import of 5,341,000 tons[36]. In 2008, the KPA revealed that South Sudan was the third largest user of the Mombasa Port with 6.4 million tons of items imported through Mombasa. KPA further stated that the overall shipment this same year amounted to 19.1 million tons. Apparently, the total does not include border trade with Kenya, Uganda, DRC, CAR, Sudan, and Ethiopia. According to the IMF's estimate, South Sudan's imports in 2010 were about US$5.5 billion, while this has reduced to US$3.5 to US$5 billion in 2011, largely as a result of the sharp decline in trade with Sudan after independence.

18. A summary of the Import –Export flows of the countries in the Eastern Africa is presented in Table 7.4.

Table 7.4: Import – Export Volumes in the Sub-region Countries - Eastern Africa

	2002 ('000s tons)	2006	2009	Annual growth
Imports				
Container + general cargo, dry + bulk cargo	7,844	11,846	16,507	11.2%
Transit cargo	1,875	4,347	3,612	13.7%
Exports				
Container + general cargo, dry + bulk cargo	2,380	2,255	2,450	0.4%

[36]Asebe, 2012, South Sudan logistics and trade bottlenecks supported by the World Bank

	2002 ('000s tons)	2006	2009	Annual growth
Transit cargo[1]	340	335	368	1.1%
Total –imports+exports	10,240	14,101	18,957	9.2%
Container traffic (TEU)	305,427	479,355	618,816	10.6%
South Sudan				
Imports	92.8	130.0	155.7	9.7%
Exports	0.16	7.8	11.66	1007.8%

19. Customs clearance at border posts and road-blocks along the transit corridors are also challenges to be addressed as part of any regional transport and trade facilitation initiative and moreover these will be major factors for road users while selecting efficient corridors.

20. In the sub region, trade bottlenecks, which add costs, delays, and lack of reliability to the supply chain principally involve infrastructure fragmentations or a complex transit regime, arising among others from lack of trust or harmonization of trade related documentary processes, which hinder door-to-door delivery as in developed countries. South Sudan faces more trade bottlenecks due to disconnected infrastructure, even by the standard of the other developing countries in the sub-region. The trade bottlenecks arise because the supply chain of traded goods, both behind the border and along the transit corridors, rely on an extended sequencing of discrete operations, with many procedures, agencies and services, all prone to rent-seeking and over regulation[37].

21. As the LPI--estimated by the World Bank--shows, Kenya has been improving in terms of logistic performance since 2007. Kenya's overall index was 2.81 out of 5 (best performer) in 2014 becoming second place among the ten top performers of the sub group of low-income countries in the same year. Most of the improvement is because of the logistic infrastructure upgrading in recent years. Nevertheless, within the Index, the sub category of Customs has been losing position due to less efficiency in the clearance process (i.e. speed, simplicity and predictability of formalities) by border control agencies including customs. Table 7.5 presents the evolution of the overall LPI and the Customs sub category in 2007, 2010, 2012, and 2014.

Table 7.5: Kenya--Logistic Performance Index 2007-2014

Year	Overall LPI	Customs
2007	2.52	2.33
2010	2.59	2.17
2012	2.43	2.08
2014	2.81	1.96

Source: LPI World Bank.

[37] Arvis, 2011.

The Turkana and West Pokot area

22. The project area is largely a pastoral region; the constant movements of the pastoralists, coupled with high levels of poverty, have not permitted growth of an efficient market infrastructure for livestock and its products. The stronghold of the project areas economy is pastoral livestock production, which is a source of livelihood for over 60 percent of the inhabitants. Crop production is carried out along the Kerio and Turkwel rivers and on the arable flood plains and is both rain fed and irrigated. Main crops cultivated are maize, sorghum, beans and cassava. The development in the project area is constrained by an arid environment, remoteness and poor access to services, in addition to the underlying causes of poverty experienced elsewhere in Kenya.

23. The largest part of the project area comprise Turkana and West Pokot Counties. Turkana County, lies in the extreme northwest corner of Kenya covering of about 68,000 km^2 making it the largest county in Kenya. It is bordered by Uganda to the west, South Sudan and Ethiopia to the north and northeast, Lake Turkana to the east and to the south West Pokot County. According to the most recent 2009-population census report in Kenya, the Turkana population was 855,399, or 2.5 percent of the Kenyan population making the Turkana the second largest pastoral community in Kenya after the Maasai people. Of these, 52.1 percent were male and 48 percent were female.

24. Turkana County is the poorest county in Kenya, according to the KIHBS 2011/12 Basic Report. The county is highly marginalized geographically and historically. A few statistics from the KIHBS 2011/12 illustrate these points:

- The proportion of the rural population below the absolute poverty line was 49‘percent nationally and 94 percent in Turkana at the time of the survey.
- The percentage of the population 15 years and above who can read and write was 79% nationally and 19 percent in Turkana. Nationally, the figure for males was 85 percent and for females was 74 percent. In Turkana, the figure for males was 29 percent and the figure for females was 8 percent.
- Overall only 3% of Turkana County residents have a secondary level of education or above and a total of 15% of Turkana County residents have a primary level of education only.
- Immunization rates for children aged 12-23 months were equally revealing. 66 percent of children are fully immunized nationally, but the figure for Turkana is 34 percent. About 39 percent of residents use improved sources of water, with the rest relying on unimproved sources. There is no significant gender differential in use of improved sources with 38 percent of male headed households and 41percent in female headed households.
- Only 9 percent of residents use improved sanitation, while the rest use unimproved sanitation. Use of improved sanitation is almost similar by gender, with male headed households at 9 percent as compared with female headed households at 8 percent.
- Only about 400 km of the road network is paved and comprises entirely the portion of the section of the corridor identified for improvement under the project. This

particular road section has completely been destroyed due to lack of adequate maintenance. Nevertheless, the county has a network of 2,505 km of all categories of classified roads (A, B, C, D, E and special purpose roads) compared to a surface area of 68,000 km^2 translating to less than 0.04 km per km^2

25. Similarly, West Pokot County covers an area of approximately 9,169.4 km^2 stretching a distance of 132 km from North to South. The population of the county is estimated at 631,231 persons as per 2013 projections. This population consists of 313,746 males and 317,484 females giving sex ratio of 100:101. The county inter-censual growth rate is 5.2 percent, which is higher as compared with the national average of 3.0 percent. If current trends prevail, the county population is expected to grow to 700,414 and 771,180 in 2015 and 2017 respectively. It is also worth noting that the youth (aged 15-34 years), whose population estimate is 196,830, forms 31 percent of the County population.

26. The KIHBS 2011/12 Basic Report shows that:

- Literacy levels in the county stands at 40 percent.
- Only 6 percent of the residents have a secondary level of education or above while a total of 38 percent have a primary level of education only.
- Overall a total of 55 percent of the residents have no formal education.
- About 25 percent of residents use improved sources of water, with the rest relying on unimproved sources. There is no significant gender differential in use of improved sources as 25 percent of male-headed households and 26 percent in female-headed households use it.
- Gender inequality is a major challenge in the county. For instance, most women are confined to domestic chores and are mostly not involved in decision-making committees. Gender inequality is also manifest in education as there is poor parity in gender enrolment. The ratio of boys to girls in primary schools is 100:92 and 100:64 for secondary schools. The county will need to put in place strategies to empower women in decision-making.

27. In spite of the foregoing, recent discoveries of oil as well as sizeable underground water reservoirs in Turkana, would require creating a conducive environment within which these resources will be exploited. Key among them is improving access to transport services that will allow readily movement of people and goods; education, and creating income generating activities.

Annex 8: Map

AFRICA: Eastern Africa Regional Transport, Trade and Development Facilitation Project
(Second Phase of Program)