AFRICAN DEVELOPMENT BANK

KENYA

JOMO KENYATTA INTERNATIONAL AIRPORT (JKIA) AIRFIELD EXPANSION PROJECT - 2ND RUNWAY DEVELOPMENT

APPRAISAL REPORT

RDGE/PICU
November 2017

TABLE OF CONTENTS

Currency Equivalents

As of 30.8.2017

1 UA	=	1 SDR
1 UA	=	USD 1.4078
1 UA	=	KES 146.2810
1 UA	=	EUR 1.2004

Fiscal Year

Kenya: 1 July – 30 June

Weights and Measures

1 metric tonne	=	2,204 pounds (lbs)
1 kilogram (kg)	=	2.200 lbs
1 meter (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

Acronyms and Abbreviations

ADB	African Development Bank	KQ	Kenya Airways
ADF	African Development Fund	KWS	Kenya Wildlife Services
AFD	Agence Française de Développement	MTP	Medium Term Plan
AOC	Airport Operators Committee	NAVAIDS	Navigational Aids
ARFF	Aircraft Rescue and Firefighting	NEMA	National Environmental Management Authority
ATC	Air Traffic Control	NPV	Net Present Value
ATMs	Air Traffic Movements	OAG	Office of Auditor General
AVSEC	Aviation Security	OCB	Open Competitive Bidding
BDEV	Independent Development Evaluation	OHS	Occupational Health and Safety
CAT	Category Flight Conditions	PAP	Project Affected People
CBO	Community Based Organization	PCN	Project Concept Note
CPIA	Country Policy and Institutional Assessment	PCR	Project Completion Report
CSP	Country Strategy Paper	PICU	Transport Logistics & ICT Department
EAC	East African Community	PIT	Project Implementation Team
EASA	East African School of Aviation	POC	Project Oversight Committee
EIRR	Economic Internal Rate of Return	PWDs	Persons living With Disabilities
ESIA	Environmental and Social Impact	RAP	Resettlement Action Plan
ESMP	Environmental and Social Management	RETS	Rapid Exit Taxiways
EU	European Union	RMC	Regional Member Country
GDP	Gross Domestic Product	SDR	Standard Drawing Rate
GoK	Government of Kenya	TYS	Ten Year Strategy (2013-2022)
HIV/AIDS	Human Immuno Virus/Acquired Immune Deficiency Syndrome	STI	Sexually Transmitted Infection
IATA	International Air Transport Association	UA	Units of Account
ICAO	International Civil Aviation Organization	USD	United States Dollar
IFMIS	Integrated Financial Management Information System		
JICA	Japan International Cooperation Agency		
JKIA	Jomo Kenyatta International Airport		
KAA	Kenya Airports Authority		
KCAA	Kenya Civil Aviation Authority		

Loan Information

Client's information

BORROWER:	**REPUBLIC OF KENYA**
EXECUTING AGENCY:	**KENYA AIRPORTS AUTHORITY**

Financing plan

Source	Amount (USD) million	Instrument
ADB	160.00	Loan
Government of Kenya	29.60	Counterpart
TOTAL COST	**189.60**	

ADB's key financing information

Loan currency	USD
Loan type	Fully Flexible Loan
Tenor	Up to 25 years inclusive of Grace Period
Grace Period	Up to 8 years
Average Loan Maturity	Up to 16.75 years (weighted average time to repay the loan based the amortization profile)
Repayment	Up to 34 equal and consecutive semi-annual installments after Grace Period.
Interest Rate	Base Rate + Funding Cost Margin + Lending Margin + Maturity Premium.
Base Rate	Floating Base Rate (6-month USD LIBOR reset each 1st February and 1st August). A free option to fix the Base Rate is available
Funding Cost Margin	The Bank funding cost margin as determined each 1st January and 1st July and applied to the Base Rate each 1st February and 1st August.
Lending Margin	80 basis points (0.8%)
Maturity Premium	- 0% if Average Loan Maturity <= 12.75 years - 0.10% if 12.75< Average Loan Maturity <=15 - 0.20% if Average Loan Maturity >15 years
Front-end fees	0.25% of the total loan amount payable at the latest 30 calendar days from the date of signature of the loan agreement, and in any case before any disbursement of the Loan.

Timeframe - Main Milestones (expected)

Concept Note approval	June, 2017
Project approval by Bank	November, 2017
Loans Agreement Signing	January, 2018
Effectiveness	March, 2018
Last Disbursement	December, 2022
Last repayment	August 2038 (ADB)

PROJECT SUMMARY

Project Overview

1. The development of the 2nd Runway is informed by the JKIA Master Plan of 2010, and is in keeping with the development objectives and priorities of the Government of Kenya under Vision 2030 and the Bank's Hi-5s Strategy supporting projects aimed at enhancing economic efficiency, regional integration, and facilitating international trade. The project entails: (i) construction of a parallel, 2.35km apart, 4.9 km long runway and connecting Taxiways, equipped to CAT II capabilities; (ii) Firefighting unit and trucks; and (iii) construction of a berm planted with trees to reduce noise impact. Consulting services include: construction supervision, Monitoring & Evaluation, and Update of JKIA Master Plan and Formulation of national airport development strategy. Institutional Capacity Building shall involve: Airport Pavement Maintenance Planning Study and Training of KAA & KCAA staff; whereas Supply of Equipment will include: Modern ATC equipment, Ambulifts, Navigational Aids, and Meteorological systems. The project is estimated to cost USD 189.6 million, and is co-financed by the Bank Group (84.4%) and the GoK (15.6%). The construction period is 30 months. Beneficiaries include some 80 million people from Kenya and within East Africa directly served by the hub airport. Expanded airport infrastructure is envisaged to improve connectivity between Kenya and the World thereby facilitating high-value exports and imports, increase tourist earnings, and advance Kenya's economy towards a middle-income level.

Needs Assessment

2. The existing runway capacity at JKIA is nearing saturation at 89%, coupled with Government's international interconnectivity aspirations espoused under the draft MTP III (2018-2022) of Vision 2030, now necessitates a higher standard CAT II runway capable of facilitating transcontinental flights of larger Code F aircrafts. Consequently, in order to handle the anticipated growth in air traffic and bolster its status as an important hub, the GoK has decided to enhance airfield capacity, and to significantly strengthen the airport operational efficiency. The existing single runway is operating at CAT-I level with a width of 45m and 4.1 km long; the new higher capacity runway will support more air traffic and will facilitate increased tourism and business travel, expedite two-way cargo traffic, and inject resilience and on-time performance at the airport.

Bank's Added Value

3. The Bank has a strong comparative advantage based on its past experience in Kenya, the quality of the portfolio, shorter timelines in processing of project financing and the presence of the Bank in Nairobi, which has positioned it as a partner of choice in Kenya. Further, while the new facility can attract private sector funding owing to established revenue stream, the current funding commitments by KAA obtained for expansion and re-modelling of the old terminal facilities, limit KAA's ability to take up additional commercial credit supported by own balance sheet, hence the preference for public financing, as a means to incentivize the GoK to reduce direct aviation taxes to encourage market growth.

Knowledge Management

4. Under the project, a framework shall be established to assess the cumulative measures of noise and air quality. This shall enable KAA for instance, to publish aggregate contours annually to show airport's noise performance over time. JKIA shall then employ web applications to allow the public to have timely access to aircraft flight track and noise impact information. Similarly, findings of the project on viability of biofuels and wider economic impacts shall be shared widely as industry best practice.

JOMO KENYATTA INTERNATIONAL AIRPORT (JKIA) AIRFIELD EXPANSION PROJECT

RESULTS-BASED FRAMEWORK

Country and Project Name: Kenya/ Jomo Kenyatta International Airport (JKIA) Airfield Expansion Project
Purpose of the project: To Improve reliability of air transport to and from JKIA by reducing aircraft delays at peak hours and eliminating costly flight diversions arising from incidences on the existing runway

	RESULTS CHAIN	PERFORMANCE INDICATORS Indicator (including CSI)	 Baseline	 Target	MEANS OF VERIFICATION	RISKS/MITIGATION MEASURES
IMPACT	Contribute to economic growth through increased international trade flows & improved competitiveness of the aviation sector	- Volume of international trade via JKIA; and - Air Transport sub Sector contribution to GDP	• 231,000 tons in 2016; • 0.3% in 2016	- Freight flows via JKIA to increase to 289,000 tons by 2025; - Air transport contribution to growth in GDP to increase to 0.7% by 2025	- Customs statistics at KAA; - National Economic surveys	***Risk***: Poor governance related to misuse of project funds can increase project costs or lead to poor workmanship. ***Mitigation:*** the GoK has adopted e-procurement system to ensure procurement processes are transparent and less prone to manipulation. The use of IFMIS in all project implementation by the GoK is also expected to enhance accountability and ensure project funds are used for intended purposes. ***Risk***: Sustainability of results related to premature failure of newly constructed runway and/or failure to utilise new runway due to inadequate institutional capacity & non-compliance with Regulators' (ICAO & KCAA) requirements. ***Mitigation***: the project will provide a set of NAVAIDS; runway designs to be approved by regulator (KCAA) before implementation of works; and KAA staff to be trained on facilities management and maintenance under the project.
OUTCOMES	- Improved operational efficiency - Improved reliability of air travel - Improved strategic planning for future expansions, - Local jobs created, 30% targeting women	- Average Aircraft delays at peak hours; - Incident-related cancelled/diverted flights - Updated Strategic plans provided, - Number of jobs created for men and women	• 15minutes in 2016; • >5 events during 2011-2016 • N/A • N/A	• 4 Minutes in 2022 • Nil • Updated Strategic Plans for JKIA future expansions, • 500 jobs created at implementation (at least 30% for women) by 2022; 61,000 created in operation by 2052	Monthly traffic data by KCAA/KAA; Annual Monitoring & Evaluation surveys; and Study Reports.	
OUTPUTS	- Runway constructed complete with NAVAIDS and ARFF & trucks; - JKIA Master plan updated & Airport Development Strategy formulated; - KAA staff trained; - Monitoring and Evaluation & Technical Audit undertaken; - 5No. Ambulifts supplied to KAA; - Airport Pavement Management System installed and operational; - Gender, HIV/AIDS sensitization undertaken	- km of runway constructed; - Number of staff trained - Studies undertaken and reports produced - NAVAIDS, MET Systems, ARFF trucks, and ATC Equipment supplied and put to use	N/A N/A N/A	- By 2022, 4.9 km of runway constructed, 2500 indigenous trees planted, ATC tower is reconfigured, Firefighting station is built & Meteorological Station is set up; - by 2022, 50 KAA technical staff are trained, 25 to be women; - By 2019, reports are submitted - 500 staff sensitized, 250 to be women	- Monthly & Quarterly Progress, disbursement and financial reports & bi-annual Bank supervision reports - Project Handing-Over Certificate	***Risk***: Counterpart fund delays/ disbursement irregularity ***Mitigation***: The Bank to increase its share of funding on the project, while GoK to allocate sufficient counterpart funds towards the project and an undertaking to streamline disbursement processes to assure timely payments.

KEY ACTIVITIES

COMPONENTS

I. **Runway Construction Works** for the 2nd Runway including associated ancillary infrastructure (ARFF and Berm planted with trees. II. **Consultancy Services:** (Construction supervision; Update of JKIA Master Plan & Airport development Strategy; and Monitoring and Evaluation & Technical Audit Services. III. **Institutional Capacity Building**: Airport Pavement Maintenance Planning Study; and Training of KAA & KCAA staff. (IV) **Supply of Equipment**: Re-configuration of ATC; Supply and delivery of Ambulifts, Navigational Aids, Meteorological systems, and 5No ARFF trucks.

INPUTS

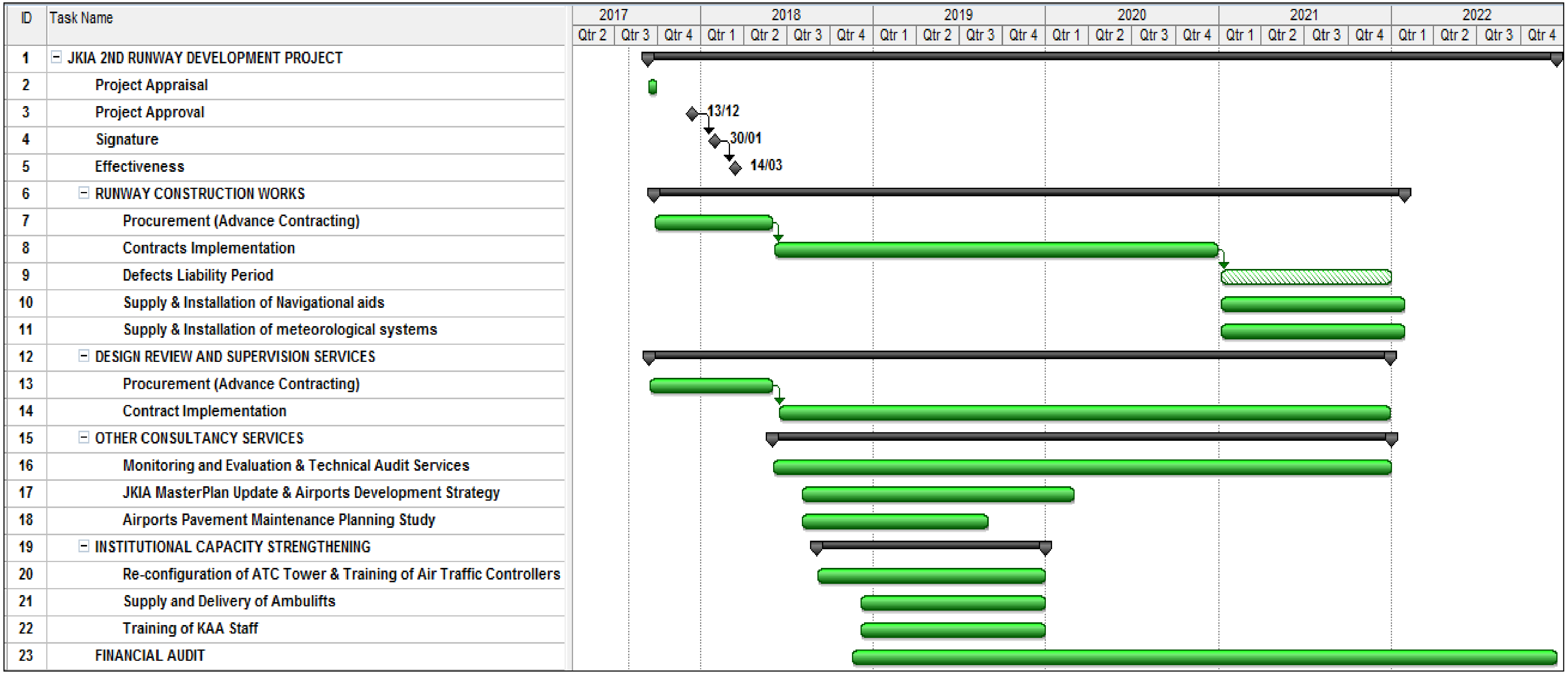
Civil works (UA 141.16 million); Consultancy services (UA8.95 million); Physical contingency (UA7.51 million); and Price contingency (UA 11.26 million). Total Project Cost = UA 168.88 million

Tentative Project Financing Plan (In Millions)

Source	Cost (USD)	Cost (KES)	% of Total
ADB (Loan)	160.00	16,625.60	84.4
GOK	29.60	3,075.74	15.6
Total	**189.60**	**19,701.34**	**100**

USD1.0 = KES 103.91, August 2017 Exchange rate

JOMO KENYATTA INTERNATIONAL AIRPORT (JKIA) AIRFIELD EXPANSION PROJECT
Indicative Project Time Frame



REPORT AND RECOMMENDATION OF THE MANAGEMENT OF THE ADB GROUP TO THE BOARD OF DIRECTORS ON PROPOSED LOAN TO KENYA FOR THE JOMO KENYATTA INTERNATIONAL AIRPORT (JKIA) AIRFIELD EXPANSION PROJECT: DEVELOPMENT OF 2^{ND} RUNWAY

Management submits the following Report and Recommendation on proposed ADB loan of USD 160 million to the Republic of Kenya to finance the Development of JKIA 2^{nd} Runway.

I. STRATEGIC THRUST & RATIONALE

1.1 Project linkages with country strategies and objectives

1.1.1 Kenya has the largest and most diversified economy in East Africa. The city of Nairobi is regarded as the region's commercial and transport hub. Currently, the national GDP is estimated at USD 63 billion. GDP is estimated to have expanded by 5.8% in 2016 rising from 5.7% in 2015. In spite of this growth, poverty still remains a challenge—Kenya's recognised infrastructure deficit continues to inhibit growth, which contributes to persistent poverty and social exclusion by restricting domestic and regional accessibility and connectivity. Significant improvements have been made in the recent past by the Government, supported by Development Partners, to provide a robust infrastructural backbone needed to sustain envisaged growth of at least 10% annually under Vision 2030—Government's long-term development strategy covering the period 2008-2030. The central objective of this policy document is total transformation from low income country to middle income country by 2030. It is anchored on three (3) key pillars: (i) economic, (ii) social, and (iii) political. Infrastructure is central to the attainment of the Vision as an enabler to encourage both inward and outward investments in Kenya. Expanded infrastructure is expected to bring Kenya closer to the rest of the world through a robust, reliable and efficient transport system. The Government of Kenya's Integrated National Transport Policy (INTP) of 2009 identifies key sectoral challenges that persist to date as: (i) lack of regional integration of the transport sector, which constrains growth of national economy; (ii) lack of efficient connectivity; (iii) weak institutional capacity to manage the infrastructure and meet the industry's obligation; and (iv) lack of a wider vision for the overall transport sector.

1.1.2 Kenya is currently served by approximately 35 airports and aerodromes, most of which support domestic traffic. In order to complement efforts in bridging regional accessibility gap being implemented through land-based transport and expansion of port facilities, the Government under the 2^{nd} Medium Term Plan (MTP), 2013-2017 of Vision 2030, committed to expand and modernize aviation facilities and broaden route network in order to achieve an annual capacity of 45 million passengers by year 2030. This programme has continued to be implemented and JKIA together with Eldoret, Malindi, Kisumu, and Moi International Airport (Mombasa) combined managed to handle 10 Million passengers in 2016 up from 8.9 Million in 2014. JKIA is the second largest and busiest airport in East and Central Africa, and the 7th busiest in the continent. It has a capacity of 7.5m passengers per year, and currently handles 70% of Kenya's passenger traffic and 90% of its cargo. JKIA Master Plan of 2010[1] identified long term expansion plans which include additional aircraft stands, taxiways, terminals and runway upgrades. The JKIA Airfield Expansion project is aligned with the AfDB's Country Strategy Paper for Kenya (CSP 2014-2018) and the Bank's Ten Year Strategy (2013-2022)—and two of the High 5s priority of "Integrate Africa" and "Improve Quality of Life for the People of Africa"; which place more emphasis on infrastructure development as an enabler to business growth and private sector-led inclusive growth.

[1] See National Airports Systems Plan, Vol.II – Jomo Kenyatta International Airport, 2010, Page 8-5

1.2 Rationale for Bank's involvement

1.2.1 Nairobi is gradually emerging as an African technology centre, attracting IBM's first research lab in Africa, as well as other leading technology corporations such as Intel, Google, and Microsoft—an indication of increasing business attraction to Nairobi. Further, the economy in 2016 recorded a marked improvement in tourism sector earnings since 2012 by 17.8%, and international visitor arrivals increased by 13.5% over the same period. The continued growth in tourist flows and capital inflows need to be supported by a robust infrastructural backbone. Expanded air transport infrastructure is fundamental to the sustenance of the country's economic growth arising from these external exchanges. Moreover, owing to centrality of Nairobi in the Eastern and Central Africa region, JKIA is well positioned as an aviation centre, for the larger region of East, Central and Indian Ocean areas, and is poised to facilitate movements of highly skilled workers to places of demand in the region, hence fostering economic integration. However, the existing runway capacity at JKIA is nearing saturation at 89%, even though the Government's international connectivity aspirations espoused under draft MTP III (2018-2022) of Vision 2030, has now necessitated a higher standard CAT II runway capable of facilitating transcontinental flights of larger Code F aircrafts. Accordingly, in order to handle growth in its international and domestic air traffic and bolster its status as an important hub, it is imperative to enhance airfield capacity and to significantly strengthen airport operational efficiency at JKIA. The existing single runway is operating at CAT-I level with a width of 45m and 4.1 km long—the proposed new 2nd runway of 4.9km long and 75m wide inclusive of 15m shoulders promises to increase tourism and business travel, and will expedite two-way cargo traffic, and inject resilience and on-time performance at the airport.

1.2.2 The significance of the proposed development of a 2nd runway as part of the broader JKIA expansion and modernization is informed by the JKIA Master Plan of 2010, and is in keeping with the development objectives and priorities of the Government of Kenya under Vision 2030 and the Bank's strategy via the Hi-5s to support projects aimed at enhancing economic efficiency, regional integration, and facilitating international trade. Expansion of terminal facilities and rehabilitation of existing runways proposed in the Master Plan is currently under implementation with support from the World Bank, AFD and GoK. The Government requested the Bank to augment her efforts under the ongoing aviation expansion program by financing of the 2nd runway. This is attributed to Bank's strong comparative advantage based on its commendable quality of the portfolio, shorter timelines in processing of project financing and the presence of Bank's regional office (RDGE) in Nairobi, which has positioned the Bank as a partner of choice in Kenya. Further, while proposed facility can attract private sector funding owing to prospects of improved revenue collection due to increased flights to JKIA upon completion of the project, the current funding commitments by KAA obtained for expansion and re-modelling of the existing terminal facilities, limit KAA's ability to take up additional commercial credit supported by own balance sheet, hence the preference for Bank's public financing, as a means to incentivizing the GoK to reduce direct aviation taxes so as to encourage market growth.

1.3 Donors coordination

1.3.1 Donor coordination in Kenya is carried out at both sector and national levels. The apex aid coordination body is the Development Partnership Group (DPG) attended by heads of diplomatic missions and aid agencies, and heads of government departments. The DPG discusses key policy issues, and agrees on a set of deliverables. In terms of portfolio size, the Bank, the World Bank, the EU, China and the UN family have a strong presence in Kenya. Presently (in 2017) the Bank Group has the second-largest portfolio (USD 2.95bn), after the World Bank (USD 5.4bn). Both Banks invest mainly in roads and energy, where the Bank Group has developed a comparative advantage. Main bilateral donors are the UK, France, China, Germany, Japan, Canada, Finland, Norway, Sweden and USAID. Although infrastructure is covered by the main Development Partners (DPs), support in the sector is still insufficient relative to the estimated cost of infrastructure development shortfall identified in the Vision 2030 Medium Term Plan (MTP) II, estimated at KES 2.46 trillion. In terms of sector presence, the World Bank continues to lead followed by the Bank—the Bank is one of the leading financiers in the transport sector in Kenya and has in the recent past been growing its support in skills development targeting the youth and women, particularly in areas related to infrastructure development. The chairmanship of the Transport Sector Working Group is held on a rotational basis and currently it is chaired by JICA assisted by the WB.

Table 1.1: Donor coordination in Kenya

Sector or subsector	**Size**		
	GDP	**Exports**	**Labour Force**
Air transport including support services*	3.5%	N/A	
Players - Public Annual Expenditure (average)			
GOK *		**Donors**	
UA 657 Million (65%)		UA 349 million (35%)	
Level of Donor Coordination			
Existence of Thematic Working Groups:			Yes
Existence of SWAPs or Integrated Sector Approaches:			Yes
AfDB's Involvement in donor coordination**:			M
* Average of the last five years(2011 – 2015) ** L: leader, M: member but not leader, none: no involvement			

II. PROJECT DESCRIPTION

2.1 Development Objectives and Project components

2.1.1 The development objective of the proposed project is to enhance regional integration and expand international trade via improved regional and international air connectivity. The specific project objectives are two-fold:

i.) To improve reliability of air transport to and from JKIA by reducing aircraft delays at peak hours and costly flight diversions arising from incidences on existing runway, and abiding constraining configuration of the existing single runway facility that undermines its usability and overall operational efficiency of the airport; and

ii.) To expand airfield capacity for the new generation (long-haul) aircrafts that would be attracted to JKIA after the airport attained in 2017, category I status that allows for direct intercontinental flights, including to the US. The extra capacity also ties well with the traffic growth projections in the JKIA Master Plan of 2010, in terms of meeting the Government's long-term development objectives and priorities under Vision 2030 of enhancing economic efficiency, fostering international trade, and facilitating long-haul tourist flows in the Country.

2.1.2 The four (4) project components are as outlined in Table 2.1 hereafter.

Table 2.1: Project components included under the project

No.	Component Name	Estimated Cost (USD) million	Component Description
1	Runway construction works	**153.98**	i) Construction of a 4.9km long and 75m wide runway and connecting taxiways including: - *Construction of drainage works,* - *Construction of an Earth Embankment as noise barrier between the runway and Syokimau Community,* - *Tree planting (2,500 trees) on top of the earth embankment* ii) Construction of a firefighting station (ARFF) and provision of associated equipment;
2	Project Management	**9.92**	i) Supervision of Construction Works, installation of NAVAIDS, Re-configuration of ATC tower, and firefighting unit; ii) Monitoring & Evaluation and Technical Audit services; iii) Update of JKIA Master Plan & Formulation of National Airport Development Strategy consultancy services; iv) Financial Audit services to be undertaken by Office of the Auditor General (OAG).
3	Institutional Capacity Building	**2.96**	i) Airport Pavement Maintenance Planning Study and establishment of National Airport Pavement Management System (APMS); ii) Training of KAA in project & facility management, airport operations and planning, procurement of works in public sector, gender and disability mainstreaming at work place, etc.
4	Supply of Equipment	**22.75**	i) Reconfiguration of the Air Traffic Control (ATC) Tower – involving configuration, supply, and delivery of modern ATC equipment and training of selected air navigation services staff; ii) Supply and Delivery of 5No. Firefighting trucks; iii) Supply and Delivery of Ambulifts; iv) Design, Supply, Delivery and Installation if Navigational Aids (NAVAIDS); v) Design, Supply, Delivery and Installation of Meteorological Systems.

2.2 Technical solution retained and other alternatives explored

2.2.1 Considering the proposed expansion and modernization plans of the GoK outlined under draft MTP III (2018-2022) of the Vision 2030 and anticipated potential economic impact of the proposed 2nd runway facility at JKIA, the efficacy of the proposed facility was analysed in terms of the degree to which the key development objectives would be realized. The principal objectives of the proposal are to: (i) improve reliability of air service and the overall resilience over the uncertainties currently associated with the single CAT I runway at JKIA; (ii) accommodate fully loaded Class F aircrafts; (iii) enable direct intercontinental flights to North America/ Australia; and (iv) improve airport capacity to achieve the set out goal under Vision 2030 of accommodating up to 45 million passengers per annum. The assessment criteria relied on the latest aviation forecasts (passenger, air traffic movements, and freight flows) over the analysis period running up to 2052 and the corresponding investment needs for each of the alternatives considered. The aviation expansion and modernisation program is outlined in Appendix VI.

2.2.2 The analysis indicate that the development of 2nd runway is the preferred alternative to accommodate large Class F aircrafts and is expected to provide significant benefits to JKIA and to the national economy—this alternative transforms JKIA to a two-runway airport to maximize airport capacity and resilience to weather as well as accidents or landside fires that in the past have effectively disrupted operations at the airport. It is also least disruptive to flight operations at JKIA. Upon completion, it will enhance competitiveness of the airport due to expended route structure, thus bolstering its hub position in the region in keeping with Government's growth ambition. The net present value (NPV) of constructing a new runway is far greater than expanding the existing Runway 06/24 and leaving JKIA as a one-runway airport. Under the Medium traffic forecast scenario, the Economic Internal Rate of Return (EIRR) for the two-runway alternative is projected at 25% as compared to 16% for the single runway Option 1. The ratios of benefits to costs are however, comparable due to the significantly lower costs estimated for the expansion of Runway 06/24 compared to building the new Runway 05/23. The Two-Runway Alternative has the greatest impact in terms of expanding cut flower and horticulture exports, increasing tourism and enlarging airport-generated aeronautical and non-aeronautical revenues. By 2052, these elements could generate about 1.5 million new jobs in Kenya from direct effects and sales made by domestic suppliers of goods and services to the directly affected businesses. Other options explored and rejected are outlined in Table 2.2.

Table 2.2: Other project alternatives considered and reasons for rejection

Project Alternative	Brief description	Reasons for rejection/
Option 1	Expanding the existing single runway (06/24) by extending the runway length from 4.1km to 4.9km and widening it from 45m to 75m, including construction of two (2) rapid exit taxiways (RET) and an upgrade from CAT I to CAT II—this alternative allows utilization of the facility by Class F aircrafts and results in increased capacity of the JKIA airfield;	i) Medium scenario forecast of ATM indicates that an annual limit of 192,000 ATMs shall be reached by 2029, hence investing in this Alternative is expected to accommodate about three (3) years of growth over the Base Case for JKIA; ii) This Option will force JKIA to close to air traffic during construction leaving the airport with a singular runway; and some of the reliability and resilience issues identified with current conditions (particularly, vulnerability to airport closures in case of incidents such as crashes/ fires).
Option 2	Pricing Strategies Alternative assumes KAA does not construct a 2nd runway or significantly improve the existing Runway 06/24, but maintains the runway to provide its existing level of service, and also enact pricing policies to encourage unscheduled aircraft movements (approx. 6,000/yr.) to shift to Wilson Airport to effectively free additional capacity at JKIA for airline traffic.	i) KAA indicates that Wilson Airport is already saturated, and would require runway reconstruction to meet pavement standards, besides needed security upgrade to the airport to cater for UN and other relief agencies; ii) Even with the reconstruction above, the apron is not adequate to handle significant increase of 6,000 or more ATM numbers.

2.3 Project type

2.3.1 This is a stand-alone project loan financing. This decision arises from a common understanding and perception by Development Partners on fiduciary risk environment and possible fungibility of project funds. Under draft MTP III (2018-2022), the GOK has clearly outlined sector priorities with specific beneficiaries with clear timelines, which makes it easier to monitor the implementation of such operations in the present circumstances.

2.4 Project cost and financing arrangements

Project cost

2.4.1 The overall project cost estimate (net of taxes) is USD 189.6 million of which the foreign exchange cost is USD 150.94 million or 79.6% of the total, and the local cost is USD 38.66 million or 20.4% of the total. The project cost estimates were derived from feasibility and detailed engineering design studies of the project and also took cognizance of unit prices of similar recent international tenders in the project area. The project cost estimates by component and by category of expenditure are indicated in Tables 2.3 and 2.4 respectively. Detailed costs and expenditure schedules are provided in Annex B2.

Table 2.3 - Project Cost Estimates by Component (USD Million)

Component	**Foreign Currency Cost**	**Local Currency Cost**	**Total Cost**	**% Foreign**
Runway Civil Works	99.68	33.23	132.91	75.0%
Project Management	8.93	0.99	9.92	90.0%
Supply of Equipment	22.75	0.00	22.75	100.0%
Institutional Capacity Building	2.82	0.15	2.96	95.0%
Base Cost	**134.17**	**34.37**	**168.54**	**79.6%**
Physical contingency	6.71	1.72	8.43	79.6%
Price contingency	10.06	2.58	12.64	79.6%
Project Cost net of taxes	**150.94**	**38.66**	**189.60**	**79.6%**
Project Cost with VAT@16%	**175.09**	**44.85**	**219.94**	

Table 2.4 – Project Cost by Category of Expenditures Net of taxes (USD Million)

Category	Foreign Currency Cost	Local Currency Cost	Total Cost	% Foreign
Civil Works	116.45	37.52	153.97	75.6%
Services	11.74	1.14	12.88	91.2%
Goods	22.75	0.00	22.75	100.0%
Project Cost net of taxes	150.94	38.66	189.60	79.6%

Source of finance

2.4.2 ADB and GOK will jointly finance the proposed project components. The Bank financing will contribute USD 160.00 million representing 84.4% of the total project cost, from ADB resource envelope available for Kenya. The ADB Loan will cover all the foreign exchange costs and part of the local costs. The GoK will finance 15.6% to cover part of the local costs for civil works as indicated in Table 2.5. Projected expenditure outlay by each component and source of financing is presented in Table 2.6; additional details on the same are provided in Annex B2.

2.4.3 The Government contribution to the project of USD 29.6 million representing 15.6% of the entire project cost, is less than 50% as expected under ADB window. This is justified by the fact that Kenya qualified as a Blend Country with access to ADB window resources from 1st September 2015, at a time when the Government already committed substantial budgetary resources to infrastructure development. The justification for minimization of counterpart fund contribution is therefore, based on increased country's spending on infrastructure now estimated at 27.6% of GDP for 2017/18 financial year. The sovereign-bond issuance and railway-loan disbursements in current fiscal year has pushed public debt to around 54% of GDP (See Annex V for more details).

Table 2.5: Sources of financing net of taxes (USD million)

Source of Financing	Foreign Currency Cost	Local Currency Cost	Total Cost	% of Total
ADB Group (Loan)	150.94	9.06	160.00	84.4%
GoK (Counterpart)*	0.00	29.60	29.60	15.6%
Project Cost net of taxes	**150.94**	**38.66**	**189.60**	**100%**
Project Cost with VAT @ 16%	**175.09**	**44.85**	**219.94**	

* *Justification for less than 50% contribution by GoK is attached as Appendix V*

Table 2.6: Expenditure Schedule by Component net of taxes (USD Million)

Component	2018	2019	2020	2021	2022	Total
Runway Civil Works	**30.79**	**46.19**	**46.19**	**15.40**	**15.40**	**153.97**
ADB	*24.87*	*37.31*	*37.31*	*12.44*	*12.44*	*124.37*
GoK	*5.92*	*8.88*	*8.88*	*2.96*	*2.96*	*29.60*
Project Management	**2.98**	**2.98**	**1.98**	**0.99**	**0.99**	***9.92***
ADB	*2.98*	*2.98*	*1.98*	*0.99*	*0.99*	*9.92*
Supply of Equipment	**2.27**	**4.55**	**6.82**	**9.10**	**-**	**22.75**
ADB	*2.27*	*4.55*	*6.82*	*9.10*	-	*22.75*
Institutional Capacity Building	**0.89**	**1.19**	**0.89**	**-**	**-**	**2.96**
ADB	*0.89*	*1.19*	*0.89*	-	-	*2.96*
Project Cost net of taxes	**36.93**	**54.90**	**55.89**	**25.49**	**16.39**	**189.60**
Project Cost with VAT @ 16%	**42.84**	**63.69**	**64.83**	**29.57**	**19.01**	**219.94**

2.5 Project's target area and beneficiaries

2.5.1 The expansion of JKIA is an important infrastructure improvement for long-term economic development in Kenya. As such, the accruing impact of the proposed airfield expansion project at JKIA is expected to apply across the national economy, allowing the region to more fully exploit its potential. Input-output analysis undertaken for the proposed expansion of JKIA given its centrality in the wider east and central Africa, indicates that it can stimulate high-technology development and tie the wider region into the international economy. In view of the basic level of air transport infrastructure in the neighbouring states of East Africa, the population poised to directly benefit from this expansion project is estimated at over 80 million. The change in aeronautical/non-aeronautical revenues alone generated at JKIA due to unconstrained traffic forecasts with development of the 2nd Runway is anticipated to generate over 61,000 jobs in Kenya and adding some USD 1.3 billion of new value added in the Kenyan economy. Overall, the 2nd runway is projected to significantly increase tourism and business travel annually by 4.2% between 2026 and 2052, while two-way cargo traffic is projected to annually grow by 5.1% over the same period. Together, the growth arising from aviation, tourism, and floriculture, is estimated to generate up to 1.5 million jobs and add approximately USD 22.7 billion (USD in 2016 value) in added-value to the national GDP over the facility's useful life.

2.6 Participatory process for project design and implementation

2.6.1 The JKIA 2nd Runway project has been prioritized in the Country Strategy Paper (CSP 2014-2018) and MTP III of Vision 2030 for immediate development. The programming of this project in the two strategic documents was an outcome of broad-based consultations between the Government, development partners, private sector, and civil society groups in the Country. The Executing Authority (Kenya Airports Authority) undertook public consultation whose findings and concerns have duly been integrated in the project design. The extensive consultations were also undertaken during preparation and appraisal missions, and also by design Consultant during the preparation of the Environmental and Social Impact Assessment (ESIA), including engagement with the airport community comprising of: Kenya Civil Aviation Authority (KCAA); Airport Operators Committee (AOC); Kenya Airways (KQ); National Environment Management Authority (NEMA); Kenya Wildlife Services (KWS); Air Navigation Services department; Syokimau Residents Association; International Air Transport Association (IATA). The consultative meetings, interviews, and focus group discussions, were used as means to creating awareness and identifying positive and negative socio-economic impacts of the airfield expansion project. Proposals for mitigation measures to address the potential impacts during the project cycle were also generated in these meetings, and went a long way in creating a sense of commitment and ownership by the wider airport stakeholder group.

2.6.2 The stakeholders, particularly the AOC and IATA voiced concerns regarding the maintenance status of taxiways, runway, and parking facilities. Kenya Airways on the other hand is concerned that the 2nd runway would result into additional charges to airlines due to increased maintenance burden of infrastructure at JKIA. KCAA as the regulator, requested for re-configuration of the ATC, acquisition of modern navigation equipment, and training to personnel in order to enhance safety of aircrafts when the two runways are to be operated concurrently. KCAA also provided useful technical comments on the proposed runway designs, which have since been integrated in the final designs. NEMA commended the proposed inclusion of the noise abatement measures and emphasized the need for a mechanism for monitoring noise impacts during operations. Other issues raised included: (i) adequate drainage provisions to avoid flooding of runway in wet weather; (ii) provision of ambulifts to improve accessibility of aircrafts by persons living with disabilities (PWDs); and (iii) improved perimeter fencing of the airport area to keep off wildlife and any other unauthorised access into protected area. These issues have been incorporated in the project's design and also included in the Environmental and Social Management Plan (ESMP). The issues discussed with the development partners focussed on lessons learnt within the sub-sector particularly, those that foster sustainability of airport infrastructure and institutional capacity improvements at KAA. Details on feedback received by the Bank are contained in Annex B8.

2.7 Bank Group experience and lessons reflected in project design

Status and Impact of Prior Bank Intervention in the Sector

2.7.1 The Bank Group has since 1967 committed up to UA 3.3 billion including recently approved operations in 2017 covering: investments, knowledge and policy dialogue, and technical assistance. As of September 2017, the Bank's portfolio in the country comprises of 31 active operations—23 public sector projects and 8 private sector operations, with a net total commitment of UA 2.07 billion. Transport sector dominates the portfolio by value at 36%, followed by Energy at 28%, Water (16%), Finance (11%), Social (5%), and Agriculture at 4%. Current (2017) preliminary CPPR assessment ratings returned satisfactory overall portfolio performance of 3.0, with the Implementation Progress (IP) and Development Objectives (DO) ratings of 3.0 and 3.0 respectively on a scale of 0-4. The Bank has to date financed 31 operations in the transport sector in Kenya amounting to UA 1.12 billion, with some eight (8) active. These projects have made significant contributions towards improving mobility, providing access to socio-economic opportunities and facilitating regional integration.

Lessons Learned and Reflected in Project Design

2.7.2 The project design has taken into account lessons learnt from previous interventions in the Country as well as recommendations of the BDEV findings and sector analytical work by PICU[2]. The lessons relate to sustainability of results, evaluation of development impacts, aviation safety and security issues, weak institutional structure and capacity to meet industry's obligation, and poor management of transport and supporting infrastructure. Additional lessons have been drawn from two transport projects set for completion in Quarter 4 of 2017 and whose PCRs are at draft stage.

2.7.3 The project design has taken cognisance of lessons from previous interventions, and included the following components to address some of the identified issues in aviation sub-sector: (i) re-configuration of the ATC including provision of modern equipment and training of the air navigation services personnel in managing concurrent operations on two parallel runways, aimed at addressing poor aviation safety standards often attributed to inadequate training for staff, weakness in oversight mechanisms, and outdated and poorly maintained equipment; (ii) Monitoring and Evaluation component as a stand-alone service has been provided for to help in measuring results and development impacts; (iii) Institutional Capacity Building component to strengthen capacity of the KAA and KCAA as a means to assure meeting of the industry's obligations; (iv) technical Assistance in Airport Pavement Maintenance Management and airport operations to assist improve management of the facility and supporting infrastructure on a sustainable basis; and (v) a component to assist in updating JKIA Master Plan and develop a national airport development strategy to facilitate a predictable and transparent planning and programming of future projects in a way that maximizes economic development impacts of the country, promotes good governance practices, and fosters regional competitiveness.

2.8 Key performance indicators

2.8.1 Results-based logical framework outlines key project performance indicators. The development outcomes envisaged under the project include: increased international trade, competitiveness of aviation sector in Kenya, and creation of local jobs. These shall be measured by the following indictors: (i) regional and international commodity flows; (ii) aircraft movements at peak hours; (ii) passenger flows according to trip types including load factors; (iii) occurrences of incidents on the airside, which result into flight cancellations and/ diversions, (iv) jobs created at implementation, in maintenance of aircrafts, catering, airport businesses, cut-flowers, tourism, etc., disaggregated by gender; (v) increased air connectivity, and (vii) average delays experienced by individual aircrafts at peak hours. Monitoring and Evaluation services is to be procured prior to the start of construction works, and shall specifically, be responsible for baseline data collection, mid-term and post construction assessment of impacts arising from the project.

2.8.2 The overall effectiveness of the project at implementation shall be monitored through Bank's bi-annual supervisions by a team consisting of experts in Environmental and Social Safeguards, Procurement, and Financial Management to assure compliance with Bank's procedures and best practice. Further, an independent consultant shall be procured to undertake technical and Value-for-Money Audit besides Monitoring & Evaluation services.

[2] AfDB (2017), African Aviation, Approach Paper-Final Report – Prepared by Steer Davies Gleave for the African Development Bank

III. PROJECT FEASIBILITY

3.1 *Economic and financial performance*

3.1.1 The economic analysis indicators used to assess the economic viability of the Project were Economic Internal Rate of Return (EIRR) and the Net Present Value (NPV). Besides the Base case (the "do minimum option"/ "without project" case) which covers maintenance costs, and not capital expenditure, two alternatives were considered and these are: (i) extension of the existing runway, and (ii) the 2nd runway project alternative. The costs considered include: investment, maintenance and noise impact costs. Expected benefits to be generated by the Project include: (i) Improved reliability due to avoided delays and diversions; (ii) Reduced congestion, (iii) Reduced airline costs; (iv) Improved access to North America/Australia resulting into improved trade/exports; (vi) Induced travel— increased facilitation of transportation within the region especially for the smaller countries where major international airlines do not service; and (vii) Savings from traffic consolidations. Other direct and indirect benefits of the project are: (i) additional airport revenue; (ii) jobs created during the works period; and (iii) value-added generated by tourism. A discount rate of 12% (opportunity cost of capital for Kenya) was adopted for the economic analysis. Project analysis considered a 35-year period of 2017-2052. A top-down demand-led approach to forecasting air traffic at JKIA was adopted, analysing historical relationships between air traffic and the national GDP to establish the income elasticity. Results of economic analysis for the two alternatives compared are summarized in Table 3.1. Details are presented in Technical Annex B7.

Table 3.1: Key Economic and Financial Figures

Traffic Forecast Scenario	Extend Existing Runway (06/24)			2nd Runway Alternative (05/23)		
	NPV (USD Millions)	B/C Ratio	EIRR	NPV (USD Millions)	B/C Ratio	EIRR
High	347.57	5.18	16%	795.14	5.31	26%
Medium (Trends)	334.26	5.02	16%	754.93	5.09	25%
Low	319.17	4.84	15%	670.40	4.63	24%

3.1.2 Sensitivity analysis undertaken considering a worst case scenario of a simultaneous 20% rise in project cost and a 20% reduction in projected benefits, resulted in a positive NPV of USD 530 million, benefit-cost ratio of 3.4, and EIRR of 17% for the 2nd runway alternative under medium scenario traffic forecast. Even for the Low traffic forecast case, the NPV remains positive with B/C ratio of 3.1 and EIRR of 15%. The above economic analysis results indicate that the proposed investment is economically viable. Switching value analysis further indicates that projected traffic under the medium scenario would have to decrease by up to 48% or project costs would have to increase by 95% before the project becomes unviable, all else held constant, which denotes a sufficient measure of robustness of the proposed investment.

3.1.3 Financial viability of the 2nd runway project was undertaken to assess its impact on the financial performance of Kenya Airports Authority (KAA), in terms of the projected cash flows over the useful life of the proposed asset (2021-2052) and the certainty of the same as a key measure of its finance ability. Based on unconstrained growth enabled by development of the 2nd runway, aeronautical revenues amounting to USD3.4 billion (in USD 2016 value) is expected to be earned above forecasted revenues under the base case. For the purposes of supporting long-term financing, applying a 12% discount rate results in a present value of

USD 232 million. However, recent 25-year Kenya Government Bonds carry an interest rate of 14.15%.[3] At this latter rate, the present value of the incremental landing fee revenue will be USD147 million. Taking into account a 75% loan-to-value contingency factor on the projected cash flows shows that revenues available to finance the 2nd runway is estimated to be USD 110 million. This is significantly less that the capital investment requirements of USD 189.6 million, hence the Government's preference for public financing for the project.

3.2 Environmental and social impacts

Environment

3.2.1 Given the project's site specific impacts and whose mitigation measures were readily identifiable, the project was categorized as a Category 2 operation, with some impacts being of a temporal nature, being triggered only during the construction phase. However, a detailed Environmental and Social Impact Assessment (ESIA) was conducted with wide stakeholder engagement, especially with communities along the runway approach and take-off that would be impacted by noise associated with aircraft operations, especially with peaks during flight events (landings, and take-offs). The ESIA also contained a detailed Environmental and Social Management Plan (ESMP). The ESIA identified detailed mitigation measures to address the impacts. A summary of the ESIA has been prepared and posted on the Bank's website on 31 August 2017, and subsequently distributed to the Board in September 2017.

3.2.2 The negative environmental and social impacts associated with the project implementation are expected from the construction phase and these include: (i) Environmental pollution from emissions (dust) into the air from work areas and construction equipment; (ii) Damages to land and soil arising from materials extraction, spoil disposal, waste disposal from camp sites and work areas as well as disposal of used oil and grease; (iii) Noise and vibrations to the neighbouring premises arising from construction equipment; (iv) workers and public health and safety concerns during construction (v) Social related infections associated with increased interactions at the airport site including HIV/AIDS and other communicable diseases.

3.2.3 Mitigation measures for adverse impacts have been identified and included in the ESMP. These include (i) construction of the an earth berm from spoil disposal planted with trees as noise abatement measure along the new runway; (ii) strict adherence to restoration and rehabilitation plans for quarries, borrow sites, campsites and other work areas; (iii) Contractor to adhere to a mandatory Environmental Management Plan incorporating a comprehensive waste management plan for the construction period developed in consultation with KAA and NEMA; (iv) enforcement of the Occupational Health and Safety laws and regulations; (v) sensitization campaigns on Gender and HIV/AIDs awareness (vi) inclusion of the necessary environmental clauses in the project construction contract document so as to ensure the implementation of the ESMP. The total ESMP implementation cost is estimated as KES 30,000,000.

3.2.4 Positive impacts include (i) facilitation of regional integration due to expanded air connectivity between Kenya and its trading partners; (ii) provision of business opportunities for local women providing food to construction workers during implementation; (iii) increased productivity of farm workers in the cut flower industry due to potential rise in demand for such exports; (iv) increased long-haul tourist flows into the Country due to increased destinations served with two runways; and (vi) expanded market for floriculture products from Kenya due to potential access of the markets in North America and Australia.

[3] https://www.investing.com/rates-bonds/kenya-government-bonds?maturity_from=10&maturity_to=290, 2017-06-08.

Climate Change

3.2.5 According to the Bank's Climate Safeguards System, the project is classified as Category 3 confirming limited climate change risk at the project level, however flood risk posed by increased paved surfaces as a result of the 2nd runway project, has been considered and the design has factored in settling ponds as part of the drainage design to assist in regulating storm water runoff in order to prevent flooding at JKIA. Further, KAA, KCAA, and AOC, have proactively instituted climate change adaptation measures aimed at promoting improved airport operations, airspace design, and procedures requiring airlines to report on their carbon footprint. KCAA has prepared the Kenya Action Plan for Reduction of CO_2 Gas Emissions in Aviation Sector (2015). The GOK through the KCAA has committed to introduce a number of initiatives that will enable the industry achieve GHG emission reduction and these include:

- Monitoring and reporting Kenya's aviation carbon footprint;
- Encouraging investment in aircraft efficiency improvements and the development of sustainable biofuels policy;
- Working towards a multilateral approach through ICAO for managing the climate change impacts of international aviation;
- Establishment of an annual forum involving relevant Government agencies and industry to facilitate the exchange of information and ideas on mitigating actions and to discuss any obstacles to implementation;

3.2.6 In addition to the above, specific climate related components have been integrated in the project design as part of KCAA's recommended actions towards a greener aviation. These components include:

i.) Optimizing of drainage designs through proper sizing and location of drains, culverts, and outflow sites including provision of settling ponds to regulate storm water runoff flows thereby preventing flooding on to the runway and associated infrastructure;

ii.) Tree planting between the proposed runway and Syokimau community to act as noise abatement measure and for carbon sequestration;

iii.) Reconfiguration of ATC to facilitate preferential runway assignment resulting in less fuel burn and GHG emissions at the airport area; and

iv.) Redesign of the airspace to ensure continuous climb departures and continuous descent approaches by aircrafts ensuring more efficient fuel consumption and less emissions.

3.2.7 Further, given the comparative sizes of the aircrafts currently deployed by airlines between Nairobi and North American, for instance, three A380 flights from JKIA could handle the passenger load of four 747-400 (or similar sized) aircraft. This "three for four" consolidation is expected to save airlines at least 3 hours in flight time (fuel burn) assuming 16 hours of flight time through Amsterdam and a 13-hour direct flight on A380/ other Class F aircraft. Hence, the 2nd runway project is to have a positive contribution of reduction in GHG emissions. Under the project, the formulation of national airport development strategy component shall endeavour to explore the viability biofuels policy at JKIA.

Gender

3.2.8 Given the physical nature of construction activities, a deliberate consideration would be made at implementation to ensure at least 30% of workforce is women in accordance with the Country's constitutional requirements of two-thirds (2/3) gender rule for employees in all categories. Under the project, there is a specific provision for training and sensitization of KAA staff (covering some 25 women out of the targeted 50 staff at KAA) on gender mainstreaming and HIV/AIDS awareness at the workplace, as part of the institutional capacity building initiative estimated to cost some USD 500,000. Further, it has been noted that KAA currently faces challenges with aircraft access by Persons With Disabilities (PWDs). In all the KAA managed airports there is inadequate provision of accessibility to facilities and services to serve the needs of PWDs. Under the project, and in response to request by Kenya Airports Authority, a budget of USD 1.5 million has been provided to procure five (5) ambulifts to enhance aircraft accessibility for PWDs by providing a barrier free and disability friendly work environment.

3.2.9 The Bank's TYS has among the three areas of special emphasis, gender mainstreaming which is also anchored within the five operational priorities of inclusive growth. Besides, the Bank's Gender Strategy (2014–2018) has provided clear direction on how to mainstream gender in Bank operations. The Strategy reckons that gender equality is integral to Africa's economic and social development and thus is central to the Bank's ambitious vision for Africa which includes creating opportunities for women, disadvantaged and marginalized people, and communities so they can participate in, and benefit from, the development of their communities and nations. The Kenya National Policy on Gender and Development provides a framework for the State to reduce gender imbalances and inequality under the auspices of the National Gender and Equality Commission (NGEC). The policy provides guidance to different sectors in line with Government's effort to spur economic growth, reduce poverty and unemployment by taking into consideration the needs and aspirations of Kenyans - women, men, girls and boys across economic, social and cultural divide. The design of this project will not negatively affect any gender group; its implementation will moreover, ensure that both women, men, and PWDs benefit from it through specific complementary initiatives considered under the project.

Social

3.2.10 The primary objective of expanding JKIA as espoused under Vision 2030 is to improve connections between Kenya and the rest of the world, which is essential for improving income levels of the nation's citizens. Moreover, the unconstrained forecasts are expected to generate new aviation related revenues, new business and leisure visitors into the Country. These impacts will circulate in the national economy in a general manner transmitted via the hospitality sectors, as well as orders to Kenya-based suppliers as indirect effects. During construction, the project is projected to generate about 1,500 jobs of which about 500 shall be taken up by women. Immediately upon completion by 2027, the runway investment is estimated to generate at least 1,900 jobs; and by 2052 workers will have earned nearly USD 8 billion in wage compensation thus, positively contributing to reduction in poverty in Kenya.

3.2.11 Project impacts with linkage to social welfare include the following: (i) construction workforce exerting pressure on available social amenities at the airport including water supply, sanitation facilities, and increased generation of wastes; (ii) increased human movements in and out of the airport grounds by construction workers that could potentially contribute to heighten security risks at the facility; (iii) due to increased interactions by transient work force and normal airport workers, infections and spread of HIV/AIDS, and other sexually transmitted diseases could worsen within the airport community and the immediate environs; and (iv) increased road accident risks associated with increased material haulage and vehicular traffic traversing the airport and the neighbouring residential areas resulting into vibration, noise disturbances and dust pollution. The positive impact include increased rental incomes arising from demand for housing in the neighbouring areas due to influx of construction workforce around the airport during construction, (See Annex B8).

Involuntary resettlement

3.2.12 The implementation of the project is not envisaged to involve involuntary resettlement given that the proposed runway site is within the airport fenced area with no human activities. As such there are no persons to be displaced nor businesses to be affected by the project. Resettlement Action Plan (RAP) was therefore, not necessary and has not been prepared. However, wildlife from neighbouring reserves have strayed into the project site largely on account of the area not being adequately fenced. KAA, KWS and Bank agreed at appraisal on the relocation of the animals as the continued presence of the animals would pose serious risk to aircraft safety. Accordingly, KAA agreed to relocate the wildlife in consultation with KWS, prior to commencement of project implementation, and specific key milestones were agreed upon regarding the process, which have also been made part of the loan covenants.

IV. IMPLEMENTATION

4.1 Implementation arrangements

Executing Agency

4.1.1 The Kenya Airports Authority (KAA) shall be the overall executing agency for the project. The Managing Director (MD) shall nominate a Project Coordinator acceptable to the Bank, for the day-to-day management of the project. The MD shall constitute a project implementation team (PIT) comprising of: a civil engineer, procurement expert, an accountant, an environmentalist, and a socio-economist. The team shall work in close consultation with the regulator (KCAA) to assure compliance with aviation requirements and specifically to ensure that project components under the purview of the KCAA receive due attention at implementation. Further, Project Oversight Committee (POC) chaired by the Principal Secretary of the line Ministry (MoTIHUD), and consisting of the key stakeholders including: The National Treasury, KAA, KCAA, NEMA, AOC, KWS, KQ, and any other agencies deemed appropriate, shall be established to provide oversight supervision to the project implementation team. KAA is well versed with Bank procedures and previously implemented Bank financed operation involving a terminal building in 2015, and fully complied with Bank's fiduciary requirements. Further, KAA has since successfully implemented other donor financed projects including terminal IA and runway rehabilitation projects as part of the airport expansion programme under the MTP II with no significant audit weaknesses reported. The ESMP implementation shall be the responsibility of the contractor. The Supervising Consultant shall supervise the ESMP implementation in consultation with KAA.

Procurement

4.1.2 All procurement of goods, works, and related services and acquisition of consulting services financed under the Bank's resources will be done in accordance with the Bank's Procurement Policy dated October 2015, using Bank's Procurement Methods and Procedures (PMPs), the relevant Bank Solicitation Documents, and the provisions stipulated in the Financing Agreement. The GoK did request for Advance Contracting procedures under this project, which was granted by the Bank and advance procurement has commenced in order to ensure that the project complies with PD 02/2015. Civil works will be packaged under one contract and shall be procured on the basis of Open Competitive Bidding (OCB) under post-qualification arrangements—adopted based on Bank's past experience on reducing procurement lead times, and also given that the said works are employer-designed with minimal/ no contractor input in designs, hence deemed less complex to warrant pre-qualification procedures. Equipment shall be procured using shopping as a method based on comparing price quotations obtained from several suppliers after international advertisement of the procurement opportunities. Consultancy services will be procured mainly on the basis of Quality and Cost Based Selection (QCBS) through short-lists of qualified consulting firms established through expressions of interest (EOIs). The various items under different expenditure categories and related procurement arrangements for each contract to be financed by the Loan together with the respective procurement or consultant selection methods, estimated costs, prior-review requirements, and time frame are to be outlined in the Procurement Plan as agreed between the Borrower and the Bank, and described in detail in Technical Annex B.5.

4.1.3 Review and assessment of the Procurement Section of KAA, which is responsible for the procurement activities of the Executing Agency, was made through discussions with pertinent officials and review of the relevant documents in use. The discussion majorly focused on the organizational structure, staffing and practical experiences of the procurement department to carry out required procurements under this project. The assessment did conclude that Procurement Department of KAA is competent enough to conduct procurements envisaged under the project. However, in view of the staffing constraints at the Authority, it is recommended that KAA deploys a specific procurement officer for the project. The detailed assessment of the Executing Agency is provided in Annex B.5.

Financial Management and Disbursement Arrangements

4.1.4 KAA will carry out the Financial Management (FM) functions under the project. The capacity of KAA has been assessed as adequate for purposes of carrying out the FM of the Project. The finance department has over 12 qualified accountants and robust Budgeting, Accounting, Internal Control and Reporting systems. The Inherent Risks as well as the Control Risks were assessed by the team and found to range between low and moderate. The project will substantially make use of the Kenya's Public Financial Management (PFM) systems where applicable.

4.1.5 The annual financial statements will be audited by the Kenya's Office of the Auditor General (OAG) using own resources and shall be based on the Bank's audit terms of reference. The Annual Audit Report, complete with a Management Letter will be submitted to the Bank no later than six (6) months after the end of each fiscal year. Whereas, the executing agency may, subject to the approval of the Bank, opt for any of the Bank's four disbursement methods explained in the Disbursement Handbook, the direct payment method is the preferred disbursement method for payments to contractors or service providers under this project. The internal audit of the executing agency will complement the oversight of the management. Further financial management and disbursement details are provided in Annex B.4.

4.2 Monitoring

4.2.1 Direct project implementation responsibility including procurement, project superintendence, and monitoring falls under the Managing Director of KAA. KAA through the nominated Project Coordinator (PC) shall oversee project implementation and regularly update the Bank on progress status. The PC together with other experts from the Authority will attend monthly site progress meetings and conduct site visits to discuss and address issues relating to progress of works. Besides, a consultant shall be procured to undertake monitoring and evaluation of project developmental impacts and outcomes. KAA will however, remain in charge of monitoring of the Result Based Logical Framework in consultation with KCAA and other relevant institutions. The monitoring of environmental and social mitigation measures will lie with Environmental and Social Unit of the executing agency and NEMA. On the financial management and auditing aspects, the existing accounting and reporting systems of the Authority is capable of producing accurate and reliable information regarding project resources and expenditures. In addition to the executing Agency's monitoring, the Bank shall provide support through implementation support and review of the performance of the Project during supervision missions and during the mid-term review. KAA shall prepare quarterly borrower's progress reports and submit to the Bank. The Bank's implementation monitoring time frame is indicated in Table 4.1.

***Table 4.1** – Implementation Monitoring Timeframe*

Timeframe	***Milestone***	***Monitoring process / feedback loop***
Q1 – 2018	*Project Launching*	*Supervision and Progress Report*
Q2 – 2018	*Advance Procurement of Civil Works Completed*	*Procurement Plan/Progress Report*
Q1 – 2020	*50% of Civil Works completed mid-term review*	*Midterm Review & Progress Report*
Q4 – 2021	*Substantial completion of civil works*	*Supervision and Progress Report*
Q4 – 2022	*End of Defects Liability period*	*Supervision and Progress Report*
Q4 – 2022	*Project Completion*	*Project Completion Report*

4.3 Governance

4.3.1 A more general indicator of governance performance such as Mo Ibrahim Index of African Governance (IIAG), shows an improvement for Kenya with a ranking of 21 out of 52 countries in 2013 rising to number 12 out of 54 countries in 2015 (2016 Report). A more specific Corruption Perceptions Index by Transparency International, however shows that Kenya has dropped from 136th out of 177 countries in 2013, to 145th out of 176 countries in 2016, towards the lower end of the scale. Nevertheless, the Government continues to fight corruption despite the latest drop and is stepping up the war with support from the development partners. In 2015, the Government adopted e-procurement system to ensure procurement processes are transparent, more predictable, and less prone to manipulation. The use of Integrated Financial Management Information System (IFMIS) has also been made mandatory for all government and donor funded projects to enhance accountability and ensure project funds are used for intended purposes. A Public Expenditure and Financial Accountability (PEFA) assessment is underway (2017) with preliminary draft report indicating that transparency has improved to an extent since the 2012 due to the re-engineering of IFMIS and the preparation of quarterly budget implementation review reports by office of Controller of Budget, even though the pace remains slow.

4.3.2 At the project level, there will be separation of roles of employer and engineer in works contracts to reduce incidences arising from conflict of interests. The proposed technical audit service financed under the project loan and financial audit to be undertaken by OAG using GoK resources shall also ensure that funds are used for intended purposes, and with due regard to economy and efficiency. Other measures shall include Bank's prior review and clearance of all project procurement activities, and continuous project supervisions to follow up closely on implementation progress on site.

4.4 Sustainability

4.4.1 The GoK under the draft MTP III (2018-2022) has committed to carry through with the modernisation and expansion of aviation infrastructure initiated under MTP II, and did submit a formal request for financing to the Bank dated 27 February 2017. Stakeholders' consultation undertaken during the Appraisal mission in Kenya also confirmed commitment of the airport community towards the project—key stakeholders included IATA, KCAA, AOC, and Kenya Airways (KQ) as the anchor airline. Project Oversight Committee chaired by the

Principal Secretary (PS) of the line Ministry. This committee shall oversee the implementation of the works, galvanize the interests of the various parties, and assure ownership of the project. Key policy objective under Vision 2030 driving the current infrastructure expansion and widening of air connectivity is aimed at achieving an annual capacity of 45 million passengers by 2030.

4.4.2 This growth in infrastructure supply is however not been matched with an appropriate asset management plan. KAA currently undertakes short-range and long-range budget needs of its network on an ad hoc basis. There is no plan in place regarding prioritization and programming of capital works and/ or maintenance works on the vast network of airport infrastructure under its jurisdiction. The management of KAA has underscored the need for a national airport development strategy and a robust maintenance management system to assure sustainability of its current investment in expansion and modernization of key infrastructure going forward. This would require robust systems, sustainable funding mechanism, and an enabling strategy. The project shall finance a technical assistance (TA) to assist KAA establish Airport Pavement Management System (APMS) besides, a component on update of the JKIA Master Plan of 2010 and formulation of a national airport development strategy to guide the expansion and modernisation program in a coordinated manner. Current infrastructure maintenance deficiencies are not attributable to lack of financing but to inefficient institutional and technical capacities at KAA. The Bank has in 2013 provided financial support to aid restructuring of departments responsible for project implementation and asset management. Revenue forecasts with the prospects of the 2nd runway and re-modelling of the passenger terminals at JKIA, is estimated to be adequate to cover the recurrent costs of maintenance and assure seamless delivery of services to airport users.

4.5 Risk management

4.5.1 The project design takes cognisant of certain risks other than Governance and Sustainability, already discussed in the preceding sections, which may undermine the attainment of project objectives at implementation level and later upon completion of the project during operations. These are detailed in Table 4.2 below. The financial management assessment concluded that the overall risk is *moderate*, and proposed the following mitigation measures: (i) undertaking of monthly budget/actual analysis through the accounting system reports; (ii) additional oversight through quarterly financial reports to be produced and submitted to the Bank; and (iii) timely submission of audit reports to the Bank. KAA has adequate capacity to handle all financial management requirements under the proposed project.

Table 4.2 – Summary of project Risk Management

Description of Risk Identified	**Risk Rating**	**Mitigation**
During Implementation		
- *Irregularity in counterpart payments*: payment for civil works by GoK continue to experience significant delays, due to lengthy processing procedures, and restrictive budget approvals at the start of financial year	Low	- The GoK has agreed to streamline payment processing with a view to shortening the payment approval process;
- *Cost Overrun:* The potential for cost overrun remains low in the past similar operations but could still happen if designs are not optimized even at implementation	Low	- Occurrences of cost overruns is low but could still occur due to unique nature of construction projects; a contingency amount of 12.5% of project's base cost has been provided to guard against any eventuality.

During operation		
- *Continued underperformance of the anchor airline, Kenya Airways (KQ):* which is undergoing restructuring could impact on potential growth in passenger and freight traffic at JKIA, thereby impacting negatively on projected revenue flows, and hence undermine financial sustainability of KAA and consequent capacity to maintain the runway once completed.	Moderate	- The GoK continues to cushion the airline with direct cash injections to sustain operations and guard against external shocks occasioned by unpredictable rise in global fuel costs; - The GoK has in June 2017 negotiated with local financial lenders on behalf of the carrier to covert such debts into equity thus facilitating faster recovery of the airline; - The Government has recently (2016/2017) influenced changes in the airlines' Management with a clear strategic framework to turning around the performance of the carrier.
- *Meeting Industry Standards in terms of safety and security:* ICAO audit of 2015 indicated compliance level of 88.9% rising from compliance level of 78.4% in 2013—improved levels of safety and security is imperative to maintaining globally competitive environment for the operation of aviation activities. There is still some scope for improvement and additional investments in requisite infrastructure.	Moderate	- KAA has recently invested in a security screening yard at the entrance to JKIA as a means to tightening security checks for passengers and vehicles accessing the airport; - The proposed re-designing of the airspace and provision of modern air navigation equipment and associated training of personnel under the current project are aimed at significantly improving aircraft safety at JKIA; - East African School of Aviation (EASA) is compliant with ICAO regulations as a training organization, and now accredited as a centre by ICAO for Aviation Security (AVSEC) courses.
- *Long-term Environmental Impacts:* notably noise annoyance to the neighbouring settlements, risk of plane collision with wildlife straying on to the project area, and deterioration of air quality due to increased aircraft emissions	Low	- Proposed mitigation measures to address the anticipated impacts shall include: i.) securing the project area with a perimeter fence to lock out straying wildlife already underway; ii.) building a raised earth embankment along the boundary with the neighbouring settlement to serve as a noise buffer and tree planting for carbon sequestration; and iii.) Configuration of runway to redefine departure and approach flight paths away from inhabited/populated areas to minimize noise impacts.

4.6 Knowledge building

4.6.1 The project is designed with a focus to enhancing air transport connectivity, promoting regional integration, and in consequence, boosting international trade. The independent Monitoring and Evaluation consultancy services is designed to go beyond data collection, and shall seek to establish the impact of the project on wider economic benefits—particularly, assessing the impacts on trade, investment and productivity within the economy. Besides this, currently JKIA has no mechanism to assess and monitor over time, the environmental impacts such as noise annoyance and air quality.

4.6.2 Under the project, a framework shall be establish to assess the cumulative measures of noise and air quality. This shall enable KAA for instance, to publish aggregate contours annually to show airport's noise performance over time. JKIA shall then employ web applications to allow the public to have timely access to aircraft flight track and noise impact information as a basis for facilitating communication between KAA and the community stakeholders. The success of this initiative shall be shared widely within the Bank and with the KAA to facilitate replication elsewhere in the continent as an industry best practice.

V. LEGAL INSTRUMENTS AND AUTHORITY

5.1 Legal instruments

5.1.1 The financing instrument for this operation will be a Loan Agreement between the Republic of Kenya and the Bank.

5.2 Conditions associated with Bank's intervention

Conditions Precedent to the Entry into Force of the Loan Agreement

5.2.1 The entry into force of the Loan Agreement shall be subject to: (i) fulfilment by the Borrower of the provisions of Section 12.01 of the General Conditions Applicable to the Bank's Loan Agreements and Guarantee Agreements (Sovereign Entities); (ii) appointment from within the Executing Agency an Architect/Engineer whose qualification and experience are acceptable to the Bank, to serve as the Project Coordinator; and (iii) submission to the Bank, of an acceptable resourced Relocation Action Plan for moving wild animals from the proposed project site.

Conditions Precedent to First Disbursement of the Loan

5.2.2 The obligation of the Bank to make the first disbursement of the Loan shall be conditional upon the entry into force of this Agreement, and the fulfilment by the Borrower, in form and substance satisfactory to the Bank, of the following condition:

i.) Submission by the Borrower to the Bank, of evidence confirming that all stray wild animals have been relocated from the proposed civil works site in accordance with the Relocation Action Plan.

ii.) The conclusion of a Subsidiary Financing Agreement between the Borrower and KAA for on-lending the Loan on terms and conditions acceptable to the Bank.

Undertakings

5.2.3 The Borrower shall undertake to fulfil, to the satisfaction of the Bank, the following conditions: (i) To open a Special Account denominated in USD, in a bank acceptable to the Bank; (ii) Ensure that counterpart funds are availed for Project implementation; (iii) Fully implement the Environmental and Social Management Plans (ESMPs); (iv)Comprehensively report on the implementation of the ESMPs on a quarterly basis; (v) Adopt effective measures for maintenance of the runway facility and provide an annual report on measures taken; and (vi) Cause the Executing Agency to progressively report on implementation of activities on HIV/AIDS, STI, TB; gender and Persons with Disabilities (PWDs) in the work place.

5.3 Compliance with Bank Policies

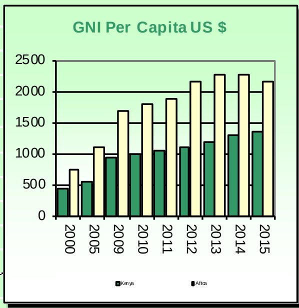
5.3.1 This project complies with all applicable Bank policies.

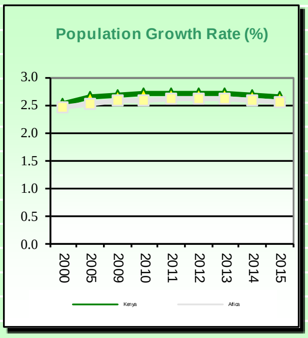
VI. RECOMMENDATION

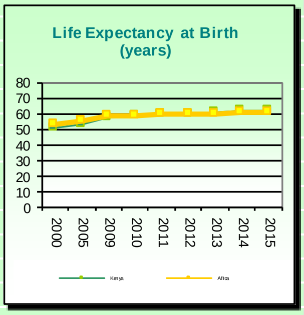
6.1 Management recommends that the Board of Directors approve the proposed USD 160 million ADB Loan to the Republic of Kenya subject to the conditions stipulated in this Project Appraisal Report.

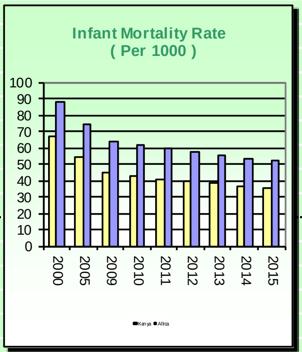
APPENDIX I: COUNTRY COMPARATIVE SOCIO-ECONOMIC INDICATOR

	Year	Kenya	Africa	Develo-ping Countries	Develo-ped Countries
Basic Indicators					
Area ('000 Km²)	2016	580	30,067	97,418	36,907
Total Population (millions)	2016	47.3	1,214.4	6,159.6	1,187.1
Urban Population (% of Total)	2016	26.4	40.1	48.7	81.1
Population Density (per Km²)	2016	83.0	41.3	65.1	33.8
GNI per Capita (US $)	2015	1340	2 153	4 509	41 932
Labor Force Participation *- Total (%)	2016	67.2	65.7	63.5	60.0
Labor Force Participation **- Female (%)	2016	62.3	55.7	48.9	52.1
Sex Ratio (per 100 female)	2016	99.9	100.1	106.0	105.0
Human Develop. Index (Rank among 187 countries)	2015	146	...	...	...
Popul. Living Below $ 1.90 a Day (% of Population)	2005	33.6	...	24.2	...
Demographic Indicators					
Population Growth Rate - Total (%)	2016	2.6	2.5	1.3	0.6
Population Growth Rate - Urban (%)	2016	4.3	3.6	2.4	0.8
Population < 15 years (%)	2016	41.7	40.9	27.9	16.8
Population 15-24 years (%)	2016	19.4	19.3	16.9	12.1
Population >= 65 years (%)	2016	2.9	3.5	6.6	17.2
Dependency Ratio (%)	2016	80.3	79.9	54.3	52.0
Female Population 15-49 years (% of total population)	2016	24.4	24.0	25.7	22.8
Life Expectancy at Birth - Total (years)	2016	62.6	61.5	69.9	80.8
Life Expectancy at Birth - Female (years)	2016	64.7	63.0	72.0	83.5
Crude Birth Rate (per 1,000)	2016	33.5	34.4	20.7	10.9
Crude Death Rate (per 1,000)	2016	7.8	9.1	7.6	8.6
Infant Mortality Rate (per 1,000)	2015	35.5	52.2	34.6	4.6
Child Mortality Rate (per 1,000)	2015	49.4	75.5	46.4	5.5
Total Fertility Rate (per woman)	2016	4.2	4.5	2.6	1.7
Maternal Mortality Rate (per 100,000)	2015	510.0	476.0	237.0	10.0
Women Using Contraception (%)	2016	63.2	31.0	62.2	...
Health & Nutrition Indicators					
Physicians (per 100,000 people)	2005-2015	19.9	41.6	125.7	292.2
Nurses and midwives (per 100,000 people)	2005-2015	86.8	120.9	220.0	859.4
Births attended by Trained Health Personnel (%)	2010-2015	61.8	53.2	69.1	...
Access to Safe Water (% of Population)	2015	63.2	71.6	89.4	99.5
Access to Sanitation (% of Population)	2015	30.1	39.4	61.5	99.4
Percent. of Adults (aged 15-49) Living with HIV/AIDS	2015	5.9	3.4	...	...
Incidence of Tuberculosis (per 100,000)	2015	233.0	240.6	166.0	12.0
Child Immunization Against Tuberculosis (%)	2015	87.0	81.8	...	...
Child Immunization Against Measles (%)	2015	75.0	75.7	83.9	93.9
Underweight Children (% of children under 5 years)	2010-2015	11.0	18.1	15.3	0.9
Prevalence of stunding	2010-2014	26.0	33.3	25.0	2.5
Prevalence of undernourishment (% of pop.)	2015-2016	21.2	16.2	12.7	...
Public Expenditure on Health (as % of GDP)	2014	3.5	2.6	3.0	7.7
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	2010-2016	109.0	101.2	104.9	102.4
Primary School - Female	2010-2016	108.7	98.4	104.4	102.2
Secondary School - Total	2010-2016	67.6	52.6	71.1	106.3
Secondary School - Female	2010-2016	65.2	50.2	70.5	106.1
Primary School Female Teaching Staff (% of Total)	2010-2016	50.2	47.1	59.8	81.0
Adult literacy Rate - Total (%)	2010-2015	78.0	66.8	82.3	...
Adult literacy Rate - Male (%)	2010-2015	81.1	74.3	87.1	...
Adult literacy Rate - Female (%)	2010-2015	75.0	59.4	77.6	...
Percentage of GDP Spent on Education	2010-2015	5.3	5.0	4.0	5.0
Environmental Indicators					
Land Use (Arable Land as % of Total Land Area)	2014	10.2	8.7	11.2	10.3
Agricultural Land (as % of land area)	2014	48.5	41.7	37.9	36.4
Forest (As % of Land Area)	2014	7.7	23.2	31.4	28.8
Per Capita CO2 Emissions (metric tons)	2014	0.3	1.1	3.5	11.0









Sources : AfDB Statistics Department Databases; World Bank: World Development Indicators; last update : June 2017
UNAIDS; UNSD; WHO, UNICEF, UNDP; Country Reports.
*Note : n.a. : Not Applicable ; ... : Data Not Available. * Labor force participation rate, total (% of total population ages 15+)*
*** Labor force participation rate, female (% of female population ages 15+)*

APPENDIX II: BANK'S PORTFOLIO IN THE COUNTRY

September 2017

Sector Name	Name	Window	Approval Date	Completion Date	Loan Amount (UA m)	Disbursement Ratio
A. PUBLIC SECTOR						
Agriculture	Kenya Emergency Humanitarian Assistance For Persons Affected	SRF	07/03/2017	12/29/2017	0.7	
	Small-scale Irrigation & Agriculture Value Chain Development	ADB	11/18/2015	06/30/2022	27.9	2.8%
		GAFSP Trust Fund	11/18/2015	06/30/2022	16.1	3.4%
	Kenya-Drought Resilience & Sustainable Livelihood Program In	ADF	12/19/2012	12/31/2018	37.4	19.6%
Agriculture Total					**82.1**	**10.6%**
Power	ADF PRG Menengai	ADF	10/22/2014	12/31/2020	9.0	
	ADF - PRG For Turkana T-Line	ADF	10/02/2013	03/15/2019	16.8	0.0%
	KENYA - Last Mile Connectivity Project	ADF	11/19/2014	12/31/2019	90.0	59.3%
	Last Mile Connectivity Project - 2	ADB	06/27/2016	12/31/2022	94.9	0.1%
	Menengai Geothermal Development Project	ADF	12/14/2011	12/31/2017	80.0	84.2%
		SCF	12/14/2011	12/31/2017	5.3	63.9%
		SCF	12/14/2011	12/31/2017	12.3	53.5%
	Ethiopia-Kenya Electricity Highway(Kenya)	ADF	09/19/2012	12/31/2018	75.0	49.3%
	Kenya - Tanzania Interconnection (Kenya)	ADF	02/18/2015	12/31/2019	27.5	15.4%
Power Total					**410.7**	**42.8%**
Social	Support To Higher Education Science And Technology	ADF	11/14/2012	06/30/2018	28.0	74.1%
	Support To TVET And Training For Relevant Skills Development	ADF	07/01/2015	06/30/2021	41.0	8.2%
	East Africa Centers Of Excellence Kenya	ADF	10/03/2014	12/31/2019	25.0	3.1%

Sector Name	Name	Window	Approval Date	Completion Date	Loan Amount (UA m)	Disbursement Ratio
Social Total					**94.0**	**26.5%**
Transport	Nairobi Outer Ring Road Project Improvement Project	ADF	11/13/2013	12/31/2018	77.0	57.9%
ADF			11/13/2013	12/31/2018	0.6	45.1%
	Mombasa-Mariakani Road Highway Project	ADF	03/11/2015	06/30/2021	80.0	7.9%
	Sirari Corridor Accessibility & Road Safety Improvement Project	ADB	03/30/2016	12/31/2021	160.7	14.5%
		EU AITF	03/30/2016	12/31/2021	8.4	0.0%
	Mombasa-Nairobi-Addis Corridor II - Kenya	ADF	07/01/2009	11/30/2017	125.0	86.3%
	Multinational: Arusha-Holili/Taveta-Voi Road (Kenya)	ADF	04/16/2013	12/31/2018	75.0	66.9%
	Mombasa -Nairobi-Addis Ababa Corridor Phase III - Kenya	ADF	11/30/2011	12/31/2018	120.0	73.5%
	Kapchorwa - Suam - Kitale And Eldoret Bypass Roads Project	ADB	03/29/2017	12/31/2022	57.8	0.0%
		ADF	03/29/2017	12/31/2022	35.1	0.0%
	Kenya - Lake Victoria Maritime Communications and Transport	ADF	10/24/2016	12/31/2016	3.8	0.0%
Transport Total					**743.4**	**43.2%**
Water Supply & Sanitation	Thwake Multipurpose Water Development Program	ADF	10/30/2013	12/31/2019	61.7	1.3%
		ADF	10/30/2013	12/31/2019	1.2	40.3%
	Kenya Towns Sustainable Water Supply And Sanitation Program	ADB	11/09/2016	12/31/2021	268.7	0.0%
		ADF	11/09/2016	12/31/2021	5.1	0.0%
		ADF	11/09/2016	12/31/2021	0.5	0.0%
		MIC	11/09/2016	12/31/2021	1.2	0.0%
Water Supply & Sanitation Total					**338.4**	**0.4%**
PUBLIC TOTAL					**1,668.5**	**31.8%**

Sector Name	Name	Window	Approval Date	Completion Date	Loan Amount (UA m)	Disbursement Ratio
B. PRIVATE SECTOR						
Finance						
	Commercial Bank Of Africa Limited	ADB	01/25/2017	12/31/2019	35.2	
	Diamond Trust Bank LOC I	ADB	11/18/2016	05/20/2020	35.2	
		ADB	11/18/2016	05/20/2020	17.6	
	Commercial Bank Of Africa - TFLOC	ADB	01/25/2017	01/25/2017	28.2	
Finance Total					**220.6**	**100.0%**
Power						
		PSCEF	11/04/2015	05/30/2027	5.8	0.0%
	Lake Turkana Wind Power Project	PSCEF	11/04/2015	03/23/2029	31.8	0.0%
		PSCEF	11/04/2015	03/23/2029	31.8	0.0%
Power Total					**178.6**	**79.0%**
Private Total					**399.2**	**86.7%**
GRAND TOTAL					**2,067.8**	**39.8%**

APPENDIX III: ONGOING PROJECTS FINANCED BY THE BANK AND DONORS

Project Title	Donor	Region	USD million
Kapchorwa - Suam - Kitale And Eldoret Bypass Roads Project	**AfDB**	Trans Nzoia/Uasin Gishu	131
Mombasa-Nairobi-Addis Road Corridor Project III	**AfDB**	Marsabit	180
Sirari Corridor Accessibility & Road Safety Improvement Project	**AfDB**	Kisumu/Kisii/Homa bay/Migori	228
Mombasa-Mariakani Highway Project	**AfDB**	Mombasa	112
Upgrading of Mwatate-Taveta	**AfDB**	Taita-Taveta	105
Outer Ring Road upgrading	**AfDB**	Nairobi	115
Mombasa-Nairobi-Addis Road Corridor Project II	**AfDB**	Marsabit	187
Northern Corridor Rehab. Programme – Phase III (Eldoret-Webuye-Malaba Road)	**EC**	Uasin Gishu/Bungoma	122
Merille River -Marsabit Road	**EC**	Marsabit	223
Mombasa Port Development Project	**JICA**	Mombasa	175
Northern Corridor Transport Improvement Project	**WB/NDF**	Turkana/West Pokot	460
Mombasa Southern Bypass Road and Kipevu New Container Terminal Link Road	**JICA**	Mombasa	253
Northern Corridor Transport Imp. Project - Additional	**WB**	Nairobi/Nakuru	300
Kenya Transport Sector Support Project	**WB**	Nairobi	45
Rehabilitation of Kericho-Nyamasaria Road A1	**WB**	Kericho/Kisumu	95
Rehabilitation of Mau summit-Kericho Road (B1/A1)	**WB**	Nakuru/Kericho	80
Rehabilitation of Nyamasaria- Kisumu-Kisian Road (A1) Including Kisumu Bypass	**WB**	Kisumu	68
Rehabilitation of Kisumu-Kakamega (A1)	**WB**	Kisumu/Kakamega	67
Rehabilitation of Kakamega-Webuye	**WB**	Kakamega/Trans Nzoia	39
Rehabilitation of Webuye-Kitale	**WB**	Bungoma	52
Rehabilitation of Maji ya Chumvi-Bachuma Gate (A109)	**WB**	Kwale	54
Dualing Kisumu boys - Mamboleo	**WB**	Kisumu	14
Construction of HQ complex for road sector institutions including access roads	**WB**	Nairobi	23
National Urban Transport Improvement Project (Capacity Enhancement of JKIA- Rironi Highway	**WB**	Nairobi/Kiambu	300
Interchanges on, Nakuru-Njoro Turn off, Nakuru-Nyahururu Mau Summit Kericho Turn off, Ahero A1/B1, Kericho B1/c23	**WB**	Nakuru	43
Construction of second carriageway of Athi River – Machakos Turn off	**WB**	Machakos	31
TOTAL			**3,502**

APPENDIX IV: MAP OF PROJECT AREA

APPENDIX V: JUSTIFICATION FOR GOVERNMENT'S LEVEL OF CONTRIBUTION

Out of the estimated project total cost of USD 189.6 million, the GOK shall contribute USD 29.6 million representing 15.6% of the total costs net of taxes. This is *less that the recommended 50% minimum* counterpart contribution as per the Bank's 2008 Policy on Expenditure Eligible for Bank Group Financing. Further, the Policy states that the *ADB may finance more than 50% of the total project costs on a case-by-case basis and up to a limit that does not exceed 100%.*

The justification sought in this case is premised on the fact that, by the time Kenya qualified as a Blend Country with access to ADB funds (from 1st September 2015), the Government already committed substantial budgetary resources to infrastructure development. Examples include: the 472 Km Standard Gauge Railway (SGR) line between Mombasa and Nairobi with GoK meeting 10% of the USD 3.8bn (2013-2017) and a similar percentage for the Nairobi-Kisumu-Malaba SGR section costing USD 5bn, starting in 2017; expansion of Mombasa Port and construction of the new Lamu Port; construction of airport infrastructure, e.g. Isiolo Airport, amongst others. These infrastructure developments have significant fiscal impact to the country also implying that the country already spends significant amount of own resources on infrastructure development.

In line with the transition framework that stipulates a definite period for countries graduating from ADF only to ADB only described under the ADF Resource Allocation Guidelines, and given the significant infrastructure investment by the government, the GoK should qualify for waiver on the 50% requirement criterion. The justification for the reduced Government contribution is further qualified on the following considerations:

V.1 **Country Commitment to Implement Its Overall Development Program**: Kenya's current development strategy is the MTP II (*2013 - 2017*). The Government is committed to implementing the MTP II and continues to both mobilize resources for the purpose and to strengthen the linkage between the plan and the national budget. The Government is also under obligation to provide 15% of its resources to 47 County Governments while also providing for all other sectoral investments. In 2017, the government has had to allocate significant resources for the General elections. Given the need for Presidential re-run, the Government has revised the budgetary allocations for 2017 in order to fund the second election without putting additional strain on its resources.

V.2 **Financing Allocated by the Country to Sectors Targeted by Bank Assistance:** Government continues to prioritize infrastructure (of which transport and energy subsectors are the largest components) in its annual budget allocations as indicated in Table 1.

Table 1: Budget allocation

Description	Budget year	
	2014/15	2017/18
Financing allocated to infrastructure (bn KES)	310	285
Share of infrastructure in the total devt. Budget (%)	22.6	41.5
Financing allocated to transport sector(bn KES)	90.4	227

V.3 **Country Budget Situation and Debt Level:** The current budget situation is summarized in Table 2 below. Less than 5% of government spending is dependent on foreign aid. Debt Sustainability Analysis (DSA) of December 2016 confirmed that Kenya's risk of external debt distress remains low, while overall public sector debt dynamics continue to be sustainable. In the baseline, public debt is expected to stabilize around 54-55% of GDP in 2017-18 and gradually decline thereafter. Half of Kenya's public debt is owed to external creditors. During the Article IV mission in April 2017, the IMF urged the authorities to move forward with a substantial reduction in the budget deficit envisaged for 2017/18 and beyond, which will help put the debt on a declining path as envisaged under the program.

Table 2: Budget situation

Description	Budget year	
	2014/15	2017/18 budgeted
Total Expenditure as % of GDP	27.2	27.6
Domestic Revenues as % of GDP	20.5	20.6
Share of Foreign Loans and Grants in total Budget	10.1	7.0
Share of General Budget Support in total Budget	0	0
Foreign Loans and Grants as % of GDP	3	3

In light of the above considerations, there is therefore a case for the Bank to limit the counterpart funding requirement for this very important project to 15.6% as requested by the Government. In view of the Government significant investments in infrastructure in the recent past years, it has therefore adopted a very cautious approach to a high level of counterpart funding. It is expected that the proposed level of counterpart funding will ensure requisite ownership by the authorities and help expedite the project's implementation process.

APPENDIX VI: KENYA AVIATION INFRASTRUCTURE EXPANSION AND MODERNISATION PROGRAM

No	Component/Action	Cost (USD M)	Year											Source of Finance				
	Studies		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	AfDB	WB	AFD	GOK	Others
1	Detail design of JKIA 2ND Runway			✪										✓				
2	Detail design of re-modelling of JKIA Terminals 1B,C								✪						✓			
3	Detail Design of JKIA Drainage Improv't Works			✪													✓	
4	Detail Design of Runway Rehab. of Moi Int. Airport (Mombasa)								✪						✓			
5	Detail Design Nairobi Highway Expansion Project- JKIA Ground Access Improv't		✪														✓	
	Sub-Total Studies																	
	Infrastructure Improvements																	
1	JKIA Primary Screening Yard			✪													✓	
2	Construction of JKIA 2ND Runway							✪						✓				
3	Re-modelling of JKIA Terminals 1B,C								✪						✓			
4	Construction of JKIA Boundary Fence						✪								✓			
5	Construction of Temporary International Arrival Terminal					✪									✓			
6	Construction of Security Fence			✪											✓			
7	Construction of Temporary Terminal 2A										✪	✪		✓				
8	Rehabilitation of Runway at Moi International Airport (Mombasa)															✓		
9	Construction of Runway and Terminal facilities at Isiolo Airport																✓	
10	Construction of Terminal 1A											✪	✪ ✪			✓		
11	Provision of Solar Farm at JKIA								✪									✓
12	Rehabilitation of Malindi Airport Terminal facilities																✓	
	Sub-Total Construction																	
	Policy and Operational Actions									✪								
1	National Airport Systems Master Plan								✪						✓			
2	KAA Institutional Re-structuring Program			✪										✓				
3	Formulation of Air Transport Policy & Dev't of Airports development Strategy							✪						✓				
	Program Total Cost																	

Legend

✪ Year in which Funding was Secured/Expected

✓ Provided/Pledged Financing