THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

FOR OFFICIAL USE ONLY

Report No: PAD3562

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED CREDIT

IN THE AMOUNT OF SDRXX MILLION
(US$ 150 MILLION EQUIVALENT)

A PROPOSED GRANT

IN THE AMOUNT OF US$ 8.07 MILLION
FROM THE GLOBAL ENVIRONMENT FACILITY

AND A PROPROSED CREDIT

IN THE AMOUNT OF $2.38 MILLION
FROM THE CLIMATE INVESTMENT FUNDS

TO THE

REPUBLIC OF RWANDA
FOR A

RWANDA URBAN DEVELOPMENT PROJECT II

{RVP/CD CLEARANCE DATE}

Urban, Resilience And Land Global Practice
Africa Region

CURRENCY EQUIVALENTS

Exchange Rate Effective Oct 04, 2019

Currency Unit	=	
	=	US$1
US$	=	SDR 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Hafez M. H. Ghanem
Country Director:	Carlos Felipe Jaramillo
Regional Director:	Ede Jorge Ijjasz-Vasquez
Practice Manager:	Meskerem Brhane
Task Team Leader(s):	Abebaw Alemayehu, Pablo Cesar Benitez Ponce, Zishan Faiza Karim

ABBREVIATIONS AND ACRONYMS

CERC	Contingent Emergency Response Component
CMO	City Management Office
CoK	City of Kigali
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
CPS	Country Partnership Strategy
DA	Designated Account
DP	Development Partner
DTM	Digital Terrain Model
E&S	Environmental and Social
EDPRS2	Economic Development and Poverty Reduction Strategy 2013-2018
EICV5	*Enquête Intégrale sur les Conditions de Vie des ménages* or Integrated Household Living Conditions Survey 2016/2017
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standards
FM	Financial Management
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GEB	Global Environmental Benefits
GEF	Global Environment Facility
GHG	Greenhouse Gas
GoR	Government of Rwanda
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
ICD	Institutional and Capacity Development
IDA	International Development Association
IFMIS	Integrated Financial Management Information and System
IFR	Interim Financial Report
KUUT	Kigali Urban Upgrading Team
LAFREC	Landscape Approach to Forest Restoration and Conservation Project
LiDAR	Light Detection and Ranging
LMP	Labor Management Procedures
LODA	Local Administrative Entities Development Agency
M&E	Monitoring and Evaluation
MEA	Multilateral Environmental Agreement
Meteo Rwanda	Rwanda Meteorology Agency
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEMA	Ministry of Emergency Management
MININFRA	Ministry of Infrastructure
MoE	Ministry of Environment

MOU	Memorandum of Understanding
NBS	Nature-Based Solutions
NDF	Nordic Development Fund
NMT	Non-Motorized Transport
NPV	Net Present Value
NSC	National Steering Committee
NST1	National Strategy for Transformation 2017-2024
NUP	National Urbanization Policy
O&M	Operations and Maintenance
PA	Project Account
PAH/PAP	Project Affected Households/Persons
PCU	Project Coordination Unit
PDO	Project Development Objective
PFM	Public Financial Management
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PP	Procurement Plan
PPSD	Project Procurement Strategy for Development
PTC	Project Technical Committee
RAP	Resettlement Action Plan
REMA	Rwanda Environment Management Authority
RHA	Rwanda Housing Authority
RLUMA	Rwanda Land Management and Use Authority
RPF	Resettlement Policy Framework
RPPA	Rwanda Public Procurement Authority
RRA	Rwanda Revenue Authority
RTDA	Rwanda Transport Development Authority
RUDP	Rwanda Urban Development Project
RUDP II	Second Rwanda Urban Development Project
RWB	Rwanda Water Resources Board
RWF	Rwandan Franc
SCD	Systematic Country Diagnostic
SCIP	Sustainable Cities Impact Program
SEP	Stakeholder Engagement Plan
SPIU	Single Project Implementation Unit
STEP	Systematic Tracking of Exchanges in Procurement
SWM	Solid Waste Management
SWMMP	Stormwater Management Master Plan
TA	Technical Assistance
TOR	Terms of Reference
TTL	Task Team Leader
UMIS	Urbanization Monitoring Information System
VOC	Vehicle Operating Costs
WASAC	Water and Sanitation Corporation
WB	World Bank
WBG	World Bank Group

TABLE OF CONTENTS

DATASHEET ..... Error! Bookmark not defined.

I. STRATEGIC CONTEXT **6**

A. Country Context 6

B. Sectoral and Institutional Context 7

C. Climate Change Vulnerability Context 11

D. Relevance to Higher Level Objectives 12

II. PROJECT DESCRIPTION **14**

A. Project Development Objective 14

B. Project Components 14

C. Project Cost and Financing 20

D. Project Beneficiaries 21

E. Results Chain 23

F. Rationale for Bank Involvement and Role of Partners 23

G. Lessons Learned and Reflected in the Project Design 24

III. IMPLEMENTATION ARRANGEMENTS **26**

A. Institutional and Implementation Arrangements 26

B. Results Monitoring and Evaluation Arrangements 27

C. Sustainability 28

IV. PROJECT APPRAISAL SUMMARY **28**

A. Technical 28

B. Economic and Financial Analysis 29

C. Fiduciary 30

D. Legal Operational Policies 31

E. Environment and Social 31

F. Grievance Redress Services 33

V. KEY RISKS **33**

VI. RESULTS FRAMEWORK AND MONITORING **36**

ANNEX 1: Detailed Description of Project Activities **48**

ANNEX 2: Implementation Arrangements and Support Plan **57**

ANNEX 3: Gender Mainstreaming **69**

ANNEX 4: GEF-7 Child Project Description **72**

ANNEX 5: Economic and Financial Analysis **78**

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Rwanda	Rwanda Urban Development Project II	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P165017	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
08-Oct-2020	30-Jun-2025

Bank/IFC Collaboration

No

Proposed Development Objective(s)

To improve access to basic services, enhance resilience and strengthen integrated urban planning and management in the City of Kigali and the six secondary cities of Rwanda.

Components

Component Name	Cost (US$, millions)

Support to the City of Kigali	66.65
Support to Secondary Cities	80.00
Institutional Capacity Development and Project Management	11.42
Contingent Emergency Response Component	0.00

Organizations

Borrower:	Ministry of Finance and Economic Planning (MINECOFIN)
Implementing Agency:	Ministry of Infrastructure (MININFRA) Local Administrative Entities Development Agency (LODA) Rwanda Environmental Management Authority (REMA) City Administration of Kigali

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	158.07
Total Financing	158.07
of which IBRD/IDA	150.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	150.00
IDA Credit	150.00

Non-World Bank Group Financing

Trust Funds	8.07
Global Environment Facility (GEF)	8.07

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount

Rwanda	150.00	0.00	0.00	150.00
National PBA	150.00	0.00	0.00	150.00
Total	**150.00**	**0.00**	**0.00**	**150.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2021	2022	2023	2024	2025
Annual	11.64	26.55	37.32	37.82	36.67
Cumulative	11.64	38.19	75.51	113.33	150.00

INSTITUTIONAL DATA

Practice Area (Lead)

Urban, Resilience and Land

Contributing Practice Areas

Environment, Natural Resources & the Blue Economy

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

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

10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Conditions

I. STRATEGIC CONTEXT

A. Country Context

1. **Rwanda has experienced strong, uninterrupted economic growth over the past two decades and is among the fastest growing economies in Africa.** Rwanda's per capita income increased from US$ 587 in 2010 to US$ 787 in 2018[1]. Economic growth averaged 7.2 percent per year during the same period compared to the regional average of 3.6 percent. This was the second highest rate of economic growth in Sub-Saharan Africa. GDP growth reached 9.4 percent in 2019, accelerating from 8.6 percent in 2018 and 6.1 percent in 2017. Accelerated growth is attributed to robust performance across key sectors, as well as increased public investments for implementation of the National Strategy for Transformation (NST1). Major economic sectors such as industry (propelled by construction) and services (driven by trade and transport) have grown at 8-10 percent annually since 2006, and agriculture at 5.4 percent. Public investments increased from 4.9 percent in 2003 to about 9.4 percent in 2018. While still a low-income country, Rwanda today is ahead of more than 20 countries in the region in terms of GDP per capita.

2. **While sustained economic growth has led to significant poverty reduction, it has been stagnant in recent years.** Poverty declined from 60.4 to 38.2 percent of the population between 2000 and 2017[2] with an improvement in social indicators. Poverty has also become less severe with the distance between poor households' consumption from the poverty line declining. However, the rate of poverty reduction has decreased following the 2016 drought, with unusual increase in food prices and reduction in household food consumption, coupled with a slowdown in structural transition[3] The combination of low farm productivity and a high concentration of the population in rural areas has also reduced the elasticity of poverty reduction in recent years.[4] Going forward, Rwanda faces the challenge of sustaining historically high growth rates and accelerating poverty reduction. Growth is estimated to have reached 8.5 percent in 2019[5] due to public investments and fiscal stimulus. As the fiscal expansion for the NST1 subsides in the medium term, attention must turn to improving allocation of economic resources through better market functioning and increased private sector investment.

3. **Sustainable urbanization has been one of the country's key development strategies and has contributed significantly to economic growth and structural change in Rwanda.** The government has identified sustainable urbanization and off-farm job creation as critical for achieving its vision of becoming a middle-income country. Structural transformation or the movement of labor out of low-productivity agriculture to industry and services, and from farms to cities, has indeed accompanied Rwanda's growth in the 2000s. Urbanization has accounted for 37 percent of national structural change (GDP growth through labor reallocation across sectors), and urban areas have accounted for 48 percent of national labor productivity growth over the past 15 years.[6] Urbanization in Rwanda has also been accompanied by poverty reduction primarily in areas with high density and good connectivity although this effect tapers

[1] Tradingeconomics.com/World Bank
[2] Based on the Integrated Household Living Conditions Survey 5 (EICV5) - Poverty Panel Report
[3] World Bank and National Institute of Statistics Rwanda (NISR) household surveys. The impact of the heavy rainfalls in early 2018 is yet to be seen as it is not included in the latest household survey released in late 2018.
[4] Rwanda Systematic Country Diagnostic (SCD), Concept Note, May 29, 2019.
[5] Rwanda Economic Update 15th Edition, January 2020.
[6] Diao, Randriamamonjy, and Thurlow. 2017. "Urbanization and the Future of Economic Development in Rwanda." International Food Policy Research Institute, Washington, DC. Background paper for Future Drivers of Growth in Rwanda.

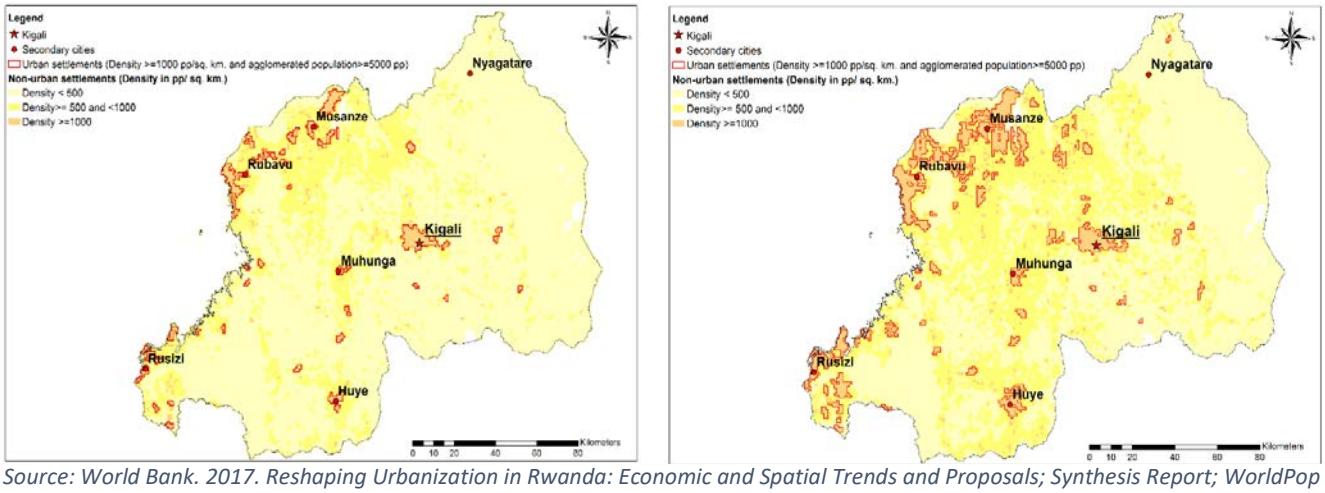
off as one moves away from city centers.[7] According to the National Census in 2012, nearly a third of the poor live in the periphery of secondary cities (10-20km away from the center), where opportunities for poverty reduction exist by better connecting the periphery with urban centers.

4. **The coronavirus pandemic poses serious economic, social and public health threats to Rwanda.** An outbreak of the coronavirus disease (COVID-19) has spread rapidly across the world including Rwanda since December 2019. COVID-19 reached Rwanda in mid-March 2020, and as of June 17, 639 cases were recorded with the recovery of 290 people, and 2 deaths. Even though the pandemic is expected to be transitory, the overall adverse economic impact on Rwanda will be substantial. The growth rate for 2020 is expected to decelerate to about 5 percent, with significant downside risks depending on the extent of COVID-19's spread in Rwanda and any delays in recovery of international flows of goods, services and people. Growth could be substantially lower and social and poverty impact worse if COVID-19 cases in the country are not effectively contained. The risk of transmission remains substantial given that infected individuals can be asymptomatic and transmit the disease; the country has a high population density; and a sizable proportion of the population in Kigali lives in unplanned settlements.

B. Sectoral and Institutional Context

5. **Rwanda's urban population has doubled since 2002[8] with the urbanization rate of 18.4 percent in 2018[9]. This is primarily led by Kigali as well as secondary and emerging cities.** With 1.63 million residents as of 2018, Kigali is home to approximately 13.7 percent of Rwanda's population. Population growth in Kigali was 6.4 percent per year from 2002 to 2012, which makes it one of the fastest-growing cities in Africa and the most favored destination for rural migrants.[10] Half of the urban population outside Kigali is found along emerging corridors around secondary cities: the Musanze-Nyabihu-Rubavu corridor (one-third) and the Muhanga-Huye corridor including Nyanza and Ruhango districts (18

Figure 1: Evolution of urban settlements between 2002 (left) and 2015 (right)



Source: World Bank. 2017. Reshaping Urbanization in Rwanda: Economic and Spatial Trends and Proposals; Synthesis Report; WorldPop datasets available at: http://www.worldpop.org.uk/data/summary/?doi=10.5258/SOTON/WP00223

[7] World Bank. 2017. Reshaping Urbanization in Rwanda: Economic and Spatial Trends and Proposals; Note 3: Urbanization, Job Creation, and Poverty Reduction in Rwanda.
[8] World Bank. 2017. Reshaping Urbanization in Rwanda: Economic and Spatial Trends and Proposals; Synthesis Report.
[9] National Institute of Statistics of Rwanda (NISR). 2018. Integrated Household Living Conditions Survey 5 (EICV 5).
[10] World Bank. 2017. Reshaping Urbanization in Rwanda: Economic and Spatial Trends and Proposals; Synthesis Report.

percent). Much of Rwanda's remaining urban population is spread between Kigali and Bugesera, Kayonza, the Burundian border, and the more isolated settlements of Nyagatare and Rusizi.[11]

6. **Kigali is the largest urban agglomeration, demographically and economically, with a few economic corridors emerging around secondary cities.** Kigali is nearly six times larger than the second largest city, Rubavu. Its output exceeds that of the six secondary cities plus several other towns combined and is seven times higher than that of Rubavu. Firms registered in Kigali accounted for 92 percent of all turnover declared to the Rwanda Revenue Authority in 2015, and more than half of all formal firms and half of formal employment are in Kigali. Nightlights-based estimations suggest that Kigali accounted for 40 percent of GDP in 2012.[12] Outside Kigali, the largest concentration of economic activities is in the Rubavu-Nyabihu-Musanze area close to Goma across the border with the Democratic Republic of Congo (DRC). Per the 2014 Establishment Census, the three districts account for 7 percent of formal private sector jobs, although far behind Kigali's share of 54 percent. The importance of cross-border trade is also evidenced by Rusizi, which shares the border with Bukavu in DRC.

Table 1: Key Data on Project Cities

City	Total urban resident population	Urban Sector Population Density (population per sq. km)	Urban Poverty Rate* (EICV5)	% HH living in unplanned settlements in urban areas
Huye	41,880	1,506	28.8	70.8
Muhanga	44,800	2,229	13.4	52
Musanze	69,220	2,933	19.4	61.3
Nyagatare	17,929	356	53.7	5.9
Rubavu	143,019	3,195	20	29.6
Rusizi	24,300	2,593	24.9	51.8
Kigali	845,730	3,556	8.3	78

Source: Census 2012 (unless noted otherwise) and EICV 5
**Urban poverty rate for districts with secondary cities; urban poverty rate for Kigali districts and Kigali*
***Source: gadm.org GIS shapefiles*

7. **Rapid and well-managed urbanization is essential for Rwanda to achieve its twin aspirations for growth and improved quality of life**. With faster urbanization, Rwanda's economy could be 20 percent larger by 2050, if cities are well managed to efficiently connect jobs and homes and generate the kind of productivity gains that rapidly growing cities in successful East Asian economies have achieved (World Bank, 2019). Kigali is the prime economic hub of Rwanda and has the potential to provide most of the gains from faster urbanization through scale and specialization, integrating Rwanda's growth engine with the regional and global economy. Secondary cities–Huye, Muhanga, Musanze, Nyagatare, Rubavu and Rusizi–will have to be managed as a portfolio of cities and focus on mobilizing local knowledge and resources to meet urban needs and catalyze their development potential.

8. **This requires reshaping urban policies to improve economic and spatial planning, support agglomeration economies and build stronger institutions.**[13] Economic transformation through urbanization and a green economy became a priority policy agenda under the Economic Development and Poverty Reduction Strategy (EDPRS) 2 for 2013-2018, which identified six secondary cities as poles of growth and centers of non-agricultural economic activities and envisaged the development of sustainable cities and villages. The World Bank supported the government's agenda

[11] Diao, Randriamamonjy, and Thurlow. 2017.
[12] World Bank. 2017. Reshaping Urbanization in Rwanda, Note 1: Urbanization and the Evolution of Rwanda's Urban Landscape.
[13] World Bank. 2019. "Future Drivers of Growth in Rwanda: Innovation, Integration, Agglomeration, and Competition." Conference Edition. World Bank, Washington, DC.

through the ongoing Rwanda Urban Development Project (RUDP), which has invested majority of its financing (US$80 m of US$95 m) in basic infrastructure in the secondary cities, while developing their technical capacities. The next phase of RUDP (or RUDP II) is proposed in the process whereby the government is moving towards managing urbanization as a system of cities, first by recognizing the primacy of Kigali as the national growth engine and second by acknowledging the need for dedicated urban institutions in secondary cities. In the long run, an urban program can be developed to accommodate different needs and capacities of the CoK, secondary cities and other towns. The recent restructuring of the CoK and establishment of City Management Offices (CMOs) in the six secondary cities demonstrate a policy shift in the right direction, opening an opportunity to delegate greater and clearer mandates to city governments for planning, implementation and coordination. The World Bank will continue to support this evolving process in Rwanda's urban policy and development by providing a distinct set of investments, technical assistance and institutional and capacity development support to the CoK and secondary cities under the proposed RUDP II.

9. **The COVID-19 pandemic is an additional, previously unconsidered, vulnerability whose negative impact will disproportionately fall on the poorest and most vulnerable groups in Rwanda.** Informal sector workers, like street vendors, construction workers, and those in low-income jobs or in jobs that cannot be performed remotely, are most vulnerable, as these people often have no savings to deal with external shocks, and even stocking up on food can represent an impossible financial hurdle. The harm inflicted especially on the urban poor and female-headed households is likely to be devastating. In informal urban settlements, overcrowded living conditions, limited access to basic services particularly water, sanitation and health services, and reliance on crowded transport services put residents at very high risk. With no cure or vaccination currently available, managing the contagion will be difficult as population density and space constraints make physical distancing and self-quarantine nearly impossible, increasing the likelihood that the infection will spread faster in these settlements. As the country gradually reopens its economy, there would be a need to implement interventions that would deal with any future outbreak of a similar nature, and to ensure that government responses will integrate informal settlements and their specific constraints and needs. Thus, the proposed project will provide settlement-level responses to the pandemic through comprehensive infrastructure upgrading, including improved roads, street lighting, stormwater drainage, solid waste collection points, sanitation, water supply, community facilities, local market improvements, multi-purpose facilities and public spaces. This upgrading will counter some of the conditions that exacerbate the effects of the pandemic, such as inadequate infrastructure for basic services. Further, RUDP II will build the institutional capacity development for participatory planning thereby enhancing longer-term community resilience and reducing COVID-19 impacts and other future crises.

10. **Kigali as the prime economic hub of Rwanda will have to accommodate a much larger population by implementing integrated urban plans to create well-planned, healthy and safe neighborhoods.** About 63 percent of Kigali's settlements are considered unplanned, [14] and are characterized by limited access to basic infrastructure and poor living conditions. Accordingly, upgrading of unplanned settlements continues to be an important priority for CoK as well as the national government, supported by policies such as the National Urban Informal Settlements Upgrading Strategy (2017) and the City-Wide Unplanned and Underserviced Settlements Upgrading Strategy for Kigali (2019). The Urbanization Sector Strategic Plan for 2018-2024 includes the policy target of reducing the percentage of the urban population living in unplanned settlements by around 10 percent. The proposed project aims to support the CoK to strengthen its capacity to prepare and implement urban plans, resulting in improved neighborhood planning and on the ground investments.

[14] In Rwanda, settlements are unplanned rather than "informal' and land tenure is not a pressing need since the country's land reform project has surveyed and allocated land to inhabitants, removing underlying uncertainties regarding ownership (National Informal Urban Settlement Upgrading Strategy, 2017).

11. **Investments in hard and soft infrastructure will also be needed for secondary cities to nurture and grow its economic potential**. The NST 1, a 7-year Government Program (2017-2024) that succeeds EDPRS 2, continues to support sustainable urbanization as one of the priorities and proposes development of flagship projects and implementation of master plans in secondary cities. These cities will benefit from strong and adaptive investments in human resources and institutions which will enable local leaders to mobilize local knowledge and resources and act as effective change-managers in an environment in considerable flux[15]. The proposed project will support secondary cities to develop infrastructure investment pipelines that meet their urban needs and catalyze their development potential. These investments will be coupled with activities to strengthen the cities' urban planning and management capabilities that are critical for efficient delivery and sustainable management of infrastructure and services.

12. **For efficient and sustainable delivery of basic infrastructure and services, the proposed project will support the Government's agenda to strengthen city governance and planning in Rwanda.** Although decentralization is provided for in the Constitution, national government ministries and agencies continue to play a predominant role in planning, infrastructure and service delivery. Local governments remain highly dependent on transfers from the central government, while the assignment of functional responsibilities as spelled out by the local government law is relatively open-ended or vaguely delineated, leaving them to be shared between the national and local governments on a concurrent basis. Clarifying their responsibilities with respect to urban management and facilitating vertical coordination will require stronger urban governments with local planning capacity to unite economic and spatial planning and ensure that managed urbanization supports growth, investment, and community aspirations, rather than restricting them. However, urban planning capacity is inadequate in most locations. RUDP II will help cities to develop an institutional structure and capacity for integrated urban planning through a series of interconnected technical assistance that are well aligned with the national government's decentralization and urbanization policies.

13. **The project will also explore participatory approaches for engaging women and other minority groups in project planning, prioritization and implementation particularly in the upgrading of unplanned settlements.** Several studies on good governance in Rwanda have reported that participation in government planning processes is generally low, including that by women, youth and people with disability (Never Again Rwanda, 2018). Citizens and local councils lack sufficient capacity to mainstream gender considerations in local planning, investment and management in cities. City-level authorities have difficulty understanding the unique needs of men, women, children, the elderly and disabled people especially when disaggregated data is not always available. For instance, almost 51 percent of working heads-of-household in Kigali's unplanned settlements commute from home to work on foot. This is especially true for female heads-of-household, who are about 15 percentage points more likely to walk to work than their male counterparts (Hitayezu et al, 2018). As a result, women benefit less from urbanization and face more difficulties accessing urban services, participating in political and public life, and benefitting from economic opportunities in cities. Under RUDP II, a major opportunity for introducing a participatory, gender-sensitive approach to address some of the identified gender gaps lies in the upgrading of unplanned settlements in the City of Kigali (Component 1a of US$40.2 million) and in Secondary Cities (Component 2a of US$28 million). Gender gaps that project activities can meaningfully address pertain to voice and agency.

[15] World Bank. 2019. "Future Drivers of Growth in Rwanda: Innovation, Integration, Agglomeration, and Competition."

C. Climate Change Vulnerability Context

14. **Rwanda is highly vulnerable to adverse effects of climate change as evidenced by the 2016 drought and the 2018 and 2019 heavy rainfalls.**[16] Since 1970, Rwanda's average temperature has increased by 1.2˚C and it is projected to rise as high as 2.5˚C to 3.3˚C by the end of the century. This will be accompanied by an increase in total number of warm days in a year. Models predict a change in average annual rainfall of between -100mm and +400 mm in the next 30 years, anticipating shorter and more intense rainfalls during the rainy seasons, while dry seasons will be longer and drier[17]. Droughts and floods are region-specific problems, with droughts occurring mainly in the east of the country and floods in the western/central north and south of the country.[18] Additionally, the intensity and frequency of windstorms are also increasing with the change in climate. Almost 2.8 million people and half a million houses are currently exposed to windstorms at intensities of moderate to strong gales, and about two-thirds of this population is poor. Due to its geographic location and topography, the country is also at high risk of erosion and landslides, where 42 percent of the land is moderately or severely susceptible to landslides.

15. **Poorly managed urbanization is threatening the state of environment leading to increased vulnerability to flood risks, land degradation and biodiversity loss.** Scarce access to land in and around Kigali has resulted in unplanned settlements, many of which are exposed to climate hazards particularly flooding. The city's extensive network of wetlands has shrunk from 100 sq. km in 2013 to the current level of 72 sq. km due to encroachment by activities such as industry and urban agriculture[19]. The Nyabugogo sub-catchment, within which the CoK is largely located, has severely degraded due to deforestation, unplanned settlements and unsustainable agricultural practices on the hillsides. Loss of wetlands has also led to higher rates of point and non-point source pollution and negatively affected biodiversity, particularly native plant species and a rich diversity of migratory birds (e.g. the threatened Madagascar Pond Heron and the near-threatened Papyrus Gonolek). Industrial pollution from wetlands such as Nyabarongo and Gikondo threaten aquatic life in Kigali and further downstream. Reduced water quality also affects downstream water users. Loss of wetlands coupled with inadequate management of solid waste and wastewater lessens the natural ability to reduce flood risks, and contributes to increased levels of surface water, groundwater, soil and land contamination, negatively affecting communities downstream. These, in turn, can damage infrastructure investments such as roads, drains and settlements that are planned under the proposed project. Continued development of the built-up area can further exacerbate flood risks, unless coordinated with an integrated flood risk management approach.

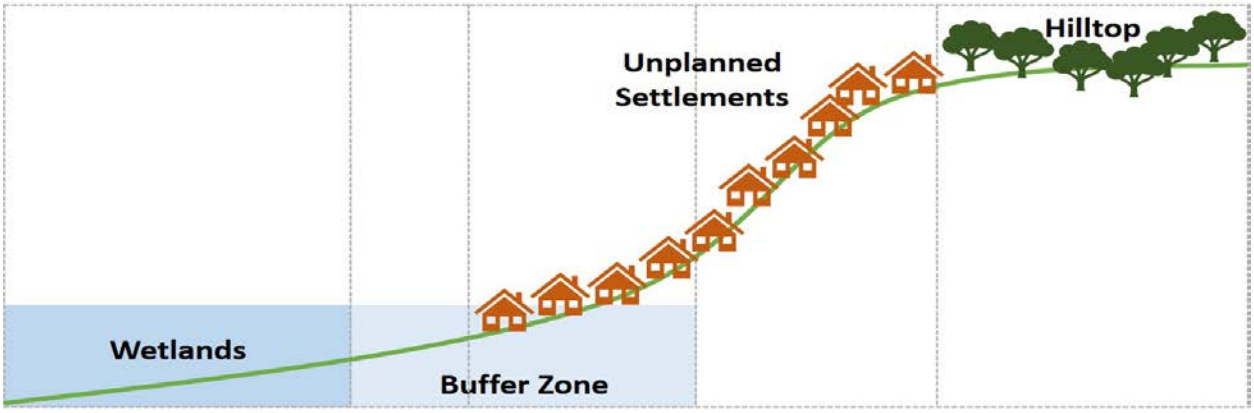
16. **Greenhouse gas emissions are also expected to rise in Rwanda due to continued urban population growth.** Nationally, between 2006 and 2015, total annual greenhouse gas (GHG) emissions were estimated to have grown from 3.8 to 5.2 million tons of carbon dioxide equivalent (CO_2e), (excluding changes to forestry and land-use). By 2032, under a business-as-usual scenario, total GHG emissions are expected to be almost three times greater than in 2015 – representing an annual growth rate of 6 percent.[20] This growth is driven by increased demand for motorized transport, energy used in buildings and the generation of solid waste – combined with a commensurate reduction in air quality. Multi-sectoral action is needed to tackle these challenges and curb future emission increases. For instance, in Kigali, around 2,000 tons of solid waste is produced daily but only 20 percent is collected and landfilled, and 2 percent recycled,

[16] More than 15 Districts were affected by severe floods in 2018. Only in Kigali, 31 persons were reported death and another 31 injured, and more than 2,000 houses were damaged due to floods from January to May of 2018 according to records by the Ministry of Disaster Management and Refugee Affairs reported in the "Assessment of Current Storm Water Management and Flood in the City of Kigali Areas" by MoE, 2018.
[17] World Bank Climate Change Knowledge Portal (CCKP)
[18] Netherlands Commission for Environmental Assessment. 2015. *Climate change profile-Rwanda.*
[19] SMEC International 2019. the National Policy on Water Resources
[20] Gouldson, A., Colenbrander, S., Sudmant, A., Chilundika, N., Musahara, H., and Melo, L. (2016). The Economics of Low Carbon Cities: Kigali, Rwanda. International Growth Centre, University of Leeds

contributing to the release of contaminants into the natural environment. Improving the efficiency of waste collection and disposal can therefore reduce emissions, while vegetation enhancement can both protect existing carbon stocks and promote the sequestration of carbon dioxide.

17. **To sustain Rwanda's growth trajectory and gains, an integrated approach to sustainable urbanization, flood risk management and wetland restoration is needed to enhance resilience.** Rwanda's exposure to climate change and its associated disaster risks can undermine the country's growth prospects and slow down poverty reduction efforts.[21] The Government of Rwanda is taking a lead on sustainable urbanization in the region and is committed to placing the principles of sustainability at the heart of Vision 2050 and the National Urbanization Policy. Acknowledging that cities are integrated systems and that environmental processes are interconnected, a comprehensive approach is needed for managing risks across the natural and built environment. Such an approach responds to the connectivity between land, water and waste in cities, and aims to demonstrate the complementarity of physical (or gray) and nature-based (or green) infrastructure solutions that can be replicated across the country and beyond. The proposed project aims to mainstream urban resilience through an integrated approach to flood risk management from the upper to the lower catchment, and from the top to the bottom of the hills in Kigali, as presented in Figure 2 below. Specific interventions include: (i) wetlands rehabilitation; (ii) green and grey investments to mitigate erosion, reduce and manage stormwater runoff along settlements, enhance wetland buffer zones and address flood hotspots; and (iii) comprehensive technical support that can improve citywide flood risk management such as development of a stormwater master plan and a solid waste strategy.

Figure 2: An integrated approach to flood risk management in Kigali under RUDP II



D. Relevance to Higher Level Objectives

18. **The proposed project is aligned with the World Bank's current Country Partnership Strategy (CPS) 2014-2018, systematic Country Diagnostic (SCD) completed in June 2019 and the next draft Country Partnership Framework (CPF) (FY21–FY26) for Rwanda[22].** Under the first theme in the CPS of promoting private-sector-driven and job-creating economic growth, urban development and the reduction of urban poverty were identified as priority areas for leveraging the World Bank Group's assistance. The SCD recognizes environmental sustainability, building resilience to climate change and strengthening women's participation in democratic bodies at the sub-national level as key priorities. These

[21] A 2009 study on the economics of climate change in Rwanda found that climate change is likely to cost 1 percent of GDP per year by 2030. CDKN.2013. *Climate and Development Outlook Rwanda: Pioneering steps towards a climate resilient green economy.* http://cdkn.org/wp-content/uploads/2013/09/CDKN-Outlook-8_Rwanda_WEB.pdf

[22] FY2014-2020; Report Number: 87025-RW. The CPF 2021-2026 is being finalized and is expected to be discussed by the Board in May 2020.

underscore the critical need to manage urbanization, strengthen decentralization and support climate compatible urban development in achieving Rwanda's aspirations for growth. The draft CPF (FY21-FY26) for Rwanda has five strategic focus areas: (i) improved human capital, (ii) improved conditions for private sector development, (iii) expanded access to infrastructure and the digital economy, (iv) increased agricultural productivity and commercialization, and (v) intensified urban agglomeration. The proposed project will principally contribute to intensified urban agglomeration by supporting participatory planning and financing basic infrastructure and service provision in unplanned settlements in Kigali and the six secondary cities, integrating flood risk management approaches with wetland restoration and building effective urban management capacity.

19. **The scope of RUDP II is also in line with broader World Bank climate-related commitments and targets and GEF-7 program areas.** The proposed project strengthens climate resilience and contributes to scaling up climate action in accordance with the WBG's Climate Action Plan 2016-2020 and the Action Plan on Climate Change Adaptation and Resilience. In addition, it is consistent with three of five areas of GEF-7's Programming Directions, namely: (i) biodiversity, (ii) climate change, and (iii) land degradation. The program is carried out through selected "impact programs" to leverage GEF's ability to design and implement integrated solutions. Specifically, Rwanda is selected as a country recipient of GEF's Sustainable Cities Impact Program[23], which aims to support cities pursue integrated urban planning and implementation and increase their ambitions to deliver impactful sustainable development outcomes with global environmental benefits.

20. **The project also supports important national policies and mandates for climate resilience.** The RUDP II is well-aligned with the country's Green Growth and Climate Resilience Strategy (GGCRS), Environmental Vision to 2030, Biodiversity Strategy, the National Policy on Water Resources, and the national mandate for an Integrated Water Resources Management Authority. The GGCRS informed the 2017 Strategic Program for Climate Resilience, which includes Climate Resilient Human Settlements as one of four key programs. Through investments in resilient infrastructure, nature-based solutions, and institutional strengthening to improve the capacity for climate resilient planning, the project will both reduce the frequency and impact of water-related disasters thereby reducing the vulnerability of urban areas to climate change, and support climate mitigation efforts.

21. **Finally, Rwanda's commitment to Multilateral Environmental Agreements will be strengthened and the project will catalyze transformative action and the achievement of global environmental benefits.** Rwanda is a committed signatory to all the MEAs for which GEF has its mandate as the funding mechanism. This includes the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. Rwanda is currently being supported by the World Bank to update its Nationally Determined Contribution, which includes action on sustainable urbanization as key adaptation and mitigation activities. Rwanda is also a signatory of the Convention on Biological Diversity. The proposed RUDP II will result in direct contributions on improved biodiversity, reduced land degradation, and climate mitigation.

[23] The Sustainable Cities Impact Program (SCIP) supports nine countries and 24 cities for participation in the GEF-7 financing round. The cohort of countries includes Argentina, Brazil, China, Costa Rica, India, Indonesia, Morocco, Rwanda, and Sierra Leone. The SCIP consists of an allocation of approximately US$147 million in GEF resources, bringing in US$ 2.1 billion in co-financing and contributing more than 120 million tons of CO2eq in GHG mitigation benefits. The SCIP is one the three GEF-7's impact programs that were created to help countries pursue holistic and integrated approaches for greater transformational change in key economic systems.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

22. To improve access to basic services, enhance resilience and strengthen integrated urban planning and management in the City of Kigali and the six secondary cities[24] of Rwanda.

PDO Level Indicators

- People with improved access to basic services (disaggregated by gender and city)
- People benefiting from flood risk reduction and wetland rehabilitation interventions in the City of Kigali (disaggregated by gender)
- Cities with detailed area plans, incorporating the principles of sustainability, prepared and adopted

B. Project Components

Component 1: Support to the City of Kigali (US$ 69.03 million, of which IDA US$ 58.95 million, GEF-7 US$ 7.7 million, and PPCR $2.38 million)

23. This component will support the comprehensive upgrading and flood risk management of four unplanned settlements, reduce flood risks at selected locations identified as flood hotspots in the city, pilot an integrated approach to sustainable wetland management and carry out a series of technical assistance (TA) to develop tools for evidence-based, integrated urban planning and provide institutional capacity development and support to the CoK. Specifically, Subcomponent 1a will finance: (i) urban upgrading, (ii) flood risk reduction infrastructure, (iii) development of a stormwater management master plan, and (iv) support for institutional and capacity development. Subcomponent 1b will finance: (i) rehabilitation works and other ecological restoration activities in the Gikondo wetland, (ii) an aerial Light Detecting and Ranging (LiDAR) survey, (iii) development of a GHG accounting and reporting framework for the CoK, and (iv) advocacy, knowledge exchange and partnerships for sustainable urbanization.

24. The priority settlements are close to the Gikondo Valley and Nyabugogo wetlands. Run-off from surrounding urban settlements significantly increases flood flows into these wetlands and introduces pollutants that affect downstream biota and water users, putting this sensitive ecosystem at risk and exposing the city to flood risk. An integrated approach to sustainable urban planning and flood risk management from the upper to the lower catchment and from the top to the bottom of the hills in Kigali will enhance biodiversity and ecosystem services reduce land degradation and mitigate greenhouse gas emissions. Component 1 will include the upgrading of drainage systems in the four unplanned settlements, the provision of green and gray infrastructure along the wetland buffer zone and other critical hotspots in Kigali, as well as wetland restoration.

[24] The six secondary cities to be covered under the project are Huye, Muhanga, Musanze, Nyagatare, Rubavu and Rusizi.

Subcomponent 1a: Integrated urban planning for resilient, inclusive infrastructure delivery (IDA US$ 55.05 million)

25. *Urban upgrading.* This subcomponent will support an integrated package of investments, including detailed designs, construction supervision and E&S instruments, in four unplanned settlements in the Nyarugenge, Kicukiro and Gasabo districts of Kigali. These settlements were prioritized for upgrading following a study done by the Rwanda Housing Authority (RHA) in 2014 that identified them as having the worst living conditions. A comprehensive menu of infrastructure investments will be provided including access streets, street lighting, stormwater drainage, solid waste collection points, liquid waste management, onsite sanitation, water supply, community facilities, local market improvements, multi-purpose facilities and public spaces. These investments will be designed to climate-resilient standards (e.g. use of climate-proof, low-carbon, locally sourced surface and building materials, energy efficient street lighting, etc.) to the extent possible. For instance, improved drainage and surface material for roads and footpaths will reduce the accumulation of water in streets and intersections and improve pedestrian accessibility, mobility and safety. Further to this, low-impact investments such as energy-efficient street lighting and use of locally-sourced and low-carbon building materials will be prioritized to reduce GHG emissions. Design features that maximize benefits of the site (including orientation, shading, prevailing winds, and design for solar gain, among others) and enhance daylighting and natural ventilation through passive design, will also reduce the overall energy consumption in buildings.

26. *Building longer-term community resilience and reducing COVID-19 impacts and other future crises.* Infrastructure investments are expected to provide short-term employment opportunities through labor-intensive works and support essential economic activity through the provision of basic services such as water supply and sanitation and solid waste collection in the unplanned settlements. While construction of asphalt roads will engage some workers, the construction of drains, slope stabilization measures, pedestrian footpaths will be more labor-intensive. The provision of “quick wins” such as water supply and sanitation in the unplanned settlements is expected to mitigate the health impact of COVID-19. In addition, Community Upgrading Committees will be established at the cell level in each unplanned settlement. Each committee will work with city officials at critical review and decision-making points to provide project oversight. Dedicated focus group discussions with women and other minority groups will be facilitated to ensure that selected investments are gender-inclusive and equitable. The committees will also serve as institutional mechanisms through which community needs are reflected in the investments and social safety net responses are better coordinated.

27. *Flood risk reduction interventions.* The project will finance the provision of flood risk reduction infrastructure in flood-prone areas located near the upgrading sites to mitigate erosion, reduce and manage storm water run-off along settlements, enhance wetland buffer zones, and address flood hotspots. Investments will include the rehabilitation of culverts, channels, and drains, as well as implementation of suitable nature-based solutions (NBS) to increase infiltration capacity, retain stormwater and reduce the speed of stormwater runoff. The supported NBS will provide additional climate change mitigation and adaptation benefits for the population of Kigali. Related to this, a stormwater management master plan (SWMMP) for CoK will be prepared to develop investment recommendations for a resilient stormwater management system for the city, including its wetlands, under different urban growth models and climate change scenarios. A system for monitoring rainfall, water level and discharge data, as well as a detailed digital terrain model (DTM) using an aerial Light Detection and Ranging (LiDAR) and photogrammetric survey, as well as aerial photographs of CoK’s projected urban development area in the coming 20 years will be financed and used as input data (financed under Subcomponent 1b) to the SWMMP.

28. *Support for institutional and capacity development given the anticipated effects of COVID-19 and future risks.* Subcomponent 1a will support institutional and capacity development (ICD) activities to strengthen the city’s economic and spatial planning for resilient infrastructure and service provision in view of optimal allocation of space and resources.

The project will focus its ICD support on implementing the city's recently updated master plan through the development of detailed area plans for 1-2 unplanned settlements and undertaking a feasibility study of sites and services schemes to manage urban growth particularly in the fringes of the city. Given the anticipated effects of COVID-19, these detailed area plans will develop and leverage place-based approaches, including: (i) highlighting the importance of sustainable medium to long term planning; (ii) exploring options to convert critical public spaces into centers for collection and distribution of basic needs such as food and water during emergencies; iii) improved neighborhood planning with well-networked and resilient infrastructure; and (iv) managed urban density and appropriate land use mixes that support improved mobility and access to services.

Subcomponent 1b: Evidence-based, sustainable wetland management, flood risk management and greenhouse gas monitoring in the City of Kigali (US$ 13.98 million, of which IDA US$ 3.9 million, GEF-7 US$ 7.7 million and $2.38 million PPCR)

29. This subcomponent will support the design, implementation and monitoring of green infrastructure for wetland rehabilitation in the Gikondo valley. It will also support the design of wetland rehabilitation activities in the Rugenge, Rwintare and Nyabugogo wetlands. Integration of interventions in the buffer zone alongside the prioritized wetlands will further reduce flood risks and serve as a transitional zone between the built environment and wetland area. It will also mitigate the expected impact of increasing frequency of droughts. These wetlands sit at the heart of CoK and set the basic shape around which the city will sustainably develop. The city's recently updated master plan recognizes that Kigali's green space has a primary role in forging sustainable development. Investments in the wetlands will be integrated with gray infrastructure elements from Sub-component 1a; stormwater drainage will be designed to exploit the attenuation and natural treatment capacities of the wetlands. Design of the rehabilitation activities will provide flexible opportunities for private sector investments in areas such as hospitality, tourism and recreation. TA will be provided to support the engagement of the private sector through the development of an innovative financing instrument to accelerate the implementation of urban planning solutions that center biodiversity, ecosystem services, and climate adaptation and mitigation.

30. To support integrated urban planning, a city-wide highly detailed topographic model will be produced using an aerial LiDAR survey. This will be a critical knowledge product that serves multiple purposes and sectors and will become an invaluable tool for integrated urban planning. A technical assistance will also support CoK to develop a framework for GHG accounting and framework, that will take into account transport, construction, energy, the environment, and solid waste management sectors. This framework will allow the estimation of GHG emission reductions from all the investments in the project, including low-carbon upgrading to wetland and solid waste management activities. The framework will pave the way to significant GHG emission reductions across multiple sectors.

31. The project will also support advocacy, knowledge exchange and partnerships on sustainable urbanization, building upon the global SCIP. The global program will enable Rwanda to scale-up engagement from its secondary cities and national scale, to regional and global scales. Kigali will both learn from the SCIP and create knowledge that will be shared through the platform internationally. Project resources will be specifically allocated to allow urban policy experts to participate in global activities and forums. Using its experience in hosting the inaugural Africa Green Growth Forum and other pertinent initiatives including the vision to establish the Rwanda Center of Excellence for Green Urbanization, Kigali would seek to host international meetings for Sustainable Cities to demonstrate best practices and to promote knowledge exchange.

Component 2: Support to Secondary Cities (IDA US$ 80 million)

32. This component will support the provision of basic infrastructure in six secondary cities in two phases (Phases 3 and 4)[25] and provide technical assistance for planning, design and supervision. Under RUDP, the project also supported basic infrastructure in two phases (Phase 1 and 2) and the table below shows the sequencing of the various phases across the two projects.

Table 2: Phases of RUDP and RUDP II investments

RUDP		RUDP II	
Phase 1	*Phase 2*	*Phase 3*	*Phase 4*
Jul 2016 - Nov 2018	Ongoing – Jun 30, 2021	Oct 2020 - Sep 2022	Oct 2022 - Dec 2025

Subcomponent 2a: Infrastructure and service delivery in secondary cities (IDA US$ 76 million)

33. Phase 3 investments include roads, drainage, pedestrian walkways and streetlighting in the six secondary cities. The ongoing RUDP has financed the preparation of feasibility studies, and preliminary designs for several of the proposed investments under Phase 3. These investments can therefore commence soon after project effectiveness. Phase 4 investments will focus on comprehensive upgrading in unplanned settlements prioritized by the secondary cities with potential provision of offsite infrastructure such as drainage and roads. Infrastructure that will be upgraded will improve and expand access to services and build community resilience. Upgraded roads will improve connectivity linking unplanned settlements to other areas of socioeconomic opportunities. Street lighting will improve human security through reduced crime. Phase 4 investments will be identified based on feasibility studies and detailed area plans to be developed under the project.[26]

34. Given the anticipated scale of the unmet need and possible oversubscription, a formula has been developed to allocate funds to secondary cities (Table 3 below). This weighted formula factors in the number of households living in urban unplanned areas, growth rate of unplanned areas, urban population and growth rate, as well as the size of urban areas and growth rate. This formula will ensure that the funds are used to provide maximum impact to beneficiaries.

Table 3: Budget allocation formula for secondary cities

Cities	HHs in urban unplanned areas	HHs in urban unplanned area rate (%)	Urban population	Urban population growth rate (%)	Urban area (km^2)	Urban area growth rate (%)	Total rate (%)	Total Budget Allocated Per District
Huye	9.2	4.24	52,768	7.37	36.3	0.98	12.58	9,562,000
Muhanga	20.6	9.48	50,608	7.07	38	1.02	17.57	13,354,000
Musanze	6.4	2.95	102,082	14.26	77.3	2.08	19.28	14,654,000
Nyagatare	4.5	2.07	47,480	6.63	123	3.31	12.01	9,129,000
Rubavu	4.7	2.16	149,209	20.84	78.3	2.11	25.11	19,085,000
Rusizi	8.9	4.10	63,258	8.83	19	0.51	13.44	10,216,000

[25] There is no phasing in the other components of the project.

[26] Draft Terms of Reference (TOR) for feasibility studies and design have been prepared. However, before they can be finalized, the District Administrations (DAs) (guided by LODA) will carry out a selection process of the settlements and possible infrastructure interventions to support the respective priority upgrading programs. LODA will then prepare brief "Selection Reports" from each of the secondary cities listing the unplanned settlements in order of priority for intervention. A tentative list and basic data of unplanned settlements have been prepared but there is a need to verify this through a systematic and logical community engagement process.

Total	**54.3**		**465,405**		**371.9**		**100.0**	**76,000,000**

35. *Infrastructure investments under Phases 3 and 4 will mitigate the impact of COVID-19.* More than half of total project investments is expected to finance labor-intensive infrastructure in the six secondary cities, particularly the construction of drains, pedestrian walkways and footpaths. These investments are expected to provide short-term employment opportunities and support essential economic activity. In the long term, RUDP II infrastructure investments will address any outbreak of similar pandemic by improving access (easing crowding) and providing water and sanitation and solid waste collection in the upgraded settlements. Early actions to ensure that civil works can commence at the time of project effectiveness is underway. In addition, Community Upgrading Committees will be established in each settlement. Each committee will work with city officials at critical review and decision-making points to provide project oversight. The committees will also serve as institutional mechanisms through which community needs are reflected in the investments and social safety net responses are better coordinated.

36. This subcomponent will also finance feasibility studies, detailed design and construction supervision for Phase 3 and Phase 4 works. Construction supervision consultants will be procured by LODA and assist secondary cities to effectively supervise investment sub-projects and transfer skills to district technical staff.

Subcomponent 2b: Institutional capacity development of secondary cities (IDA US$ 4 million)

37. Subcomponent 2b will support the establishment and functioning of the proposed CMOs. Once established, the project will help CMOs will prepare medium-term (five-year) and annual ICD plans for urban management in order to identify institutional/capacity constraints and bottlenecks to urban management, propose measures to address them, and spell out capacities to be built in order to improve on urban management. In addition, CMOs will receive support to implement the master plans for their respective secondary cities. Master plan implementation will be focused on the development of detailed area plans for one or more unplanned settlements in each city.

Component 3: Institutional Capacity Development and Project Management (US$ 11.42 million, of which IDA US$ 11.05 million and GEF-7 US$ 0.37 million)

38. This component will support institutional and capacity development at the national level, overall project coordination by MININFRA and project management costs across implementation agencies[27] at the national level, CoK and secondary cities.

Subcomponent 3a: Institutional capacity development at national level (IDA US$ 3.80 million)

39. This subcomponent will support the ICD in the CoK and secondary cities through a set of TAs led by MININFRA in coordination with other relevant ministries including MINALOC and RHA, so as to effectively meet the institutional and capacity building needs in the CoK and secondary cities, while ensuring that all TAs are well aligned with the mandates and policies/strategies of the national government. First, this subcomponent will support secondary cities to establish CMOs and make them functional through collaboration with other development partners. Through this deliberative process, a roadmap for CMO development will be drafted with key urban functions to be carried out by CMOs in line with its urbanization policy. Related to this, technical support will be provided to develop a national urbanization strategy to monitor the performance and growth of urban areas in Rwanda, which includes setting up an urbanization monitoring information system. Second, a set of TAs is proposed at the national level under the broad umbrella of the

[27] Implementation agencies include MININFRA PCU, REMA SPIU, LODA SPIU, CoK KUUT, Huye PIU, Muhanga PIU, Musanze PIU, Nyagatare PIU, Rubavu PIU and Rusizi PIU.

housing policy to build on and expand investments in urban upgrading and sites and services under RUDP II. Finally, TA for the development of a national solid waste management strategy will be supported, as well as feasibility studies of disposal facilities in the secondary cities.

Subcomponent 3b: Project management (US$ 7.62 million, of which IDA US$ 7.25 million and GEF-7 US$ 0.37 million)

40. Project management activities to be supported include fiduciary (financial management and procurement), environmental and social management, implementation supervision, contract management, monitoring and evaluation (M&E), and communication and citizen engagement. This component will finance project staffing in MININFRA, LODA, CoK, REMA, and PIUs at the district level. District PIUs are expected to be staffed with a project focal person (preferably with a background in urban planning or engineering) and an environmental and social specialist. They will be responsible for overall project coordination, environmental and social supervision and monitoring, M&E and facilitation and follow-up on all institutional and capacity building activities at the district levels. Support will be provided to assist the secondary city districts in preparing ESF instruments (ESMF, SEP, LMP, ESCP and RPF), and in the implementation and monitoring of these instruments.

Component 4: Contingency Emergency Response (US$ 0)

41. In accordance with the World Bank Policy on Investment Project Financing dated November 10, 2017, Paragraph 12 and 13 for situations of urgent need of assistance, the project includes a project-specific Contingent Emergency Response Component (CERC). The CERC will allow for the rapid reallocation of project funds in the event of a natural or man-made crisis during implementation of the project to address eligible emergency needs under the conditions established in the Project Implementation Manual. This component will have no initial funding allocation but will draw resources from other expenditure categories at the time of its activation.

Climate Co-Benefits of Project Investments

42. **Infrastructure investments financed under Subcomponents 1a and 2a will have substantial climate change adaptation and mitigation co-benefits.** Specifically, all roads will be designed and constructed to consider changing climate conditions, thus ensuring connectivity and enabling communities to recover more rapidly to disruptions caused by climatic conditions. For instance, improved drainage and surface material for roads and footpaths will reduce the accumulation of water in streets and intersections thereby, ensuring road connectivity, pedestrian accessibility and stormwater management where increased stormwater flows due to changing land use patterns. In the dry seasons, the paved surface will also reduce dust and its consequences on the settlement population. Moreover, integration of NBS and other green infrastructure design principles and use of locally sourced, low-carbon materials will also provide positive climate adaptation and mitigation benefits. Pedestrian footpaths will promote a switch to alternative transportation and will enable pedestrian mobility, resulting in emission reductions from vehicular traffic. The project will also include energy-efficient street lighting, which is known to achieve significant reductions in GHG emissions while providing security for pedestrians and drivers at night. The project will promote the use of green energy, a shift from general trend of utilizing grid energy for streetlighting in Rwanda.

43. **Activities financed under Subcomponent 1b are expected to achieve global environmental benefits from decarbonization, improving biodiversity conservation and reducing land degradation.** The project will finance the rehabilitation and restoration of priority wetlands, which will protect the city and its residents against the increasing risk of extreme rainfall and floods. It will also protect existing soil carbon stocks which are otherwise threatened by

encroachment and degradation and promote the sequestration of GHGs. Wetland restoration will safeguard carbon stocks and increase carbon sequestration, improve water quality, and support biodiversity through the creation of green spaces, recreational facilities and additional vegetation areas. Moreover, sustainable management practices in the wetland sites such as erosion control, bank protection and creation of buffer zones will reduce land degradation. It will also mitigate the expected impact of the increasing frequency of droughts.

44. **Technical assistance that strengthen institutional and capacity building in the CoK, secondary cities and national government (Subcomponents 1a, 1b, 2b and 3a) will also have significant climate co-benefits.** These subcomponents will support knowledge development for climate change and mainstream climate-related considerations into urban planning and settlement upgrading, which can significantly contribute to mitigating carbon emissions and avoiding climate-vulnerability lock-in and strengthening urban resilience to disaster risks and climate-related impacts. The development of a national SWM strategy, which when implemented, will set the solid waste sector on a low-carbon path.

C. Project Cost and Financing

45. The estimated total cost for the project is approximately US$ 158.07 million, of which US$ 150 million is financed through the IDA credit and US$ 8.07 million is from the GEF-7 Trust Fund. An additional $15 million is a commitment from the GoR to support resettlement and compensation costs. It will be reflected as part of the annual budgets of the implementing agencies under the project. The detailed component costing is shown in Table 4.

Table 4: Project cost estimate and financing

Project Components	IDA Financing (in US$ millions)	GEF-7 Grant (in US$ millions)	PPCR (in US$ millions)	GoR (in US$ millions)	Total Project Cost (in US$ millions)
Component 1: Support to the City of Kigali	**58.95**	**7.70**	**2.38**	**-**	**69.45**
Subcomponent 1a: Integrated urban planning for resilient, inclusive infrastructure delivery	55.05	-		-	55.05
Subcomponent 1b: Evidence-based, sustainable wetland management, flood risk management and greenhouse gas monitoring	3.90	7.70	2.38	-	13.98
Component 2: Support to Secondary Cities	**80.00**	**-**			**80.00**
Subcomponent 2a: Infrastructure and service delivery	76.00	-		-	76.00
Subcomponent 2b: Institutional capacity development	4.00	-		-	4.00
Component 3: Institutional Capacity Development and Project Management	**11.05**	**0.37**		**-**	**11.42**
Subcomponent 3a: Institutional capacity development at national level	3.80	-		-	3.80
Subcomponent 3b: Project management	7.25	0.37		-	7.62
Component 4: Contingency Emergency Response	**-**	**-**		**-**	**-**

Total Financing Required	**150.00**	**8.07**	**2.38**	**-**	**160.45**
Resettlement & Compensation Costs	**-**	**-**		**15.00**	**15.00**
Total Project Costs	**150.00**	**8.07**		**15.00**	**175.45**

D. Project Beneficiaries

46. The primary beneficiaries of RUDP II will be residents of the six participating secondary cities and unplanned settlements in CoK. Many unplanned settlements in Rwanda are on private land where tenure security is not an issue, but where a lack of planning and investment in infrastructure results in poor living conditions and increased vulnerability to flood risks. Residents in these settlements will have better access to basic infrastructure and services across a range of sub-sectors, including local roads, storm water drainage, sanitation, waste management (increased collection) and street lighting. For instance, during flood events, people will have access to safely walkable pathways and passable roads to be able to reach their homes, jobs, markets, health facilities, schools and other public amenities more easily than during current times of flooding – thereby minimizing disruption to people's lives, properties and livelihoods due to flooding. They will also be at lower risk of vector- and water-borne diseases from standing water and have improved access to clean water, electricity and fuel. Most settlements are home to many female-headed households, thus special efforts will be made to promote gender equity and ensure that the project benefits women as well as men. In addition, residents will indirectly benefit from the cleaner wetlands, greening of urban areas and institutional development activities aimed at strengthening the planning and management capacity of the CoK, and districts to implement infrastructure upgrading interventions.

Citizen Engagement

47. Citizen engagement will be a vital aspect of the project's success. Citizen engagement will be carried out by: (i) ensuring an intensive program of engagement with project stakeholders; (ii) deepening the consultation process which begins during project preparation; and (ii) monitoring social impact through annual stakeholder surveys. Community institutions established through Umuganda[28] will continue to play a key role in the project.

48. **The project will take a proactive approach to participatory planning and implementation.** Community upgrading committees will be formed in each of the settlements to be upgraded. Each committee will comprise five members representing the community, which includes a Chair, Vice-Chair, Secretary, women's representative and youth representative. They will each work with city officials at critical review and decision-making points along the planning and implementation process, namely: (i) baseline survey and initial data collection; (ii) feasibility studies for infrastructure investments in the settlement and prioritization; (iii) preparation of preliminary and final community upgrading plans; (iv) preliminary and detailed design for infrastructure investments; (v) monthly site meetings with the construction supervision consultants and contractors; and (vi) review and validation of consultants' reports and deliverables. The committees will participate in open discussions with city officials, contractors and construction supervision consultants on feasibility studies of priority investments and engineering designs of selected investments. They will serve as an active link between the consultants and the broader community by facilitating information and focus group discussions with respective communities, gathering feedback when such technical documents are presented and helping translate them in the way that residents can understand. In addition, community upgrading plans will be prepared not only to set out the physical layout and details of the physical investments to be financed under the project, but also describe how community organizations and management arrangements will share responsibilities during and

[28] Practice of cooperation and self-help in Rwanda. Through this process community level institutions are set up at the cell, sector and district levels that are inclusive of women, disabled and other vulnerable groups.

after the upgrading process, assigning responsibilities to relevant agencies, detailing both capital and O&M costs, and describing financing and cost recovery arrangements.

49. **As with the current RUDP, Grievance Redress Committees (GRCs) will participate centrally in the project.** GRCs will continue to address conflicts and grievances that arise during implementation of RUDP II. They may comprise of Project Affected Household representatives, women representatives, civil society and non-government organizations present in the community. They will be established and trained at the village, sector and district levels to handle and receive any aggrieved party who may seek a review of the decisions taken under the project. GRCs will follow the SEP and ESMF developed under the project to ensure implementation of the communication, consultation, engagement and protocols for grievance mechanisms. They are also expected to attend meetings organized by the project's E&S specialists to record grievances as part of the grievance redress mechanism (GRM) of the ESMF, RPF and SEP and to discuss any other issues that may arise during implementation.

Gender Considerations

50. As in most developing countries, women and men in Rwanda experience urban areas differently due to their gender-based roles and responsibilities. The provision of basic services and infrastructure in unplanned settlements, and lack thereof, affects women more than men as most household responsibilities are still carried out by women. Women are the primary collectors, transporters and managers of domestic water and fuel, as well as the promoters of home and community sanitation activities. They also play a primary role in waste disposal and environmental management. Women in cities depend more heavily on public transport than men and use transport in different ways, including non-motorized transport. Thus, male and female priorities are often not the same for basic services such as urban housing, water and sanitation, solid waste management, and public transport.

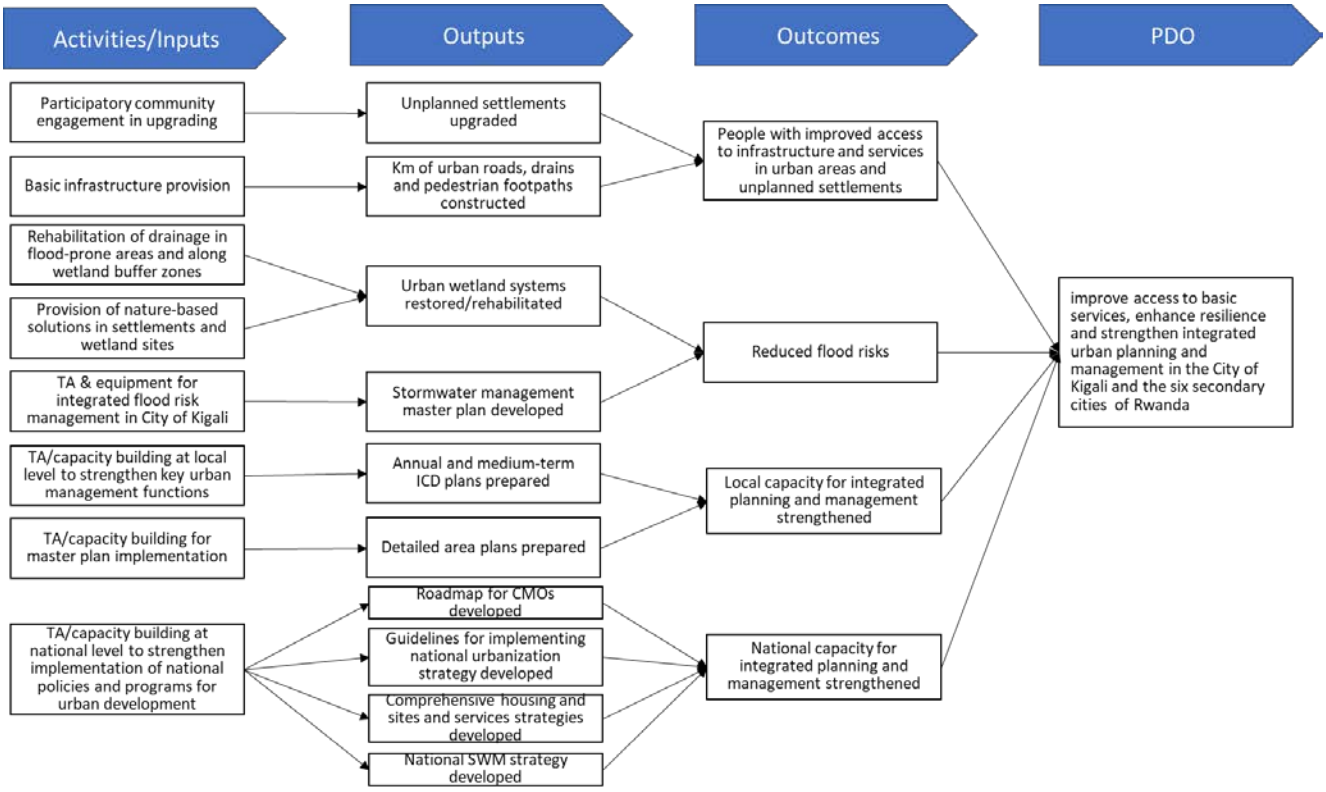
51. **RUDP II will therefore deepen the efforts made under the ongoing RUDP to ensure that women benefit fully from the project.** Under the proposed RUDP II, a major opportunity for introducing a gender-sensitive approach and concrete actions to address some of the identified gender gaps lies in the upgrading of unplanned settlements in the City of Kigali (Component 1a of US$55.05 million) and in Secondary Cities (Component 2a of US$76 million). Gender gaps that project activities can meaningfully address pertain mainly to voice and agency.

52. **For women's stronger voice and agency, the overall planning process for upgrading needs to be made more participatory first, which will then open opportunities to enlarge space for women to participate in and influence the process.** A stepwise approach is envisaged to strengthen the upgrading planning process and enhance women's voice and agency. When constituting the Community Upgrading Committees, either women or representative(s) of women in the settlement will be given leadership roles (i.e., Chair, Vice-Chair or Secretary) so that women become part of the decision-making process in the abovementioned review. In addition, the project will adhere to the Government's policy requiring membership of these committees to be at least 30% female. Furthermore, the project will regularly conduct focus group discussions to ensure that women are well represented and have an opportunity to influence the choice and location of infrastructure investments when prioritization of these infrastructure takes place under Subcomponents 1a and 2a. These focus groups will measure the level of satisfaction both with the process and the outcomes. More details on gender mainstreaming is provided in Annex 3.

53. Additionally, GEF-7 will support the City Advisory Committee and the Social Development Unit of CoK in the coordination and provision of advisory services on women's empowerment and participation in wetland rehabilitation

activities. GEF-7 will actively promote inclusiveness and will finance monitoring and reporting on direct beneficiaries disaggregated by gender as co-benefit of GEF investments.

E. Results Chain



F. Rationale for Bank Involvement and Role of Partners

54. **The Bank is uniquely placed to support Rwanda's efforts to enhance access to infrastructure and basic services in urban areas.** First, it has developed considerable knowledge of what works and what does not through its support for the ongoing RUDP. Second, the Bank has significant experience in supporting project implementing teams to identify opportunities for maximization of project benefits through robust stakeholder engagement processes, that have been known to prioritize community-led investments. Third, the Bank has global experience in upgrading urban infrastructure and unplanned settlements through numerous urban development projects. Fourth, the Bank can use its convening power to coordinate development partners (DPs)' efforts to support urban development in Rwanda, where it takes the role of co-chairing the Urbanization and Rural Settlements Sector Working Group together with MININFRA. The sector working group is an established forum that will bring together the Government, Bank, and other donors to promote coordination and sectoral planning. Finally, this project complements other Bank initiatives to strengthen early warning services, which include the GEF-supported Landscape Approach to Forest Restoration and Conservation (LAFREC), a TA to support the uptake of public-private engagement in hydromet services, as well as ongoing policy dialogue to develop strategies for urban mobility and public transport.

55. **The Bank's initial support to Rwanda's urban strategies has also been a catalyst for attracting other DPs to the sector.** Recently, the Belgian Government through its development agency (Agence Belge de Développement or Enabel) agreed with GoR to provide EUR 20 million to support three urban areas (Rubavu, Musanze and Rwamagana) with a focus on constructing and extending strategic urban economic infrastructure. The UK Department for International Development (DFID) has also been preparing its Cities and Infrastructure for Growth program for Rwanda, a multi-country program aimed at harnessing the potential of cities to drive growth and create jobs by supporting city competitiveness and infrastructure governance reforms. The German Development Bank (*Kreditanstalt für Wiederaufbau* or KfW) is financing a Green Cities Project to develop an eco-district on the periphery of Kigali, incorporating environmental and climate requirements and low-cost housing. The Nordic Development Fund (NDF) is expected to provide EUR 6 million (EUR 1 million grant/ EUR 5 million loan) to the GoR through the MoE to complement IDA and GEF financing. The NDF financing proposal focuses on: (i) investment measures under the Rwampara Sub-catchment Management Plan to mitigate floods and improve water quality, (ii) flood mitigation investments in the buffer zone of the Gikondo wetland, and (iii) support towards the Nyabugogo flood control project. Finally, the Bank's continued support through the proposed project will scale up the achievements under RUDP and generate greater synergies with other DP support in promoting sustainable and productive urbanization in Rwanda.

56. **Financing from the Global Environmental Facility (GEF) is catalyzing investments in sustainable urbanization through its Sustainable Cities Impact Program (SCIP).** This program will enable: (i) the integration of the value of natural capital conservation into a multi-sectoral planning process; (ii) strengthened integration of planning processes across key ministries and sectors; and (iii) uptake of innovative approaches in urban development, including developing new financing instruments and business models. RUDP II is a fully integrated Child Project of the SCIP. The SCIP will create multiple global environmental benefits from decarbonization, improving biodiversity conservation and reducing land degradation, through promoting innovative business models for integrated solutions and investments at the city-level and strengthening the global platform for knowledge exchange and learning by cities on integrated urban sustainability planning and investments. The SCIP will support 24 cities in 9 countries, and Kigali is one of two African Cities. In Rwanda, GEF financing has mobilized US$150 million in financing to support sustainable urbanization and has fundamentally transformed the nature of RUDP II. While Phase I was a US$95 million investment which focused primarily on traditional urban upgrading, Phase II integrates sustainable urbanization through its program, with investments in environmentally sensitive upgrading, solid waste management, nature-based solutions and wetland rehabilitation, GHG accounting and mitigation, and institutional strengthening to support the implementation of integrated spatial plans. The project will therefore be an integral component of the SCIP, where it will showcase innovation and best practices in sustainable urbanization. More details on GEF financing are provided in Annex 4.

G. Lessons Learned and Reflected in the Project Design

57. **Institutional strengthening and capacity development at the city level require greater focus and more attention if they are to result in substantial improvements in urban management**. While RUDP was able to strengthen district-level infrastructure management capacities (planning, design, procurement, supervision), broader institutional and capacity development for urban development proved much more challenging. In retrospect, RUDP's capacity development activities would have benefitted from: (i) a clearer operational focus; (ii) better and more regular coordination, follow-up and support; and (iii) a wider policy environment that accorded greater importance to urban management arrangements. The proposed project has thus been designed to: (i) focus on prioritized core urban management functions; and (ii) ensure local level coordination, monitoring and support for capacity development activities (through district and CoK PIUs). Very importantly, the wider policy environment has evolved – with much

greater emphasis now being placed by GoR on urban management issues in secondary cities (through the establishment of CMOs in district administrations) and in Kigali (through the restructuring of the CoK).

58. **It is important to integrate upgrading with flood risk management and wetland restoration.** Urban upgrading in Kigali under RUDP primarily financed the construction of roads and formalized drainage, which can intensify stormwater runoff and erosion downstream thereby increasing flood risk and wetland deterioration particularly in the buffer zones. An integrated approach to stormwater management requires solutions to increase runoff infiltration, as well as the integration of drainage channels from sites with downstream wetlands. Complementary to gray infrastructure, NBS, such as the development of green spaces, can reduce the runoff, and sediment traps and treatment zones in the buffers and wetland areas can mitigate the erosion and contamination downstream. Furthermore, green spaces in neighborhoods and the rehabilitation of wetlands provide other social and environmental benefits to residents of the urban upgrading sites. Space limitations, steep slopes and heavy pedestrian traffic in existing open spaces are all challenges that will be considered under RUDP II, which will pilot integrated urban water management, including NBS tailored to the context in Kigali.

59. **Weak technical, contract and safeguards management capacities have resulted in problems and delays in the delivery of infrastructure projects**. During RUDP, secondary cities faced significant difficulties in managing contract extensions and variation orders, and in ensuring and demonstrating compliance with safeguards requirements. The project had no E&S staff at the district level to follow up on the implementation of environment and social risk measures. In CoK, an understaffed KUUT has been overstretched. At the national level, coordination with districts and the management of engineering supervision consultants has been deficient. RUDP II will therefore ensure that adequate implementation support and E&S management will be ensured through better capacitated PIUs at the subnational level, a fully staffed LODA SPIU, and a stronger PCU.

60. **Minimizing resettlement under the project will require a flexible approach to the application of infrastructure and construction standards and the implementation of master plans in both Kigali and the secondary cities**. Under RUDP, upgrading in Kigali resulted in high costs for resettlement (approximately one third of the cost of civil works) due to the application of strict infrastructure standards in accessing streets in the upgrading site. Preparation of RUDP Phase 2 investments in secondary cities also went through a lengthy discussion over design options for roads cross sections until it was agreed that the carriage way for two-way roads will be kept 6m wide while non-motorized transport (NMT) and ancillary facilities will vary depending on the existing available right of way. The revised master plan for Kigali (and potentially the master plans for secondary cities currently under revision) introduces increased flexibility as well. The agreement to use functional standards with flexibility in less essential elements of infrastructure should continue to be upheld as a key principle for investments under RUDP II for the project to minimize both social and economic costs of investments while improving the living standards of the urban residents in place.

61. **The availability of budgetary resources to finance payment of compensation to project affected persons (PAPs), especially in Kigali, has been a bottleneck in the implementation of works**. Establishing compensation budgets and then releasing payments to PAPs has slowed down the handover of construction sites to contractors – and thus slowed down works. Although minimizing resettlement (through the application of flexible infrastructure standards) will help in limiting the size of compensation payments, these are likely to remain substantial. RUDP II will therefore seek to establish more effective mechanisms through which budgets for PAP compensation are established. The GoR has committed to contributing US$ 15 million to finance anticipated resettlement and compensation costs under RUDP II. It will be reflected as part of the annual budgets of the implementing agencies under the project.

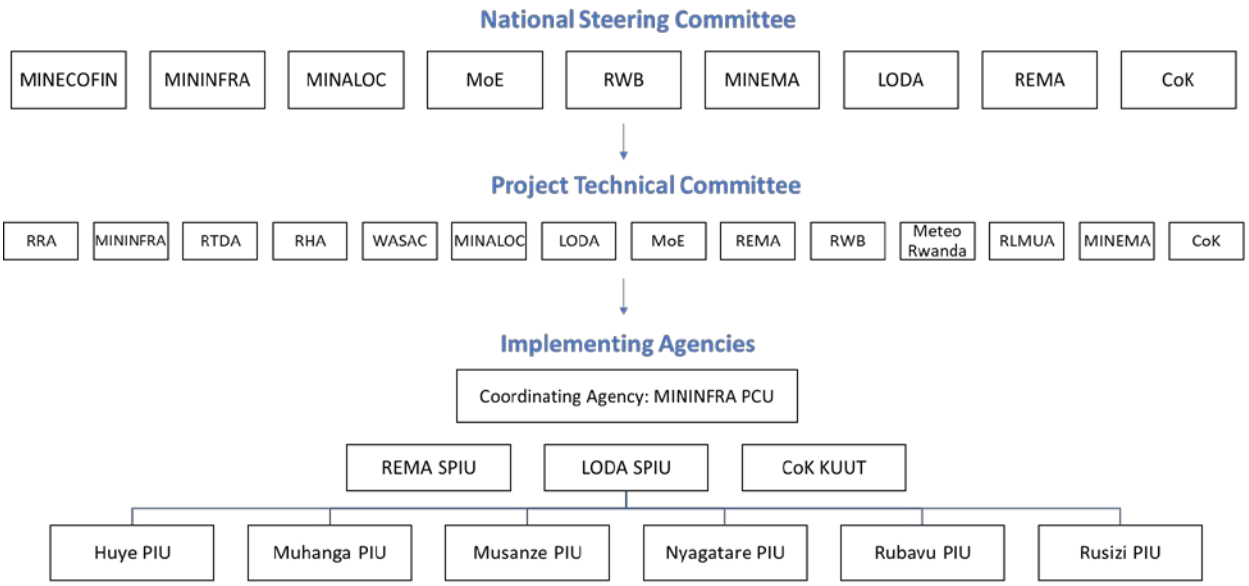
62. **Improved coordination and overall project management is required among implementation agencies at the national level and across various ministries involved in urbanization and between national and sub-national levels.** Effective coordination among implementing agencies at the national and local levels and collaboration with the private sector (particularly utility service providers) are key to expediting implementation. Under RUDP II, coordination is likely to be challenging with the involvement of additional implementing and technical agencies, such as REMA, RWB, RLMUA and WASAC. Coordination can be improved through the set-up of a Project Technical Committee (PTC) which would convene all national stakeholders involved in implementation on a regular basis. Coordination between the national and local levels should also be improved through district-level PIUs, accountable to LODA SPIU but with a mandate to facilitate RUDP II activities at the local level. Similarly, coordination among line ministries for policy guidance and high-level decision making can be improved by establishing a National Steering Committee (NSC). It was agreed that the NSC and PTC would be set up under the ongoing RUDP so that their effectiveness can be assessed, and any adjustment made for RUDP II. To strengthen environment and social risk management under RUDP II, an environment and social safeguards supervisor will be based at MININFRA to coordinate environment and social risk management across all PIUs. In addition, RUDP II will establish more coherent project management arrangements, which – for example – unify project monitoring functions and formats across both the national and local levels.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

63. The key lesson learned from RUDP implementation is the need to strengthen vertical and horizontal coordination, particularly between agencies at the national level, between national and sub-national governments, as well as between districts and their citizens. The proposed RUDP II will largely retain the existing implementation architecture of RUDP but makes a few key additions, particularly the addition of MoE and REMA as its implementing agency (see Figure 3). The project will be implemented and coordinated at the national and district government levels with clear division of tasks and responsibilities given institutional mandates and existing legal provisions, regulations and guidelines. Annex 2

Figure 3: Project coordination arrangements



provides a breakdown of the implementing agencies by activity along with their institutional mandates and existing legal provisions.

64. **Project coordination.** Overall project coordination will remain the responsibility of the MININFRA PCU given its institutional mandate for policy and coordination on urbanization. The PCU will comprise of a Project Coordinator and five other staff, including PFM Specialist, M&E Specialist, Procurement Specialist, Environmental Specialist and Social Specialist. The RUDP II Project Coordinator will report to and act under the direction of the Urbanization, Human Settlement & Housing Development Division Manager. The main tasks of the PCU include: (i) overall responsibility for day-to-day coordination and management, including direct support to the three implementing agencies; (ii) project management and implementation of activities under Component 3; (iii) overall project monitoring and evaluation; and (iv) progress reporting on a quarterly basis.

65. **National level roles and responsibilities.** The need for robust coordination is further underlined by the inclusion of an environmental management element under the project and thus the addition of MoE/REMA as key national stakeholders in the project. Urban programs are inherently multi-sectoral and will also require continuous involvement of technical agencies such as RTDA, WASAC, RHA and RLMUA. The project will therefore aim to institutionalize this coordination through a high-level National Steering Committee (NSC), comprising the Permanent Secretaries, Director General and City Manager of MININFRA, MINECOFIN, MINALOC, MoE, RWB, MINEMA, LODA, REMA and CoK, respectively. The NSC will discuss policy and strategic issues related to urbanization, as well as review and approve annual work plans and provide high-level project oversight and policy coordination. Members of the NSC are expected to meet on a semiannual basis each year and as needed. Furthermore, the project will also support closer coordination among the environmental and social specialists coordinating the ESIA/RAP preparations with the procurement teams preparing the tender documents so that the ESIA/ESMP and RAP are not disconnected with the obligations of contractors in the application of the ESIA prevention, mitigation and compensation measures during construction.

66. **Project Technical Committee.** The project will also form a Project Technical Committee (PTC) comprising the Department Heads, Division Managers and Project Coordinators of RRA, MININFRA, RTDA, RHA, WASAC, MINALOC, LODA, MoE, REMA, RWB, Meteo Rwanda, RLMUA and CoK, respectively. The PTC will provide technical advisory support to project contractors and consultants (through the Implementing Agencies), review implementation progress and handle day-to-day project coordination. The PTC is expected to meet on a quarterly basis each year and as needed; (iii) Implementing Agencies comprising project staff of MININFRA PCU, LODA SPIU, REMA SPIU, CoK KUUT and District PIUs will be responsible for day-to-day project implementation, including project reporting, M&E, procurement, supervision of works and implementation and monitoring of Environmental and Social Standards (ESS) instruments prepared under the project. Moreover, RWB, RLMUA and REMA will support implementation of flood risk management and wetland restoration interventions. WASAC will also be part of the PTC to provide technical input to the development of a national SWM strategy.

67. **District level roles and responsibilities.** Project implementation will be further decentralized by setting up project financed PIUs at the district level and within the CoK KUUT, staffed with a project focal person (preferably with a background in urban planning or engineering) and one E&S specialist. They will be responsible for overall project coordination (for Components 1 and 2), environmental and social management and supervision, M&E and facilitation and follow-up on all institutional and capacity building activities at the district and CoK levels.

B. Results Monitoring and Evaluation Arrangements

68. A project M&E system will follow a results-based management approach to ensure accountability of the use of project funds, provide a means to analyze project implementation to ensure that it aligned with outcomes, and outline flow of data and information between governance levels (national and districts). Many of the indicators have been selected because they proved both measurable and useful in monitoring progress under the first RUDP. Additional indicators aimed at capturing the project's focus on flood risk reduction, wetland management and restoration and urban planning and management will be added.

69. The MININFRA PCU and LODA SPIU will be staffed with dedicated national-level M&E specialists and each of the participating cities will include an M&E specialist who will be responsible for data collection and presentation to the NSC and PTC and for feeding into the M&E system at the project level. Each District PIU will prepare quarterly M&E reports and submit to LODA SPIU for compilation and LODA will send the report to the PCU. The PCU will prepare a comprehensive M&E report which includes updates of national level activities across all implementation agencies. The PCU will submit quarterly reports to the Bank within 45 days of the end of each fiscal year quarter. To strengthen capacity of both levels of government to carry out their M&E responsibilities, the PTC will prepare an M&E capacity building plan that will build on the institutional assessment study that was conducted during project preparation, and this will be integrated in the overall project capacity building plan. For ESF monitoring, an independent annual E&S audit will be carried out to identify gaps and areas for further strengthening.

C. Sustainability

70. Sustainability is a key consideration in the project. A lesson from RUDP is that attention needs to be paid to post-project O&M of the infrastructure that has been constructed. Institutional strengthening will emphasize the ability of cities to maintain the infrastructure, implement the local development plans and identify financing mechanisms to maintain the infrastructure upgrading process. In addition, community upgrading plans will be prepared in consultation with the Community Upgrading Committees not only to set out the physical layout and details of the physical investments to be financed under the project, but also describe how community organizations and management arrangements will share responsibilities during and after the upgrading process, assigning responsibilities to relevant agencies, detailing both capital and O&M costs, and describing financing and cost recovery arrangements.

IV. PROJECT APPRAISAL SUMMARY

A. Technical

71. The project is deemed technically sound and builds on achievement made in the implementation of the first RUDP and benefits from the lessons learned in previous operations. Investments in road upgrading will be implemented using technology and methods that are well known in Rwanda (such as asphalt concrete, surface dressing, and concrete interlocking blocks) and no technical difficulties are foreseen in this area. Similarly, technology for construction of stormwater drains (masonry and concrete) is well known and has been implemented by the districts before. The proposed interventions for upgrading of unplanned settlements are deemed technically sound based on the experience from other countries and considering the legal and institutional framework of Rwanda.

72. All investments will be designed to correspond to local conditions and when possible will make use of labor-intensive methods accessible to local construction firms. Detailed engineering design consultants will be contracted to design these urban infrastructure investments. They will prepare designs and bidding documents for subprojects for which preparation work had been advanced under the first RUDP and some are ready for execution. The list of priority

investments for Phase 3 has been agreed with the secondary cities, and Phase 4 investments on upgrading in selected unplanned settlements will be agreed upon before project appraisal. To ensure adequate contract management, the works will be overseen by dedicated construction supervision consultants, district PIU staff, LODA SPIU, and end users or beneficiary representatives.

73. Construction materials for these urban infrastructures are readily available in Rwanda, and going by RUDP contracting, the local construction industry has experience and adequate capacity to undertake the proposed urban infrastructure. The capacity of existing materials testing laboratories proved adequate in the first RUDP, and the same will be used for quality control of construction materials and quality assurance during construction. For all secondary cities, a 5-10% infrastructure contingency will be provided for any changes in physical quantities during construction.

B. Economic and Financial Analysis

74. Investments to be financed under the project are pure public goods (roads, drainage, streetlights) and ecosystem services (flood risk reduction, water quality improvement), none of which would be provided by the private sector. The project's expected benefits will arise largely from improvements in road quality and drainage and from upgrading unplanned settlements.[29]

75. The following includes an economic analysis of RUDP II Phase 3 activities based on estimated project costs. Since RUDP II Phase 3 activities have two separate interventions focused on six secondary cities and Kigali, separate calculations were carried out. For the secondary cities, focus was paid particularly to road and drain infrastructure improvements; while for Kigali the overall benefits of comprehensive upgrading and wetland restoration were taken into account. Overall, the analysis was undertaken by estimating benefits using (details provided in Annex 5): (i) Hedonic pricing method; (ii) HDM-4 transport models; and (iii) Flood costs avoidance scenarios (in the case of wetland restoration).

76. **Benefits of investments in urban roads and drains.** The benefits associated with improved roads are: i) savings in travel time cost; ii) savings in vehicle operating costs (VOC); and iii) general improvement in access to public services and amenities such as jobs, markets, health facilities schools, and other services. The benefit of drains includes reduced property damage (buildings, roads, furniture, appliances, household goods). All these were measured by estimating increased annual rents for households currently living in intervention areas.

77. **Benefits of comprehensive upgrading.** Comprehensive upgrading includes improvements to basic services (water, waste management, streetlights), and access to amenities (markets, parks, all-weather roads). The benefits of comprehensive upgrading were estimated by measuring the increase in annual rents as a result of household access to each of these amenities and services.

78. **Benefits of wetland restoration and flood-risk management.** The planned project will: i) replace vulnerable land uses (such as industrial and residential) with resilient land uses (such as recreation fields and wetlands) in flood-prone areas, ii) reduce the magnitude of floods, and iii) reduce associated flood disservices (sedimentation, solid waste dispersal and poor water quality). The benefits of wetland restoration and flood risk management were measured using

[29] While a Financial internal rate of return (FIRR) should ought to be carried out for all revenue generating subprojects, for non-revenue generating subprojects, such as slum upgrading, flood protection and drainage and urban roads improvement, FIRR calculations are generally not required, although an economic analysis should be undertaken.

2018 flooding events in the Nyarugenge and Gasabo districts of Kigali combined with current and predicted trends to estimate the damage that could be prevented with appropriate investments given a high-flood and low-flood scenario[30].

79. Overall, the estimated economic rate of return (ERR) for projects planned under RUDP II Phase 3 across secondary cities is likely to range between 22 and 47 percent. Variations are based on the city's overall size, number of households/populations that are likely to benefit from improved services, city's current traffic throughput as well as type and number of activities that are planned in that city. The estimated ERR for comprehensive unplanned settlement upgrading and wetland restoration activities to be carried out in Kigali are likely to range between 17 and 26 percent (depending on flood frequency scenarios).

C. Fiduciary

Financial Management

80. The project will follow the main financial management architecture used under the current RUDP with additional features to accommodate changes in the implementation arrangements. Majority of RUDP II funding will be implemented by LODA, CoK and District PIUs under the overall coordination of MININFRA. All these agencies have implemented the current RUDP and were assessed as having adequate capacity. Additionally, REMA will be introduced as an implementing agency under the project. REMA has implemented World Bank projects in the past and has an established SPIU. A comprehensive FM capacity assessment of REMA and CoK has confirmed their capacity to support the implementation of RUDP II.

81. The key fiduciary risks under the project include challenges of monitoring, coordination and supervision of its highly decentralized activities, lack of an established PIU in CoK and high turnover of accountants which could impact efficient and effective FM execution. In order to enhance internal control arrangements for the proposed project the internal audit units in each of the implementing agencies will conduct biannual reviews of project activities and submit reports to the project management team. The LODA internal audit unit will cover disbursements to the six secondary cities. Fiduciary oversight will also be strengthened by the annual external audit of project activities conducted by the Office of the Auditor General. Additional staff will be deployed to fill gaps in each of the implementing agencies while MININFRA will ensure effective coordination of all project activities based on lessons and experiences from the implementation of the RUDP.

82. The Auditor General will be responsible for the audit of the project in each of the implementing agencies and the six secondary cities. The audit report and management letter will be submitted to the World Bank within 6 months after the financial year end and the audit report will be publicly disclosed in accordance with the Bank Access to Information Policy. Upon receipt of the audit report, each of the implementing agencies will be expected to prepare an action plan to address the audit findings.

83. The current accounting capacity for the RUDP will be maintained but an additional project accountant will be deployed at REMA SPIU. In CoK, a financial management specialist was recruited to strengthen capacity for project implementation and oversight. Project financial records will be maintained using the government IFMIS which will also be used to generate the periodic financial reports. The project will prepare and submit quarterly interim financial reports to the Bank within 45 days after the end of the quarter. Budgeting arrangements will follow country systems with each

[30] In a high-flood scenario, a serious flood occurs every 3 years, with 8 such events in the 20-year period; in a low-flood scenario a serious flood occurs every 6 years, with 4 such events occur in the 20-year time period in Kigali.

of the implementing agencies preparing budgets based on approved annual work plans and submitting for consolidation by MININFRA.

Procurement

84. Procurement for the proposed project will be carried out in accordance with the World Bank Procurement Regulations for Borrowers under Investment Project Financing, dated July 1, 2016 and updated in November 2017 and August 2018, hereafter referred to as Procurement Regulations. The project will also be subject to the World Bank's Anticorruption Guidelines, dated July 1, 2016 and beneficiary disclosure requirements.

85. A Project Procurement Strategy for Development (PPSD) has been prepared by the Borrower describing the overall project operational context, market situations, implementing agencies' capacity and identifies possible procurement risks and mitigation measures to ensure E&S aspects are adequately addressed and to achieve value for money in pursuit of the project development objectives. The PPSD also sets out the selection methods to be followed in the procurement of Goods, Works, and Non-Consulting and Consulting Services financed under the project. The underlying Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

86. The proposed project will use the Systematic Tracking of Exchanges in Procurement (STEP), a planning and tracking system that will provide data on procurement activities, establish benchmarks, monitor delays and measure procurement performance.

87. A procurement capacity and risk assessment has been carried out by the World Bank for the implementing agencies at the national and local levels. District PIUs implement their respective contracts with the necessary support from MININFRA PCU, LODA SPIU, as well as TA support for planning, design and supervision to be hired under the project. Procurement risks arise from the (i) introduction of new implementing agencies which lack familiarity with Bank procurement regulations; (ii) staff turnover due to low remuneration and short contract duration; (iii) lengthy internal procurement processes, (iv) lack of adequate bid competitions, and (v) low implementation coordination and capacity of IAs at the national and district levels. Despite those risks, the establishment of the NSC, PTC, and the recent recruitment of additional procurement staff are expected to minimize the risk of coordination and capacity. Based on recent progress made in addressing these weaknesses, the Procurement Risk Assessment and Management System (PRAMS), which was rated Substantial at Project Concept Note stage, is downgraded to Moderate at Appraisal stage.

D. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

E. Environment and Social

88. Based on due diligence as required by the ESF and ESS1, the project E&S risk rating is Substantial, mainly due to the potential adverse social and environmental impacts, large number of agencies involved in implementing the project

and lack of experience in the application of the ESS, as well as the cumulative impacts that some of the works will have on the safety and wellbeing of residents in urban communities and informal settlements.

89. Under Subcomponent 1a, the project will upgrade informal settlements in three districts in CoK (Gasabo, Kicukiro, Nyarugenge). The experience of the Borrower and implementing agencies in dealing with complex urban projects such as informal settlement upgrading is limited in some respects, and the experience regarding mainstreaming environment and social issues in the implementation of RUDP suggests that capacity concerns will need to be addressed through implementation support, better planning of E&S assessment and better supervision. For this reason, institutional arrangements have been strengthened to include E&S staff at the district level and at each implementing agency to improve E&S management in the project. Under Subcomponent 1b, the project will support integrated flood management through urban wetland restoration and management, storm water management and improvement of the drainage networks and rivers, which will mostly be positive for the environment and for reclamation of wetlands functions. Under Component 2, the project will deliver improved basic urban infrastructure in the six secondary cities (Huye, Muhanga, Musanze, Nyagatare, Rubavu and Rusizi). The expected investments include road construction and rehabilitation, informal settlement upgrading, pedestrian walkways and drainage construction. It is anticipated that these urban infrastructure investments will be implemented in populated areas, and thus largely involving existing basic infrastructure. The proposed implementation sites are in the vicinity of residential housing areas and commercial centers, and basic services (water pipeline, electricity line, public transport, access to schools, health center), which are likely to be affected by project works.

90. **The potential E&S risks and impacts** from the urban civil works are expected to be typical to road and drainage construction. They may include acquisition of land for road expansion; temporary removal of access to properties (residences, shops, schools, markets, etc.); damages to house entrances, cracking of houses due to vibrations from operating heavy equipment; traffic disruption; noise and dust; slope cuts and soil excavations, accidents and injuries; rainwater accumulation affecting neighboring properties, construction debris, solid waste generation and sedimentation of streets and streams, among others.

91. **Implementing agencies' responsibilities for E&S management.** All participating agencies in the project are responsible for the application and compliance with the ESF and ESS[31]. The project relevant ESS are: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, ESS10. As such, the following instruments will be prepared prior to appraisal: ESMF, SEP, LMP, RPF and ESCP. Preparation of Phase 3 designs in secondary cities will incorporate measures and budgets in the findings from the ESIA and RAP. Preparation of safeguards tools for Phase 4 investments will commence once the subprojects are agreed upon and coordinated with the preparation of the engineering studies.

92. **Gender and Gender-Based Violence (GBV).** Prominent GBV risks associated with the target areas include public harassment, which may involve verbal insults and physical abuse of project workers by contractors. Women seeking employment under this project could likely exacerbate these risks as contractors tend to take advantage of those women seeking opportunities. As part of project preparation, a specific project-related GBV risks assessment was carried out using the Sexual Exploitation and Abuse/Sexual Harassment risk screening tool and the assessment and rated the project as Moderate. During implementation, the project will prepare a GBV Action Plan which will then form part of the Contractors ESMP.

[31] *https://www.worldbank.org/en/projects-operations/environmental-and-social-framework*

93. **Labor and Working Conditions.** The project will include direct workers, contracted workers, primary supply workers, and government workers, which will therefore need to meet requirements for terms and conditions of employment, non-discrimination and equal opportunity, worker's organizations, child labor, forced labor, a grievance mechanism and occupational health and safety plans. Stakeholders and beneficiaries working in connection with the project full-time or part-time will remain subject to the terms and conditions of their existing public sector employment or agreement, unless there has been an effective legal transfer of their employment or engagement in the project. The project will also include Occupational Health and Safety procedures or plans and a grievance mechanism for labor disputes for labor disputes as required by ESS2.

94. **Stakeholder Engagement.** The project will ensure early, continuous and inclusive (including vulnerable/disadvantaged groups) stakeholder engagement which will be documented in a SEP and disclosed. This plan will address specific risks identified by stakeholders, including the risks to vulnerable persons, etc.) and will be updated as and when necessary. The objective is to establish a systematic approach for stakeholder engagement, maintain a constructive relationship with them, consider stakeholders' views, promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life-cycle, and ensure that appropriate project information is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner. The project will set up a project-specific grievance redress and feedback mechanisms for people to report concerns or complaints if they feel unfairly treated or are affected by any of the sub-projects.

95. **Grievance Redress Mechanism (GRM).** A locally based, project-wide GRM, proportionate to the potential risks and impacts of the project, will be established. In addition, a GRM specifically for direct and contracted workers will be provided. The GRMs will be designed at an early stage and will be established by project effectiveness.

F. Grievance Redress Services

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

V. KEY RISKS

97. **The overall risk rating for the project is Substantial.** While the project benefits from the institutional arrangements and implementation experience of RUDP, several challenges were identified during the RUDP mid-term review in September 2018, notably in relation to: implementation capacities, particularly procurement and contract management; overall project management in terms of effective coordination; and stringent planning and infrastructure design standards resulting in a high incidence of involuntary resettlement, particularly in urban upgrading. Addressing them will require concerted efforts. New features are also being considered for the proposed project and may generate

additional risks, including those related to scaling up of upgrading in CoK, and an expanded menu of investments including storm water drainage and wetlands restoration.

98. **Technical Design of Project or Program (Substantial).** RUDP II incorporates GEF-7 grant financing for sustainable urban planning and climate-compatible investments, which will be executed by REMA and CoK. Further to this, the NDF will provide EUR 6 million, a mix of concessional loan and grant, to the GoR through the MoE to complement IDA and GEF financing. This will create significant synergies between NBS for flood risk mitigation and planned hard investments in stormwater drainage. However, introducing a new agency with various funding streams and additional activities to the project increases the technical design risks in the project. Mitigating this risk requires improved coordination, diligent project-level financial managment and proper monitoring.

99. **Institutional Capacity for Implementation and Sustainability (Substantial).** Under RUDP, LODA channels funds to districts and is expected to support districts' implementation. Their capacity needs to be improved to ensure more effective or timely guidance to local governments in solving problems regarding procurement and contract management and stronger communication and information exchange with both MININFRA and WB. In RUDP II, LODA's role in project implementation has been carefully defined and stronger communications and coordination mechanisms will be established to ensure effective and efficient project management at the level of the national government. Further, there is room for improvement in project management by minimizing overlap between the various implementation agencies in MININFRA and LODA and establishing clear (and discrete) management responsibilities assigned to each national-level stakeholder. This can be addressed through clear ToRs for key project staff across the various agencies in the PIM. Further, a PTC will be set up under RUDP II to provide a platform for regular coordination and decision making among the national agencies.

100. **Fiduciary Risks (Substantial).** The complex institutional arrangements in the project also increase the financial management and procurement risks in the project. Procurement will be undertaken across multiple agencies at the national level – LODA, MININFRA, REMA as well as through agencies at the sub-national level – districts and CoK. Procurement capacities across these institutions vary. Similarly, financial management is made complex by the various institutions responsible for financial monitoring. These risks will be mitigated in RUDP II by recruiting dedicated Procurement and FM Specialists in both LODA and MININFRA with clearly distinguished roles and responsibilities between the two agencies. In addition, hands on procurement and FM support will be provided to the districts/CoK through TA in LODA. Moreover, REMA which serves as a focal point for GEF-7 funds has the responsibility to ensure monitoring and delivery of GEF interventions. REMA and RWB will provide technical support to the CoK to ensure integration of flood risk and wetland management. Thus, a Memorandum of Understanding (MoU) among the agencies that establishes and subsequently guides the procurement, financial management and monitoring aspects of GEF-7 resources will ensure risks are mitigated in the implementation of GEF-7 activities.

101. **Stakeholders (Substantial).** Urbanization is inherently multisectoral and thus calls for strong coordination, both horizontally and vertically. At the national level, a high-level coordination entity equipped with strong analytical and strategic functions should be considered for multisectoral coordination for well-managed urbanization.[32] In the absence of such a platform for coordination, it has been challenging for MININFRA to provide strategic guidance to the various programs/projects in the urban sector. There is much room for removing overlaps/inefficiencies, facilitating more cross-learning and information sharing and creating bigger synergies or impacts. RUDP II will therefore establish a NSC composed of line ministries that deal with issues related to sustainable urbanization.

[32] World Bank. 2019. "Future Drivers of Growth in Rwanda: Innovation, Integration, Agglomeration, and Competition." Conference Edition. World Bank, Washington, DC.

102. **Environmental and Social (Substantial).** The implementing agencies will be using the ESF instruments for the first time thereby requiring some time to adjust to current practices and procedures for supervision and subproject preparation (including EIA and procurement of works). Potential risks from civil works, if poorly managed, may result in land resettlement issues as observed in the first RUDP. Coordination between cities and central agencies will need to be strengthened in order to cope with large numbers of works that will be delivered at different times, manage ESS instruments requirement and supervise different contractors and district PIUs.

VI. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Rwanda
Rwanda Urban Development Project II

Project Development Objectives(s)

To improve access to basic services, enhance resilience and strengthen integrated urban planning and management in the City of Kigali and the six secondary cities of Rwanda.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	End Target
People with improved access to basic services			
People provided with improved urban living conditions (CRI, Number)		18,900.00	152,284.00
People provided with improved urban living conditions - Female (RMS requirement) (CRI, Number)			
People in urban areas with access to all-season roads within a 500-m range under the project (disaggregated by city and gender) (Number)		118,805.00	437,273.00
People benefitting from flood risk reduction and wetland rehabilitation interventions			
People benefiting from wetland rehabilitation interventions in the City of Kigali (disaggregated by gender) (Number)		0.00	128,286.00
Institutional capacity for integrated urban planning and management strengthened			

Indicator Name	PBC	Baseline	End Target
Cities with detailed area plans, incorporating principles of sustainability, prepared and adopted (Number)		0.00	7.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
Support to the City of Kigali			
Unplanned settlements upgraded (Hectare(Ha))		86.00	470.00
Hotspots rehabilitated with flood risk reduction interventions (Number)		0.00	6.00
Stormwater management master plan developed and approved for Kigali (Yes/No)		No	Yes
Land restored/rehabilitated (Hectare(Ha))		0.00	163.50
Greenhouse gas accounting and reporting framework developed for the City Kigali (Yes/No)		No	Yes
People participating in the planning and implementation process (disaggregated by gender) (Number)			
Women in leadership positions in community upgrading committees (Percentage)		0.00	40.00
Support to Secondary Cities			
Urban roads constructed or rehabilitated under the project (Kilometers)		72.00	114.00
Standalone drains constructed or rehabilitated under the project (Kilometers)		24.00	36.00
Unplanned settlements upgraded (Hectare(Ha))		0.00	516.00

Indicator Name	PBC	Baseline	End Target
People participating in the planning and implementation process (disaggregated by gender) (Number)			
Women in leadership positions in community upgrading committees (Percentage)		0.00	40.00
Institutional Capacity Development and Project Management			
Technical assistance for roadmap for CMO development (Yes/No)		No	Yes
Technical assistance for support to national urbanization (Yes/No)		No	Yes
Technical assistance for developing a comprehensive housing strategy (Yes/No)		No	Yes
Technical assistance for developing a sites and services strategy (Yes/No)		No	Yes
Technical assistance for developing a national solid waste management strategy (Yes/No)		No	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People provided with improved urban living conditions		Annual	Progress reports	The number of people in each unplanned settlement is already known and the scope of works planned in each unplanned settlement is to be known through	CoK KUUT, District PIUs, LODA SPIU, MININFRA PCU

				contracted works. During the monitoring of the annual achieved target for the indicator, we will be considering the equivalent proportionate percentage of completed works on the indicator target	
People provided with improved urban living conditions - Female (RMS requirement)					
People in urban areas with access to all-season roads within a 500-m range under the project (disaggregated by city and gender)	All-season road is defined as a road that is motorable all year by the prevailing means of transport.	Annual	The number of household on each road investment in a buffer of 500m is already known through LAIS. The physical progress of the road is from the most recent project progress report.	Data on the number of people with access will be measured by multiplying the number of households obtained with the use of LAIS in 500m of the completed length of roads upgraded, with the average number of urban household size (4) in EICV5, excluding double counting	District PIUs, LODA SPIU, MININFRA PCU

People benefiting from wetland rehabilitation interventions in the City of Kigali (disaggregated by gender)	This indicator refers to the cumulative number of people directly benefiting from: i. Reduced flood risk to the beneficiaries around the wetland ii. Improved water quality downstream of the catchment area of the investments	Annual	Geospatial information on population density in Kigali, and the combined areas of the upgrading sites, flood-prone areas and size of the sub-catchment areas will be used to define the target values of this indicator.	People benefiting from risk reduction will be defined as those living adjacent to Gikondo wetland on a buffer of 500m excluding those benefiting from the upgrading of unplanned settlement. During the monitoring of the annual achieved target for the indicator, we will be considering the equivalent proportionate percentage of completed works on the indicator target (Direct beneficiaries are those along the whole flood plain area that are affected by the floods)	CoK, REMA SPIU
Cities with detailed area plans, incorporating principles of sustainability, prepared and adopted	This refers to the number of detailed area plans prepared and adopted for unplanned settlements in the six secondary cities and the City of Kigali. This aligns	Annual	CoK and secondary cities progress reports, approved	Detailed area plans will be prepared based on the broader guidance of an approved master plan, providing detailed context and rationale	CoK KUUT, District PIUs, LODA SPIU, MININFRA PCU

	with government policy, since Rwanda's Urbanization Policy (2015) is explicitly founded on a number of core principles, of which the first two are "Sustainability and resilience" and "integrated urban planning". Sustainable Urbanization is also a core element of Rwanda's overarching national medium-term development strategy, its National Strategy for Transformation (2018-2024).		local detailed area plans, progress reports prepared by District PIUs	for investment priorities based on population projections and anticipated needs. Given the anticipated effects of COVID-19, this will include conceptual proposals on land uses and local infrastructure and service provision with a public health focus. A clear set of guidance for implementing and coordinating detailed development activities will inform the prioritization of capital investments in each of the cities.	

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Unplanned settlements upgraded	This indicator measures the total area of unplanned settlements (in hectares) in Kigali that have benefited from a comprehensive	Annual	District and CoK progress reports, construction supervision	During the monitoring of this indicator, the team will consider the physical progress of works. The scope of	Construction supervision consultants, CoK KUUT, District PIUs, LODA SPIU, MININFRA PCU

	package of planned interventions (such as rehabilitated roads, footpaths, public lighting, bridges, drainage structures and other investments to be identified in the Project Implementation Manual) designed to improve accessibility by the people living in the area.		consultants' reports	works in each settlement will be known after contract signing.	
Hotspots rehabilitated with flood risk reduction interventions	This refers to the number of identified hotspots planned that will be rehabilitated in the city of Kigali	Annual	Progress reports, construction supervision reports	Monitoring will be based on the completed construction works of the hotspots	CoK KUUT, MININFRA PCU
Stormwater management master plan developed and approved for Kigali	The project will support the development of a storm water management master plan for Kigali. The plan should be approved by the concerned authorities at the city and national levels.	Annual	Progress reports	A system to monitor rainfall, water level and discharge data, as well as a detailed digital terrain model (DTM) (e.g. LiDAR) and aerial photographs of CoK's projected urban development area in the coming 20 years will be financed and used as input data to the storm water management master plan.	CoK KUUT, MININFRA PCU

Land restored/rehabilitated	Measures the cumulative land area (in hectares) of the priority wetlands that have been restored based on project reports and progress rate/completion of wetland restoration works.	Annual	Progress reports	Monitoring will be based on the physical progress achieved at the end of each year	REMA SPIU, CoK KUUT, MININFRA PCU
Greenhouse gas accounting and reporting framework developed for the City Kigali	A framework will be adopted to monitor greenhouse gas emissions and wetland's carbon stocks within the City of Kigali, which will be used for monitoring during and after project completion.	Project end	Progress reports, approved GHG monitoring framework		REMA SPIU, CoK KUUT, MININFRA PCU
People participating in the planning and implementation process (disaggregated by gender)	This indicator measures the level of community engagement in project implementation. This refers to the total number of people consulted and are involved in the survey, planning and prioritization, design and preparation of community upgrading plans, implementation and construction supervision and O&M phases of the upgrading process.	Semi-annual	Project progress report, aide memoire for the project validation workshop, social safeguard reports, attendance lists, minutes of meetings		CoK KUUT, District PIUs, LODA SPIU, MININFRA PCU
Women in leadership positions in	A community upgrading	Semi-	Project		CoK KUUT, District PIUs,

community upgrading committees	committee will be established in each settlement consisting of local leaders (cell and sector), women representatives and other relevant members. They will work with city officials at important review and decision-making points along the planning and implementation process and their roles and responsibilities will be described.	annual	progress report, aide memoire for the project validation workshop, social safeguard reports, attendance lists, minutes of meetings		LODA SPIU, MININFRA PCU
Urban roads constructed or rehabilitated under the project	Measures cumulative length (in kilometers) of all newly constructed and/or rehabilitated roads in the six secondary cities contributing to improvement on urban accessibility. Roadside drains are systematically included in the road improvements and will not be double counted under the project.	Annual	Project and district progress reports, from site visits included in project reports, construction supervision consultants' reports		Construction supervision consultants, District PIUs, LODA SPIU, MININFRA PCU
Standalone drains constructed or rehabilitated under the project	Measures cumulative length (in kilometers) of all newly constructed and/or rehabilitated stand-alone	Annual	Project and district progress reports, from		Construction supervision consultants, District PIUs, LODA SPIU, MININFRA

	drains in the six secondary cities contributing to improvements in flood control and storm water drainage. Drains to be measured will not include road-side drains to avoid double counting.		site visits included in project reports, construction supervision consultants' reports		PCU
Unplanned settlements upgraded	This indicator measures the total area of unplanned settlements (in hectares) in secondary cities that have benefited from a comprehensive package of planned interventions (such as rehabilitated roads, footpaths, public lighting, bridges, drainage structures and other investments to be identified in the Project Implementation Manual) designed to improve accessibility by the people living in the area.	Annual	Progress reports	Monitoring will be based on the physical progress of works, since the scope of works in each settlement will be known after contract signing.	LODA SPIU, District PIUs, MININFRA PCU
People participating in the planning and implementation process (disaggregated by gender)	This indicator measures the level of community engagement in project implementation. This refers to the total number of people consulted and are involved in the survey,	Semi-annual	Project progress report, aide memoire for the project validation workshop,		LODA SPIU, District PIUs, MININFRA PCU

	planning and prioritization, design and preparation of community upgrading plans, implementation and construction supervision and O&M phases of the upgrading process.		social safeguard reports, attendance lists, minutes of meetings		
Women in leadership positions in community upgrading committees	A community upgrading committee will be established in each settlement consisting of local leaders (cell and sector), women representatives and other relevant members. They will work with city officials at important review and decision-making points along the planning and implementation process and their roles and responsibilities will be described.	Semi-annual	Project progress report, aide memoire for the project validation workshop, social safeguard reports, attendance lists, minutes of meetings		District PIUs, LODA SPIU, MININFRA PCU
Technical assistance for roadmap for CMO development	This indicator refers to the technical assistance provided to national government to support: (i) the development of a roadmap for CMO development, including subnational implementation and monitoring of the	Annual	Progress reports		MININFRA PCU

	National Urbanization Policy.				
Technical assistance for support to national urbanization	This technical assistance refers to: (i) developing guidance for monitoring the performance and growth of urban areas in Rwanda, and (ii) establishing an urbanization monitoring information system (UMIS).	Annual			MININFRA PCU
Technical assistance for developing a comprehensive housing strategy					MININFRA PCU
Technical assistance for developing a sites and services strategy					MININFRA PCU
Technical assistance for developing a national solid waste management strategy					MININFRA PCU

ANNEX 1: Detailed Description of Project Activities

COUNTRY: Rwanda
Rwanda Urban Development Project II

Component 1: Support to the City of Kigali (US$ 66.65 million, of which IDA US$ 58.95 million and GEF-7 US$ 7.7 million)

1. This component will support the implementation of integrated urban planning in the CoK. A series of TA will promote evidence-based, integrated urban planning through the development of tools, and provide institutional capacity development and support to the CoK. Comprehensive upgrading investments will be integrated with flood risk management measures in four unplanned settlements, and an integrated approach to sustainable wetland management will be piloted, leading to a reduction of flood risks at selected hotspots in the city. Four unplanned settlements were prioritized for upgrading following a study done by RHA in 2014 that identified them as having the worst living conditions. These settlements are close to the Gikondo Valley and the Nyabugogo wetlands. Run-off from surrounding urban settlements significantly increases flood flows into these wetlands and introduces pollutants that affect downstream biota and water users, putting this sensitive ecosystem at risk and exposing the city to flood risk. An integrated approach to sustainable urban planning and flood risk management from the upper to the lower catchment and from the top to the bottom of the hills in Kigali will enhance biodiversity and ecosystem services reduce land degradation and mitigate greenhouse gas emissions. This component will also include the upgrading of drainage systems in the four unplanned settlements, provision of green and gray infrastructure along the wetland buffer zone and other critical hotspots in Kigali, as well as wetland restoration. REMA has conducted a range of technical studies and identified the Gikondo Valley and a large part of the Nyabugogo wetland as priority sites[33]. The Gatenga settlement, which is prioritized for urban upgrading, is located along the Gikondo wetland and provides an opportunity to integrate drainage upgrades with wetland restoration activities[34]. These investments are expected to catalyze future investment from government, the private sector and donors, so as to accelerate progress on implementing Kigali's vision of a green, sustainable city.

Subcomponent 1a: Integrated urban planning for resilient, inclusive infrastructure delivery (IDA US$ 55.05 million)

2. *Urban upgrading.* This subcomponent will support the urban upgrading of four unplanned settlements in three districts of Kigali. A comprehensive menu of infrastructure investments will be provided including access streets, street lighting, stormwater drainage, solid waste collection points, liquid waste management, onsite sanitation, water supply, community facilities, local market improvements, multi-purpose facilities and public spaces. These investments will be designed to climate-resilient standards (e.g. use of climate-proof, low-carbon, locally sourced surface and building materials, energy efficient street lighting, etc.) to the extent possible and will be selected through a transparent prioritization process with community residents. Feasibility studies for these unplanned settlements are completed. Detailed community facilitation, planning, design, contract packaging and bid document preparation is to be funded under the ongoing RUDP. Salient data on the four unplanned settlements is provided in Table 1.

Table 1: Unplanned settlements in Kigali prioritized under RUDP II

	Settlement	Sector	District	Area (ha)	No. of HH	Population	Comments

[33] Studies include the development of detailed sub-catchment management plans for the Gikondo-Nyabugogo wetland system and a Wetland Master Plan for the City.

[34] Wetland restoration activities include: earthworks to re-shape the profile of the wetland, restoration of riparian areas, increase biodiversity natural habitats, construction of flow and erosion control structures, development of flood reduction features such as ponds for enhancing water treatment functions, increase infiltration and restore some of the original functions of the wetlands as well aesthetics and re-vegetation.

1	Mpazi	Gitega/ Kimisagara/ Rwezamenyo	Nyarugenge	137	8,237	34,817	Feasibility study done
2	Gatenga	Gatenga	Kicukiro	171	2,564	10,192	Feasibility study done
3	Nyagatovu	Kimironko	Gasabo	40	665	2,103	Feasibility study done
4	Nyabisindu	Remera	Gasabo	36.5	515	1,812	Feasibility study done
TOTAL				**384.5**	**11,981**	**48,924**	

3. Proposals would also endeavor to incorporate nature-based solutions to infrastructure provision. The investment menu will be expanded to include not only roads, pedestrian walkways, streetlights, storm water drainage, but also more comprehensive water supply and sanitation infrastructure and community facilities such as community centers, public parks and playgrounds and local market improvements, to enhance living conditions and improve basic infrastructure and service delivery. Elements to be included in the final packages of improvements would need to be prioritized and this will be a joint effort between CoK, Utility Organizations and the Community Upgrading Committees guided by the design consultants. In addition, tertiary infrastructure to be provided would need to ensure that any trunk infrastructure to support the tertiary infrastructure is in place, planned (by others) or provided in the sub-component or other project sub-components. The upgrading principles established in Kigali for infrastructure upgrading would generally be followed to ensure that proposals are fit for purpose and ensure that resettlement and hence expropriation costs are minimized.

4. *The proposed project will use differentiated approaches to urban upgrading to address the challenges experienced in RUDP.* While the government promotes upgrading as an important strategy to achieve its goals in the urbanization sector, there are some practical challenges to urban upgrading in the Rwandan context that need to be addressed as evidenced through the upgrading support provided to Agatare[35] through the ongoing project. Key issues include the limited application of flexible standards for road carriageways, limited government budget for compensation as a result of resettlement and a persistent shortage of building materials. The upgrading sub-projects under RUDP II will address some of these challenges by incorporating lessons learned from the planning, design and implementation of the Agatare pilot and exploring different options of upgrading as below:

- First, RUDP II will adopt a highly participatory approach to planning and implementation of upgrading. Communities will review and prioritize investment options, and where necessary, propose appropriate standards/service levels for local level (tertiary and some secondary) infrastructure (e.g. types of roads for access, types of sanitation facilities, etc.) to reduce compensation and recurrent cost implications. People in unplanned settlements predominantly rely on NMT, and standards of pedestrian walkways are more flexible than the requirement of a 6m wide motor carriageway. The design consultant will provide the options justified by recurrent and expropriation cost implications. Community facilitation will be undertaken by elected committee members on a voluntary basis through existing imidugudu (village) level structures.

- Second, a tailored approach would be used to prioritize infrastructure options for unplanned settlements given settlements' different characteristics and investment needs – i.e., options including the creation of public spaces, youth centers and sanitation support would be explored. In this context, a pilot housing program by the Swiss Agency for Development and Cooperation's Promoting Climate Responsive Building Material Production and Off-farm Employment in the Great Lakes Region (PROECCO) program (implemented by Skat Consulting in partnership with MININFRA, CoK and RHA) in the Mpazi settlement, whereby land parcels are consolidated and redeveloped

[35] The ongoing RUDP has supported an upgrading pilot in Agatare, an unplanned settlement in the Nyarugenge District, covering 87 hectares and benefiting approximately 19,000 people. Investments have been made primarily in roads, drainage, walkways and streetlights.

will be considered for replication in some contexts. On a pooled land, SKAT developed a multi-story affordable apartment saving land for infrastructure and open spaces in the unplanned settlements. The rules for the upgradation of these plots include the elimination of expropriation and minimum density.[36]

- Third, the GoR agreed to set aside counterpart funding for RUDP II in the amount of US$ 15 million rather than setting an allocation on an annual basis. This would help address the issue of lack of compensation budget which has been a major cause of the delays in implementation of the Agatare pilot.

- Fourth, a fully staffed KUUT to support the implementation of the upgrading and storm water management works under RUDP II will be a pre-requisite for project appraisal. The KUUT was never established under the RUDP as originally planned and there has therefore been a shortage of staffing in the CoK throughout project implementation.

- Finally, upgrading in Kigali resulted in high costs for resettlement (one third of the cost of the civil works) due to the implementation of strict infrastructure standards in accessing streets in the upgrading sites. Government at all levels has realized that minimizing resettlement under the project will require a flexible approach to the application of infrastructure and construction standards and the implementation of master plans in both Kigali and the secondary cities.

5. *Flood risk reduction infrastructure.* The project will finance the provision of flood risk reduction infrastructure in flood-prone areas located near the upgrading sites. Investments will include the rehabilitation of culverts, channels, and drains, as well as implementation of suitable NBS to increase infiltration capacity, retain stormwater and reduce the speed of stormwater runoff. These interventions will demonstrate the benefit of integrating measures to protect the environment and building climate resilience through assessing and addressing flood risks comprehensively which will enhance the overall resilience of urban planning and infrastructure development[37].

6. *Technical assistance for stormwater management master plan and water level monitoring.* This TA will develop recommendations for a resilient stormwater management system for the city, including its wetlands, that will enable acceptable and optimum safety against flood risks for the current situation in Kigali, as well as for a 2040 scenario as the city continues to densify, expand and encounter various climate and disaster risks. Specific objectives will be to: (i) develop a cost-effective and prioritized investment plan for Kigali's stormwater management system for the next 20 or even 30 years; (ii) understand the functioning of the existing and planned urban stormwater management system and its wetlands with respect to flooding and develop a vision on how this system should be developed further; (iii) where possible and effective, integrate NBS in Kigali including wetland rehabilitation, as part of the storm water management system to

[36] In 2018, the project partnered with the City of Kigali to construct an 8-in-1 housing demonstration block (Phase 1 of 2) in the Kimisagara neighborhood. With the support of Nyarugenge District Authorities, the City identified 4 plots (with 3 existing structures) for consolidation and redevelopment. The rules for the upgradation of these plots were : (i) eliminate expropriation; (ii) design to respect Master Plan guidelines and achieve minimum density of 90 DU/ha; (iii) respect future road widths and alignments, building setbacks and 25m buffer from channel; (iv) construct cost-efficient housing with minimum costs respecting all codes/standards; (v) landowners to receive units in the new building equivalent to the value of their plots and structures (ranging from 6 million to 22 million); and (vi) the unclaimed units would be distributed to nearby owners to facilitate the acquisition of another group of plots to be consolidated and transformed according with the same principles.

[37] Pre-selection of stormwater management and flood risk reduction activities was carried out by the Catchments Task Force of the MoE with participation from the RWB, CoK, RTDA, Meteo Rwanda, RHA, MINEMA and REMA following an integrated approach that considers existing urban master and local development plans, including road development and other urban transport and greening objectives. Interventions to manage flood risk in the selected areas in Kigali will be confirmed after the hydrologic and hydrodynamic modeling of the Nyabugogo, Mulindi and Nyandungu catchments is carried out. This will serve as a basis for testing various options for intervention. Further to this, flood risk management hybrid solutions to be considered for urban upgrading and flood prone areas will be based on recommendations from a landscape urban NBS study for Kigali.

improve the city's visual appearance and conserve water for people and for green infrastructure; (iv) develop various planning support tools, such as flood hazard and flood risk maps to support the planning of further urban development, and other planning inputs, such as space (corridors) that has to be reserved for the future extension of the storm water system; and (v) advise on best practices for the maintenance of a stormwater system and its financing, possibly including community participation, private funding and dedicated taxation. The project will also support the installation of 9 rainfall sensors and 10 hydrological stations with water level monitoring in the urban area and wetlands of Kigali and its immediate surroundings. Data on runoff hydrographs resulting from storm events in the urban area are necessary for establishing rainfall runoff models to be developed as part of the SWMMP study.

7. *Technical assistance for master plan implementation.* A set of TA interventions will complement the urban upgrading works in CoK to enhance the overall urban planning capacity of the CoK, and ensure technical quality and innovation, participatory nature of planning and implementation, as well as alignment with the recently updated Kigali Master Plan 2050:

- *Detailed area plans.* As a concrete action to implementing the master plan, RUDP II will support the CoK to develop detailed area plans for one or two pilot unplanned settlements that are in the next round of upgrading[38]. Detailed area plans will be prepared based on the broader guidance of an approved master plan, providing detailed context and rationale for investment priorities based on population projections and anticipated needs. Given the anticipated effects of COVID-19, this will include conceptual proposals on land uses and local infrastructure and service provision with a public health focus including upgraded and affordable housing, water and sanitation, drainage systems, waste collection, access to energy, health service delivery, childcare and public education services, public spaces and mobility and transportation options to improve connectivity and access to other parts of the city. A clear set of guidance for implementing and coordinating detailed development activities will inform the prioritization of capital investments in the city.

- *Sites and services.* As a complement to the urban upgrading activities, the CoK wishes to pilot sites and services as a proactive approach to managing urban growth particularly in the fringes of the city. Sites and services schemes are community-led schemes whereby small landowners pool their land together for new development on greenfield sites. With its underlying mechanism of incremental development and land readjustment, such schemes are envisioned as low-income housing solutions in Rwanda and practiced as such in full or part. Building on the analytical work on low-income housing, a study will be conducted to assess the feasibility of implementing sites and services, which will review the adequacy of the zoning and building regulations for incremental construction and examine the financial viability of a sites and services project in view of the target beneficiaries' affordability. Analysis could also include estimating the capacity and appetite for land value capture in plot servicing; identifying housing typologies that fill the current affordability gap; recommending regulatory reforms to ensure that planning, building and infrastructure standards are conducive to the supply of affordable housing in plot servicing; updating the current Technical Guidelines for plot servicing; street addressing and number; developing tools for spatial planning to support the growth of economic centers originating from the serviced areas; and producing communications and training/capacity building materials. Once found feasible and a framework for implementation is prepared, an actual pilot may be considered under the project.

8. *Support for institutional and capacity development.* The support to improving the city's urban planning and management functions will be provided based on CoK's own overall annual and medium-term capacity building plans. These plans will cover eligible ICD activities related to urban planning, capital investment planning and revenue and

[38] Four unplanned settlements to be supported under RUDP II are out of ten priority settlements.

expenditure enhancement. Examples of eligible ICD activities include (i) TA to bring in specialist knowledge for specific urban management issues; (ii) consultants to assist in training and mentoring, to develop systems and procedures, and to undertake other activities aimed at strengthening urban management functions; (iii) funding to cover the costs of workshops, training, peer exchanges, and other activities; and (iv) modest material support to ensure that national and local stakeholders have access to the equipment and tools needed to undertake urban management and urban development activities.

Subcomponent 1b: Evidence-based, sustainable wetland management, flood risk management and greenhouse gas monitoring in the City of Kigali (US$ 11.60 million, of which IDA US$ 3.9 million and GEF-7 US$ 7.7 million)

9. *Support to wetland rehabilitation.* This subcomponent will support the design, implementation and monitoring of green infrastructure for wetland rehabilitation in the Gikondo valley. It will also support the design of wetland rehabilitation activities in the Rugenge, Rwintare and Nyabugogo wetlands. The Gikondo Valley has historically been largely utilized as an industrial site with notable concerns regarding soil contamination and pollution from point sources and poor sanitation practices. The Nyabugogo wetland has been subject to extensive encroachment by agriculture. It is located directly upstream of the confluence with the Mpazi River, a prominent flood hotspot in the City of Kigali. Following the development and approval of a wetland policy, infrastructure is currently in the process of being removed from the wetland, and within-wetland site owners are being compensated. The GoR has committed to remove all infrastructure in the wetland, including the removal of unwanted rubble and contaminated soils. These activities, along with the phasing out of some agricultural activities, will be undertaken in a structured manner, in line with the planned phasing of wetland rehabilitation activities.

10. Detailed designs and ESIAs will be packaged into a single consultancy such that ESIAs can inform the detailed designs. Whilst the scope and interventions associated with the rehabilitation plan are still to be finalized, anticipated interventions include: (i) Earthworks to re-shape the profile of the wetland and adjacent buffer zones; (ii) Construction of flow-control structures to direct flows through existing culverts and distribute flows back across the wetland; (iii) Construction of structures to prevent erosion and promote desirable flow conditions for water treatment; (iv) Development of flood attenuation features, to enhance the flood attenuation capacity of the wetland; (v) Excavation and establishment of ponds to enhance treatment functions and improve aesthetics; and (vi) Re-vegetation in line with desired treatment, aesthetic and flood attenuation functions in different zones of the wetland.

11. Monitoring systems for wetland health and rainfall and water levels are also supported under this subcomponent and will be undertaken from the inception of construction activities in order to track the ecological performance of the wetland system and to ensure that structural interventions are operating in line with expectations. Baseline information for the wetlands is being collected prior to project initiation and will be used to inform the selection of the pilot area and development of an advanced engineering concept. Monitoring activities will be finalized during the detailed planning phase but are expected to include ongoing water quality sampling, vegetation assessments and biodiversity surveys. Further wetland health monitoring will also be supported through investments in monitoring equipment, a monitoring strategy and the periodic reporting of results. The monitoring to be conducted will include indicators for biodiversity, soil carbon and water quality and land-use changes, in and around wetlands.

12. Regular removal of litter and sediment is likely to be required in rehabilitated wetland areas, as well as regular maintenance of vegetated areas. Flood damage to structural interventions and other rehabilitated wetland areas is also a concern, and funding may therefore need to be directed towards addressing damages associated with such events during project implementation. This will be financed by the project.

13. Technical assistance will be provided to support financial innovation to accelerate the implementation of urban planning solutions that center biodiversity, ecosystem services, and climate adaptation and mitigation. Design of the rehabilitation activities will provide flexible opportunities for private sector investments in areas such as hospitality, tourism and recreation. The CoK will be supported to develop an impact-driven financing and investment instrument for urban regeneration that will be piloted for the wetlands.

14. *LiDAR survey*. A LiDAR and photogrammetric survey will be undertaken to produce a base map of the City of Kigali. It will also serve as input data for the SWMMP study in Subcomponent 1a. This survey will cover the complete urbanized area of Kigali, as well as urban development areas planned for the coming 20 or even 30 years. It is critical that airborne flights be carried out in the dry season 2020 (July is highly recommended), as it is the month of the year with driest conditions. This will allow to generate a DTM which will show mostly dry drainage channels and wetlands, reducing the need for additional cross-section and wetland terrain surveys. In addition, aerial photographs will be produced during these flights. Besides flood management, the resulting DTM and aerial photographs will serve multiple purposes, including urban planning, land registration, road planning and design, and urban upgrading, among others.

15. *GHG accounting and reporting framework.* TA work will be carried out to develop an accounting and reporting framework for GHG emissions for the CoK, that will cover multiple sectors including solid waste, buildings, transport, industry, urban forestry and wetlands. The purpose is to provide a consistent framework for the City of Kigali to monitor progress in climate change mitigation activities using international standards beyond the life of the project. The framework will be used to report on the contribution of project investments including low-carbon upgrading and wetland interventions to climate mitigation, and these figures will be reported at Mid-Term Review and Project Completion.

16. *Advocacy, Knowledge Exchange and Partnerships.* The CoK will be an active member of GEF's SCIP. Kigali will both learn from the SCIP and create knowledge that will be shared through the platform internationally. In the project design and implementation, Kigali will benefit from GPSC knowledge resources which will be tailored to Rwanda's situation. Project resources will be specifically allocated to allow urban policy experts to participate in global activities and forums. Using its experience in hosting the inaugural Africa Green Growth Forum and other pertinent initiatives including the vision to establish the Rwanda Center of Excellence for Green Urbanization, Kigali would seek to host international meetings for Sustainable Cities to demonstrate best practices and to promote knowledge exchange.

Component 2: Support to Secondary Cities (IDA US$ 80 million)

17. This component will support the provision of basic infrastructure in secondary cities in two phases (Phases 3 and 4)[39] continuing the two-phased support under RUDP (Phase 1 and 2) to basic infrastructure, as well as institutional capacity development of secondary cities.

Subcomponent 2a: Infrastructure and service delivery in secondary cities (IDA US$ 76 million)

18. Phase 3 investments include roads, drainage, pedestrian walkways and streetlighting in secondary cities. Some of these investments are part of the upgrading of unplanned settlements in Rubavu, Huye, Musanze and Muhanga districts. The ongoing RUDP financed the preparation of feasibility studies, and preliminary designs for a number of investments under Phase 3 in the six secondary cities. The preparation of detailed designs and bidding documents will proceed under RUDP II once the ESIA and RAPs for the investments have been prepared.

[39] There is no phasing in the other components of the project.

19. Phase 4 investments have yet to be identified; a comprehensive menu of upgrading investments includes recreational spaces, community centers, social halls, upgrading of markets, secondary roads and drains, footpaths, streetlighting, water supply, solid waste collection infrastructure, together with supporting trunk infrastructure (primary road and standalone drains). Stormwater management infrastructure to address flooding hotspots, especially in Rubavu, will also be prioritized. Unplanned settlements to be potentially supported under this phase have been identified in all six secondary cities. Selection reports will be prepared by the cities providing a long list of unplanned settlements ranked in order of priority based on specific prioritization criteria, list of potential investments and general data about each settlement.

20. Technical assistance for planning, design and supervision for both Phase 3 and Phase 4 works. Construction supervision consultants will be procured by LODA and assist secondary cities to effectively supervise investment sub-projects and transfer skills to district technical staff. Support will also be provided to assist the secondary city districts to prepare E&S documents, as well as in E&S implementation and monitoring. The preparation of designs will be coordinated to incorporate findings and recommendations of the ESIA and RAP. Preparation of safeguards tools for Phase 4 will commence once the subprojects are agreed upon and coordinated with the preparation of the engineering studies.

Subcomponent 2b: Institutional capacity development of secondary cities (IDA US$ 4 million)

21. CMOs were established by the GoR as part of its decentralization agenda to support the development and expansion of the six secondary cities. Given this recent announcement, the GoR and districts will need time to appoint and budget for CMO staff. RUDP II capacity building support for the six CMOs will therefore need to be incremental and rolled out in a progressive fashion, as and when each of the CMOs is staffed (even partially) and operational. Once established, the project will assist each CMO to prepare annual and medium-term (5 years) ICD plans for urban management, which can include activities related to urban planning, capital investment planning, and operations and maintenance functions. The ICD plans will identify institutional/capacity constraints and bottlenecks to urban management in secondary cities, propose measures to address them, and spell out capacities to be built to take necessary actions to improve on urban management. These plans will be based on the CMO Roadmap (to be prepared by GoR – see Subcomponent 3a) as CMOs will need support in order to strengthen their capacity to assist in the implementation and monitoring of the National Urban Policy and any related national strategies. Examples of eligible ICD activities include (i) technical assistance to bring in specialist knowledge for specific urban management issues; (ii) consultants to assist in training and mentoring, to develop systems and procedures, and to undertake other activities aimed at strengthening urban management functions; (iii) funding to cover the costs of workshops, training, peer exchanges, and other activities; and (iv) modest material support to ensure that national and local stakeholders have access to the equipment and tools needed to undertake urban management and urban development activities.

22. *Technical assistance for master plan implementation.* Once CMOs are established and operational, they will receive TA to prepare detailed area plans for 1-2 unplanned settlements in each city. Detailed area plans will be prepared based on the broader guidance of an approved master plan, providing detailed context and rationale for investment priorities based on population projections and anticipated needs. Given the anticipated effects of COVID-19, this will include conceptual proposals on land uses and local infrastructure and service provision with a public health focus including upgraded and affordable housing, water and sanitation, drainage systems, waste collection, access to energy, health service delivery, childcare and public education services, public spaces and mobility and transportation options to improve connectivity and access to other parts of the city. A clear set of guidance for implementing and coordinating detailed development activities will inform the prioritization of capital investments in the city.

Component 3: Institutional Capacity Development and Project Management (US$ 11.42 million, of which IDA US$ 11.05 million and GEF-7 US$ 0.37 million)

23. This component will support ICD at the national level, overall project coordination by MININFRA and project management costs across implementation agencies[40] at the national level, CoK and secondary cities.

Subcomponent 3a: Institutional capacity development at national level (IDA US$ 3.80 million)

24. *Technical assistance for developing a roadmap for CMOs* to help CMOs implement the National Urbanization Policy (NUP). Subnational implementation of the NUP will be an important element of the mandate for CMOs, which will therefore need to be capacitated to deliver on this. This activity will assist the GoR in drawing up (and rolling out) a roadmap for operationalizing CMOs in six districts. As newly established entities, a lot needs to be understood about CMOs by relevant actors (including WB and other development partners) in order to plan their support collectively and collaboratively. This will require coordination across (and beyond) the urbanization sector working group and the governance and decentralization sector working group. An iterative dialogue can be led by an inter-ministerial or inter-agency task force, led by MININFRA, with key stakeholders including MININFRA, MINALOC, MINECOFIN, DPs and districts. Consultants (or a firm) will be contracted to: (a) undertake a functional analysis and capacity needs assessment of CMOs; and (b) formulate a roadmap (covering a period of 5-10 years) defining CMOs' roles and responsibilities and detailing the ICD activities that will be required in order to fully operationalize CMOs. In the event that procurement of consultants is held up, the inter-ministerial task force will take direct charge of the roadmap process. In addition, following a thorough review of the NUP and related strategies, MININFRA will develop a NUP implementation and monitoring sub-national governments (CoK, districts and their CMOs) and (for the specific purposes of RUDP II) define an appropriate set of capacity building activities for CMOs. These activities (as and when they are identified) will need to be integrated into CMO ICD plans. The roadmap will need to be approved by the inter-ministerial task force and then made available to all districts and CMOs.

25. *Support to national urbanization* by: (i) developing guidance for monitoring the performance and growth of urban areas in Rwanda, and (ii) establishing an urbanization monitoring information system (UMIS). TA will be provided to develop guidelines for monitoring the performance and growth of urban areas in Rwanda. This will include a review of the country's NUP, National Land Use Plan (NLUP) and related policies, guidelines for implementing the NUP, and a UMIS to help establish a baseline for data collection and monitoring.

26. *Technical assistance for developing a comprehensive housing strategy* will be provided to strengthen the National Housing Policy and build on and expand investments in urban upgrading and sites and services under RUDP II. The National Housing Policy was endorsed in 2015 and needs an update in view of the evolution of the sector since then. To help inform this update, a study by RHA is underway to take stock of the various pilots/projects implemented in Rwanda, especially (but not only) the pilot upgrading of settlements in Agatare under RUDP and scaled-up upgrading under RUDP II. The stock-take will enable lessons to be learned from these experiences. This can then feed into the preparation of implementation guidelines for the National Urban Informal Settlements Upgrading Strategy, which can be used to guide upgrading efforts in secondary cities and other urban areas (e.g. satellite cities).

27. *Technical assistance for developing a sites and services strategy.* The current practice for sites and services (or plot servicing) for supplying developable land for residential purposes is relatively effective but needs to be improved both to

[40] Implementation agencies include MININFRA PCU, REMA SPIU, LODA SPIU, CoK KUUT, Huye PIU, Muhanga PIU, Musanze PIU, Nyagatare PIU, Rubavu PIU and Rusizi PIU.

improve spatial outcomes (reducing urban sprawl) and provide housing opportunities for all income groups. The project will therefore provide a series of TA interventions to develop a strategy for implementing sites and services schemes in Rwanda drawing on experience from the feasibility study led by CoK (see Subcomponent 1a). The TA will be grounded in the following activities: estimating the capacity and appetite for land value capture in plot servicing; identifying housing typologies that fill the current affordability gap; regulatory reforms to ensure that planning, building and infrastructure standards are conducive to the supply of affordable housing in plot servicing; the revision/updating of the current Technical Guidelines for plot servicing; the production of communications and training/capacity building materials; and the design and preparation of a demonstration project that will pilot the new approach to urban land supply. Feasibility studies of pilot sites in secondary cities will also be carried out.

28. *Technical assistance for developing a national solid waste management strategy and feasibility study for disposal facilities in secondary cities.* The TA will include, inter alia: (i) development of waste management principles and policies, including on environmental (primarily wetland) protection, (ii) assessment of the financial sustainability of Rwanda's solid waste management operations and infrastructure, and (iii) development of a Community Awareness Campaign and Separation-at-Source Pilot Initiative. In addition, the GoR requested support in preparing feasibility studies on waste disposal facilities in secondary cities during the second year of RUDP II implementation. These studies will also consider community awareness and water quality monitoring with respect to climate mitigation.

Subcomponent 3b: Project management (US$ 7.62 million, of which IDA US$ 7.25 million and GEF-7 US$ 0.37 million)

29. Project management activities to be supported include fiduciary (FM and procurement), E&S management, implementation supervision, contract management, M&E and communication and citizen engagement. This component will finance project staffing in MININFRA, LODA, CoK, REMA, and PIUs at the district level are expected to be staffed each with a project focal person (preferably with a background in urban planning or an engineer) and E&S specialist.

Component 4: Contingency Emergency Response (US$ 0)

30. In accordance with the World Bank Policy on Investment Project Financing dated November 10, 2017, Paragraph 12 and 13 for situations of urgent need of assistance, the project includes a project-specific Contingent Emergency Response Component (CERC). The CERC will allow for the rapid reallocation of project funds in the event of a natural or man-made crisis during implementation of the project to address eligible emergency needs under the conditions established in the PIM. This component will have no initial funding allocation but will draw resources from other expenditure categories at the time of its activation.

ANNEX 2: Implementation Arrangements and Support Plan

COUNTRY: Rwanda
Rwanda Urban Development Project II

Overall Implementation Arrangements

1. The project will be implemented through institutional arrangements at the national, and district government levels, with clear division of tasks and responsibilities between the two levels. It follows the government structure and is consistent with existing legal provisions, regulations and guidelines. The roles and responsibilities of the relevant entities are summarized below.

2. **National level.** This includes ministries, departments and agencies with statutory mandates for the project – including MINECOFIN, MININFRA, MINALOC, LODA, MoE, REMA and other relevant national stakeholders.

i. MININFRA will be the lead implementing agency, with a PCU under the Urbanization, Human Settlement & Housing Development Division. The PCU will consist of a Project Coordinator and four other staff, including PFM specialist, M&E specialist, procurement specialist and environmental and social specialist who will also serve as members of the Federal Mobile Team. The RUDP II Project Coordinator will report to and act under the direction of the Housing and Urbanization Division Manager. The main tasks of the PCU are: (a) Overall responsibility for day-to-day coordination and management of the project capacity building, including direct support to implementing agencies; (b) Project management and implementation of activities under Subcomponent 3a: Institutional capacity development at the national level; (c) Overall project monitoring and evaluation; and (d) Progress reporting, including quarterly progress reports.

ii. MINECOFIN is responsible for ensuring that the resources are budgeted for and disbursed within the expenditure framework. It will also be responsible for drawdown of funds from IDA and GEF, as well as the transfers of funds to the designated accounts of the implementing agencies. It will be also responsible for financial audits.

iii. MINALOC will coordinate the activities at the subnational levels. It is responsible for the oversight of District Governance, and LED activities.

iv. LODA as MINALOC's implementing arm jointly have institutional support and finance mandates with respect to local governments. They are responsible for oversight of district governance and local economic development (LED) activities. LODA will coordinate Component 2 activities related to support to secondary cities through its SPIU. The SPIU will consist of a Project Coordinator, M&E Specialist, PFM Specialist, Procurement Specialist, two Floating Civil Engineers, two LED Coaches and a Senior E&S Specialist (coordinating with cities' E&S units). The E&S unit will have an E&S officer.

v. One key change to the project's implementation architecture is the addition of the MoE and REMA as its implementing agency, given their technical mandate with respect to the conservation of the environment, natural resource management and climate change issues. MoE will be responsible for coordinating activities with REMA and participate in the National Steering Committee for effective integration of the GEF activities with the rest of the activities under the CoK.

vi. REMA as MoE's implementing arm will be responsible for implementing Subcomponent 1b, including: (i) wetland management, rehabilitation and health monitoring; (ii) technical assistance for a high-resolution DTM; and (iii) promoting advocacy, knowledge exchange and partnerships financed under GEF-7, in close coordination with CoK and RWB. Both RLMUA and RWB will provide technical support for implementing these activities pursuant to a MOU with REMA. Inclusion of MoE and REMA is critical and enables the GoR to ensure that institutional arrangements include multi-sectoral engagements and implementation approaches that will leverage future investments that promote green and climate resilient urbanization. For example, the national SWM strategy and recreational activities in wetlands present significant potential for private sector investments. Institutional arrangements that target multi-sectoral approaches will facilitate collaboration and integrated planning. GEF financing has demonstrated the comparative advantage and leveraging potential to achieve GEBs.

vii. Several other entities have guiding and supporting roles in RUDP II. These include MINEMA, RWB, RHA, RTDA, RLMUA and RRA. RUDP II is inherently multi-sectoral and will also require continuous involvement of these agencies.

3. **Subnational level.** Both the CoK and six secondary cities are legally mandated to deliver a broad range of urban infrastructure and municipal services in their jurisdictions. Law No. 87/2013 of 11/09/2013 (determining the organization and functioning of decentralized administrative entities) indicates notably in Articles 130 and 142 that districts and the CoK are responsible for planning, infrastructure, service delivery, among other responsibilities. The GoR's recent decision to establish CMOs in the six secondary cities and restructure CoK as a single-tier local city government is an important step towards cities becoming self-administered autonomous entities.

i. A significant portion of RUDP II financing will be transferred to CoK directly for both TA and investments. Specifically, the CoK through the KUUT will be responsible for implementing Subcomponent 1a. The KUUT will consist of a Project Coordinator, M&E Specialist, Procurement Specialist, PFM Specialist, Civil Engineer (with experience in stormwater management) and Environment and Social Specialists. The CoK will also sign a MOU with RWB to provide technical support in undertaking the flood risk reduction infrastructure, and preparation of the stormwater management master plan.

ii. At the district level, the Vice Mayor in charge of Economic Development in each district, and through the CMO, will be responsible for overall district performance. Each city is required to establish PIU that will report to the City Manager. The PIU will be responsible for day-to-day project coordination (particularly Component 2) with oversight and support from LODA SPIU. Each PIU will be staffed with a project focal person (preferably with a background in urban planning or engineering) and one E&S specialist. Their key responsibilities will include liaising with relevant offices of the city to ensure implementation is in accordance with the project's ESF, E&S project instruments and fiduciary guidelines; M&E, reporting and disseminating information about the project (including contract awards, physical and financial progress of works contracts etc.); contributing to capacity building activities; and acting as resource persons for the project. Once the CMOs are established and operational, they will be responsible for cities' key urban planning functions.

4. An indicative financing table summarizes the implementing arrangements according to the project activities:

Project Components	IDA ($m)	GEF-7 ($m)	Total Project Costs ($m)	Responsible Agencies
Component 1: Support to the City of Kigali	**58.95**	**7.70**	**66.65**	
Subcomponent 1a: Integrated urban planning for resilient, inclusive infrastructure delivery	**55.05**	**-**	**55.05**	
Urban upgrading	40.20	-	40.20	CoK KUUT (MOU with RWB)
Flood infrastructure (hotspots)	12.05	-	12.05	
Stormwater management master plan	1.00	-	1.00	
Water level monitoring	0.20	-	0.20	
TA for master plan implementation	1.50	-	1.50	
TA for ICD activities	0.10	-	0.10	
Subcomponent 1b: Evidence-based, sustainable wetland management, flood risk management and greenhouse gas monitoring	**3.90**	**7.70**	**11.60**	
Wetland rehabilitation	3.60	6.75	10.35	REMA SPIU (MOU with RLMUA & RWB)
Innovative financing options for wetland sustainability	0.10	-	0.10	
LiDAR survey	-	0.7	0.70	
GHG accounting and reporting framework for CoK	0.20	-	0.20	
Advocacy, knowledge exchange and partnerships	-	0.25	0.25	
Component 2: Support to Secondary Cities	**80.00**	**-**	**80.00**	
Subcomponent 2a: Infrastructure and service delivery in secondary cities	**76.00**	**-**	**76.00**	
Phase 3 investments	42.00	-	42.00	District PIUs (with oversight and support from LODA SPIU)
Phase 4 investments	28.00	-	28.00	
TA for planning, design and supervision	6.00	-	6.00	
Subcomponent 2b: Institutional capacity development of secondary cities	**4.00**	**-**	**4.00**	
TA for master plan implementation	2.00	-	2.00	District PIUs
TA for CMO development	2.00	-	2.00	
Component 3: Institutional Capacity Development and Project Management	**11.05**	**0.37**	**11.42**	
Subcomponent 3a: Institutional capacity development at national level	**3.80**	**-**	**3.80**	
TA for roadmap for CMO development	0.20	-	0.20	MININFRA PCU in coordination with relevant ministries
TA for development of national urbanization strategy and UMIS	1.40	-	1.40	
TA for development of a comprehensive housing strategy	0.50	-	0.50	
TA for development of a sites and services strategy and feasibility study of pilot sites in SCs	0.90	-	0.90	
TA for development of national SWM strategy and feasibility studies for disposal facilities	0.80	-	0.80	
Subcomponent 3b: Project management	**7.25**	**0.37**	**7.62**	
MININFRA PCU, CoK KUUT, LODA SPIU, District PIUs	6.75	-	6.75	
REMA SPIU	0.50	0.37	0.87	
Component 4: Contingency Emergency Response	-	-	-	
TOTAL	**150.00**	**8.07**	**158.07**	

Environmental and Social Management

5. The E&S management arrangements as required under the ESF and ESS1 are described in the ESMF and ESCP documents prepared. All participating agencies in the project are responsible for the application and compliance with the World Bank's ESF and ESS[41]. The project relevant ESS are: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, ESS10. The implementing agencies are: i) MININFRA PCU, ii) LODA SPIU, iii) CoK KUUT, iii) REMA SPIU and iv) six District PIUs (Huye, Muhanga, Musanze, Rubavu and Rusizi):

i. MININFRA has handled Bank financed projects including RUDP and implemented them according to WB safeguards policies. MININFRA currently has two E&S Specialists within the Urbanization, Human Settlement and Housing Development Division. An additional E&S Supervisor will be recruited under the project. He/she will be responsible for the overall coordination of environment and social risk management of the project, supporting all PIUs, compliance with the ESF instruments, comprehensive reporting and project monitoring, and ensuring timely training, and capacity building to staff and stakeholders involved in the implementation of the ESF instruments. The team will be responsible for the overall application of ESF and ESS instruments prepared for the project (ESMF, SEP, LMP, ESCP), implementation of the RAP, providing support to LODA and to districts in the E&S management of the project and the agreed ESF instruments to be developed.

ii. LODA is responsible for supervising the development activities of local administrative entities (districts), acting as the intermediary between local governments and donors, and strengthening local government capacities. LODA has experience working with the Bank and is currently implementing four Bank funded operations in accordance to WB safeguards policies. LODA has existing basic E&S capacity in terms of staffing: there is only one E&S Specialist recruited under RUDP who is expected to support RUDP II.

iii. Each district currently has an Engineer and Environmental and Community Officers that manage and supervise various projects by the district, so time and dedication for RUDP II may be limited. As such, the project will recruit one E&S Officer and one Civil Engineer (or Urban Planner) in each district to support the implementation of RUDP II activities. In CoK, the city will have one Environmental Specialist and one Social Specialist to support the implementation of the ESF instruments.

iv. REMA will lead the implementation of the GEF supported activities with technical support from RLMUA for remediation of the wetlands. They will also coordinate with CoK and RWB on the proposed works for flood risk reduction and control. As such, REMA will recruit both an E&S Specialist at the SPIU level for ESF application and implementation of the ESF instruments.

Procurement

6. **The key procurement risks are**: (a) lack of knowledge of the Bank's Procurement Regulations, as this is the first project for MININFRA, CoK and districts, (b) inadequate project implementation structure and staffing of all implementing agencies (lack of appropriate PIU structure and understaffing of the Project units,[42] (c) staff turnover due to low remuneration and short contract duration, (d) low competition, (e) implementation delays due to time taking

[41] *https://www.worldbank.org/en/projects-operations/environmental-and-social-framework*

[42] CoK and MININFRA do not have an adequate PIU structure so far and this can potentially delay project implementation especially at the early stage, until the PIU will be formed and fully staffed to become operational

compensation scheme and expropriation and resettlement of project affected community, (f) low implementation capacity at districts' level, and (g) low capacity and lengthy internal processes at REMA. The complex urban upgrading contracts coupled with low capacity at districts is a risk. Similarly, inefficient procurement process at REMA is a risk to implementation of GEF-7 fund for flood control.

7. **The proposed mitigation measures for the identified risks are**: (a) Borrower in coordination with WB Procurement Specialist to provide procurement training on the use of Bank Procurement regulation and STEP before the project becomes effective, (b) Borrower to establish adequate staffing for the MININFRA PCU and CoK KUUT as an effectiveness condition. The PPSD will inform the appropriate PCU to be formed under MININFRA and CoK, (c) the project to introduce incentive mechanisms by which it can attract and retain staff, (d) bidders' sensitization workshops to be organized and more Invitation for Bids to be published on national and regional newspapers in addition to the e-Procurement system. The publication should include guidance on steps to be followed in registration for digital certificate and how to submit their bids/proposals in e-Procurement, (e) as effectiveness condition, the government to commit itself to avail funding for compensation to make sure all expropriations are completed before contract signing, as per the Bank's ESF requirements, (f) to fill the capacity constraints of districts, two technical experts, who have the qualification and experience in procurement and contract management to be hired under the project at MININFRA/LODA level. The experts will provide continuous procurement and contract management support to all implementing agencies. This includes hands-on support at procurement and contract management stage and organizing and conducting trainings.

8. A Project Procurement Strategy for Development (PPSD) has been prepared by the Borrower describing the project implementation context, capacity assessment, market situation and associated potential risks and mitigation measures to achieve value for money in pursuit of the project's development objectives. The PPSD sets out the selection methods to be followed in the procurement of goods, works, and non-consulting and consulting services financed under the project. Following the market analysis, based on information obtained from the industry and the implementing agencies' prior experience, the PPSD will also advise whether there is risk of market supply. The underlying Procurement Plan (PP) will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. The PP will provide a list of procurable items, descriptions, cost estimates, review types, selection methods and market approach as presented in the PPSD.

Box 1: Summary of the PPSD

The project procurement profile comprises of procurement of works, mainly for roads, drainages, sewerage core networks, restoration of wetland, preparation & improvement of open spaces, rehabilitation of small markets, plot servicing, street lighting and construction of handcraft centers. In addition, procurement of associated consultancy services are significant comprising mainly of detailed engineering design for phase 4 investments in secondary cities, consultancy service for construction supervision of phase 3 infrastructures in secondary cities, technical assistance for the urban planning and establishment of planning and control tools (GIS) and capacity building of urban unplanned settlement upgrading, construction supervision of phase 4 infrastructures in secondary cities, consultancy services for the study of ESIA and RAP for six secondary cities, consultants for capacity support team on urban management functions, floating engineers to support secondary cities, construction supervision consultancy for the works pertaining to flood risk management and wetland management in Kigali, for the inclusive and resilient infrastructure delivery, and sites and services schemes. No significant procurement of goods is envisaged under the project. However, small value goods and non-consultancy services could be identified during project implementation and such incidental procurements can be managed through RFQ or NCB as may be appropriate.

The market analysis revealed that there is no risk of market shortage though competitions were found to be low during implementation of the first RUDP. Low competition is attributed to various factors, such as risk of delays in land expropriation. Accordingly, market analysis suggests that national market approaches (i.e., NCB method) will be used for procurement of civil works whereas, international market approaches (i.e., QCBS & IC selection methods) will be used for procurement of consultancy services.

By implementing recommendations from the PPSD to engage TA and providing series of trainings to be jointly organized by the World Bank and MININFRA and completing the onboarding of additional staff, all the implementing agencies will have the necessary capacity to effectively and efficiently implement procurement of the project.

However, a number of procurement risks need to be mitigated, namely: (a) lack of familiarity of the implementing agencies with the Bank's procurement regulations, (b) lack of timely filling of PCU/PIU/SPIU staff positions, (c) staff turnover, (d) low competition, (e) inadequate technical support to districts due to delays in selection of TA consultant, (f) delays in consultancy services on works contracts, (g) impact of compensation scheme and expropriation and resettlement on contracts implementation and (h) low implementation capacity at the district level.

The recommended mitigation measures are: (a) providing a series of trainings to be jointly organized by WB and borrower on Bank Procurement regulations and STEP, (b) the borrower to quickly fill positions in PCU for MININFRA and PIU for CoK, (c) introducing incentive mechanisms to attract and retain staff, (d) organizing sensitization workshops for potential bidders and more publication of advertisements, (e) early initiation of selection processes, (f) integrating feasibility study, detailed design, ESIA study and RAP under one package, (g) government to avail adequate funds for compensation, (h) engaging TA experts to support the districts in providing regular procurement and contract management support.

Based on available information and analysis, procurement risks related to the complexity of the intended contracts and market situations are low. Risks related to IAs' weak performance, PIU structure and staffing and expropriation have been identified and actions are underway to address some of them. With implementation of the mitigation measures and use of lessons learned during the implementation of the first RUDP to address major constraints, the project procurement risk is rated "Moderate."

9. **E-procurement system.** Starting 1st July 2017, all procurement entities in Rwanda started using the Rwanda E-Procurement system (Umucyo) for government financed and most development partners financed projects. The E-Procurement system has been used for WB financed projects beginning 1st January 2019 for all post review contracts and will be applied to prior review procurement in near future. To avoid duplication in parallel use of the E-Procurement and STEP, the Bank is working on the interfacing of both systems. Until this is completed, the two systems will be used in parallel.

10. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will use STEP, a planning and tracking system, which will provide data on procurement activities, establish benchmarks, monitor delays, and measure procurement performance. Procurement at the district level shall be done per WB's Procurement Regulations and shall be part of the PP in STEP. The PP and procurement transactions at the district level shall be consolidated at MININFRA PCU/LODA SPIU level for the purpose of planning and review in STEP. Records of procurement activities at the district level shall be available both in E-Procurement and at MININFRA PCU/LODA SPIU in STEP.

11. **Use of national procurement procedures.** All contracts falling under the national market approach shall follow the procedures set out in the Rwanda Public Procurement Law, "Law governing public procurement **N°62/2018 of 25/08/2018**". The Rwanda Public Procurement Authority (RPPA) governs purchase of works, goods, and services using public resources by the national and district government entities, sectors, health and education institutions and CoK. The RPPA as a regulatory body sets out the rules and procedures of public procurement and provides a mechanism for enforcement of the law. The procurement function is decentralized to individual procuring entities. The RPPA has oversight and regulatory function including undertaking procurement reviews and audits. The provisions of the procurement law are consistent with the World Bank Procurement Regulations Section V - Paragraph 5.4, National Procurement Procedures.

12. **Procurement of works.** Procurement of works are mainly roads, pedestrian walkways, streetlights, stormwater drainages, community centers, public parks, and green spaces; urban wetland restoration and management, storm water runoff reduction and improvement of the drainage networks and rivers; upgrading roads, drainage networks upgrading and landslide protection structures. Works Contract other than through international competitive bidding (ICB) will use national procurement procedures and national standard bidding (NSB) documents as agreed with and deemed satisfactory to WB. Small value works will be undertaken through request for quotation (RFQ) procedures. The RFQ will indicate the specifications works as well as the delivery/completion time and the contract award will be based on comparing price quotations from several qualified contractors, with a minimum of three, to ensure competition. When the value of the contract of such works exceeds the RFQ threshold and when procured through national competitive bidding (NCB) procedures, the national Standard Bidding Documents (SBDs) issued by the RPPA and acceptable to WB will be used. Direct contracting shall be used where the PPSD informs so and it is to the benefit of the project and in accordance with WB's Procurement Regulations.

13. **Procurement of goods and non-consultancy services.** Significant goods and non-consultancy service procurements are not envisaged under the project. However, small goods and non-consulting services may be identified as the project takes shape. Procurement of goods and non-consultancy services other than through ICB would use the national procedures and SBDs as agreed with and deemed satisfactory to WB. Direct contracting will be used where the PPSD informs so and it is to the benefit of the project and in accordance with WB's Procurement Regulations. Procurements while approaching the international market will be done using WB's Standard Procurement Documents. Procurements while approaching the national market will be done using the NSB documents with an additional annex to address the WB's Anticorruption Guidelines and to ensure universal eligibility.

14. **Procurement of consultancy services.** Consulting services to be procured under the project is mainly for: (i) urban planning and research, urban resilience, capacity building, TA both firm and/or individual consultants, project staffing, feasibility studies, detail designs and bid document preparations, ESIA and RAP and supervision services. Procurement methods to be used are specified in the PPSD. Project staff required for RUDP II implementation will be hired following WB regulation for positions identified as an individual consultant and following Project implementation Support Personnel, paragraph 7.32 of Procurement Regulations, for positions not identified as individual consultants.

15. **Operating costs.** The items to be identified as operating cost in the PPSD will be procured using the Borrower's national procurement and administrative procedures acceptable to the World Bank including selection of project implementation support personnel not identified as individual consultants. The Borrower will also pay for costs associated with any resettlement, land acquisition, compensation, and relocation of services from counterpart funds.

16. **Record keeping.** All records pertaining to award of tenders, including bid notification, register pertaining to sale and receipt of bids, bid opening minutes, bid evaluation reports and all correspondence pertaining to bid evaluation, communication sent to/with the World Bank in the process, bid securities, and approval of invitation/evaluation of bids will be retained by respective agencies and in electronic or hard copy and uploaded in STEP.

17. **Disclosure of procurement information.** The following documents shall be disclosed on the agencies' websites: (a) a PP and updates; (b) an invitation for bids for goods and works for all contracts; (c) Request for Expression of Interest for selection/hiring of consulting services; (d) contract awards of goods, works, and non-consulting and consulting services; (g) a monthly financial and physical progress report of all contracts; and (h) an action taken report on the complaints received on a quarterly basis. The following details shall also be published in the United Nations Development Business and the World Bank's external website: (a) an invitation for bids for procurement of goods and works following open

international market approaches, (b) Request for Expression of Interest for selection of consulting services following open international market approaches, and (c) contract award details of all procurement of goods and works and selection of consultants using open international market approaches.

18. **Fiduciary oversight by the World Bank.** The World Bank shall prior review contracts according to prior review thresholds set in the PPSD/PP. All contracts not covered under prior review by WB shall be subject to post review during implementation support missions and/or special post review missions, including missions by consultants hired by WB or third-party independent auditor delegated by WB. To avoid doubts, the WB may conduct, at any time, independent procurement reviews of all the contracts financed under the loan.

19. **Contract Management.** Currently, high-risk and high-value procurements have not been identified for increased contract management support. However, if such contract is identified in the due course of implementation, the agencies will develop key performance indicators (KPIs) for such identified contracts and these KPIs will be monitored during actual execution of contracts. The WB team will provide additional due diligence and independent review of the contract performance of such identified procurements. A fully staffed SPIU will be responsible for overall project/contract management.

Financial Management

20. **Planning and budgeting.** The project will follow GoR's planning and budgeting procedures. Each implementing agency will prepare budgets based on approved annual work plans and submit those budgets for consolidation by MININFRA. The project budget, which will be aligned with the Medium Term Expenditure Framework (MTEF), will be incorporated into MININFRA's annual budget and submitted for approval by MINECOFIN and Parliament. Budget preparation will be in line with the government budget calendar issued every year by MINECOFIN. The approved budgets will then be uploaded in IFMIS as a basis for expenditure by all spending/implementing agencies. Budget absorption will be monitored through the quarterly IFRs submitted to the Bank.

21. **Internal control.** The PIM used under the first RUDP will be updated to reflect the FM arrangements under RUDP II. The PIM will reflect detailed internal control arrangements for the AF including extent of segregation of functions in payment processing and internal check mechanisms in addition to payment approval and authorization arrangements. The established payment approval mandates will be reflected in the updated PIM. The key fiduciary risks under the project include challenges of monitoring, coordination and supervision of its highly decentralized activities, lack of an established PIU in CoK and high turnover of accountants which could impact efficient and effective FM execution. In order to enhance internal control arrangements for the proposed project, the internal audit units in each of the implementing agencies will conduct biannual reviews of project activities and submit reports to the project management team. The LODA internal audit unit will cover disbursements to the six secondary cities; while disbursements to RLMUA will be covered by REMA's internal audit unit and disbursements to RWB by CoK's internal audit unit. Additional staff will be deployed to fill gaps in each of the implementing agencies while MININFRA will ensure effective coordination of all project activities based on lessons and experiences from the implementation of the first RUDP.

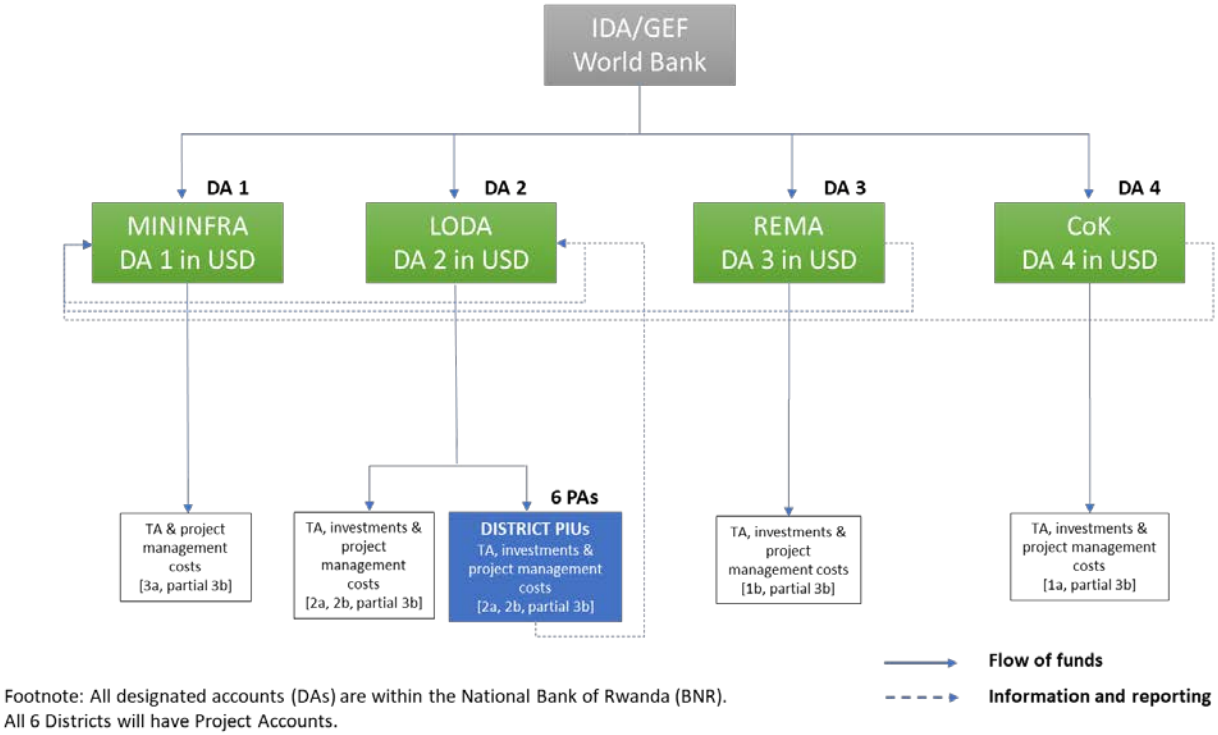
22. **Financial reporting.** The project will prepare and submit quarterly interim financial reports to the Bank within 45 days after the end of the quarter. In this regard, each implementing agency will submit quarterly financial reports to MININFRA to ensure consolidation and onward transmission to the Bank. The interim financial reports will be used to monitor project financial progress including the rate of budget execution and level of disbursements. In the same way, MININFRA will prepare annual consolidated project financial statements which will be submitted for external audit within

three months after the financial year end.

Financial management activity	Frequency	Outputs
Desk reviews		
IFRs review	Quarterly	Interim Financial statements review report
Audit report review of RUDP II	Annually	Audit review report
Internal audit of project activities	At least once a year	Internal Audit review report
Review of other relevant information such as internal control systems reports	Continuous as they become available	FM review report
Onsite visits		
Review of overall operation of the financial management system including internal controls.	Twice every 6 months	FM review report
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed	FM review report
Transaction reviews (if needed)	Annually or as needed	FM review report
Capacity building support		
Financial management training sessions	By effectiveness and thereafter as needed	Training sessions held

23. **External audit.** The Office of the Auditor General (OAG) will be responsible for the annual audit of the project financial statements. OAG is the Supreme Audit Institution in Rwanda and is considered independent and effective. The project annual audit will cover each of the implementing agencies, the six secondary cities and RWB. The audit report and management letter will be submitted to WB within 6 months after the financial year end. The audit report will be publicly disclosed in accordance with the Bank Access to Information Policy. Upon receipt of the audit report, each of the implementing agencies will be expected to prepare an action plan to address the audit findings. Follow up on the implementation of audit recommendations will be conducted as part of regular Bank FM supervision including during implementation support missions, Bank FM supervision missions and quarterly review of IFR's.

24. **Funds flow arrangements.** For purposes of disbursement, the project will maintain four Designated Accounts (DAs) denominated in USD for each of the implementing agencies (MININFRA, LODA, REMA and CoK) at the National Bank of Rwanda (BNR). Both IDA and GEF-7 funds will be channeled to respective DAs from where transfers will be made to the respective Project Accounts (PAs) for payment of eligible expenditures. The six District PIUs will each maintain segregated PAs for holding advances from LODA. Disbursements will follow the transaction-based Statement of Expenditure (SOE) method. However, the project may also use direct payments, advances to the DA, reimbursement and special commitments depending on the case. Contracts entered into by RLMUA for activities under Subcomponent 1b and RWB for Subcomponent 1a will be paid directly from the respective DAs held at REMA and CoK as per the MOUs that will be signed. Contracts denominated in USD will be settled from the DA or via direct payment from the Bank. Upon effectiveness, the project will submit to the Bank, a request for withdrawal of funds accompanied by six months cash forecast. Based on the request, the Bank will transfer the proceeds of the loan/grant to the various DAs. Subsequent replenishment of the DAs will be based on the submission of application for withdrawal accompanied by a SOE.



Footnote: All designated accounts (DAs) are within the National Bank of Rwanda (BNR).
All 6 Districts will have Project Accounts.

25. **Accounting.** The current accounting capacity for the RUDP will be maintained but an additional project accountant will be deployed at the REMA SPIU. A PFM specialist will also be deployed to CoK to strengthen capacity for project implementation and oversight. Project financial records will be maintained using the government IFMIS which will also be used to generate periodic financial reports. All the implementing agencies are currently using IFMIS for transaction processing and financial reporting. All the DA's and PA's will be reconciled on a monthly basis to confirm the accuracy of project cash balances. Regular training and capacity building of the project FM team will be conducted by the Bank team to boost capacity for effective project FM performance.

Implementation Support Plan and Resource Requirements

26. While RUDP II builds on an ongoing operation, it includes additional complexities due to the inclusion of additional ministries and implementing agencies as well new activities around storm water and wetland management. The implementation support plan (ISP) for this project is therefore designed to ensure that the government counterparts are provided the necessary technical support in order to address and overcome these complexities. Implementation support will also focus in on areas where the capacity of implementing agencies need to be further strengthened such as procurement, safeguards management and monitoring and evaluation.

27. The ISP will include formal missions every six months (which will include site visits to the project cities). A Mid-term Review (MTR) will be conducted after approximately 30 months of implementation to review performance in depth, based on progress and studies commissioned for the MTR, and make any adjustments to the project. Financial management reviews will also be carried out every six months. In between formal missions, monthly meetings and interim missions (as needed) will be held with project counterparts to review project progress and discuss and address any emerging issues.

28. The project supervision budget will be used to establish a core technical team in the region to provide hands-on support to the Client, including a TTL/Co-TTLs and a multidisciplinary task team. The team will include an engineer, environmental safeguard specialist, social safeguard specialist, wetland specialist, flood risk expert, geographic information systems, climate change specialist, procurement specialist, financial management specialist, urban planner, upgrading specialist, and institutional strengthening specialist. Additional specialists required for the TA activities will be called upon as needed.

Time	*Focus of Client Support*	*Skills Needed*	*Resource Estimate*
First twelve months	• Recruitment of project staff in secondary cities • Recruitment of additional project staff at REMA, CoK • Implementation of Phase 3 works in secondary cities – (contracting for works and engineering supervision consultant, implementation of safeguard instruments and payment of compensation) • Preparation of feasibility studies and designs and safeguard documents for Phase 4 works in secondary cities • Implementation of upgrading works in CoK (contracting for works and engineering supervision consultant, implementation of safeguard instruments and payment of compensation) • Capacity building support to CMOs and CoK preparation and revision of feasibility studies and designs and safeguard documents for flood prone area interventions • Execution of data collection and processing for SWMMP • Review the detailed designs for wetland rehabilitation, support the development of the GHG monitoring and reporting framework, guidance for LIDAR survey implementation and DTM data processing • Support the preparation of the solid waste management strategy • Preparation of GBV action plan.	Technical expertise in engineering, institutional strengthening, social and environment safeguards, procurement, contract management, financial management, flood risk modeling, geographic information systems, wetland management and climate change	US$250,000
12-36 months	• Procurement of contractor and engineer supervision consultant for Phase 4 works in secondary cities. • Managing contractors and monitoring the civil works for Phase 3 and Phase 4 in secondary cities. • Managing contractors and monitoring civil works in upgrading sites in CoK • Ensuring appropriate use of safeguard instruments and payment of compensation in secondary cities and CoK. • Continued capacity building support to CMOs and CoK • Managing contractors and monitoring the civil works for flood risk reduction investments • Manage contractors and monitoring works for wetland rehabilitation, support the rollout of the GHG monitoring and reporting framework • Support the preparation of the solid waste management strategy and feasibility studies	Same as above	US$450,000
36-60 months	• Managing contractors and monitoring the civil works for Phase 4 works in secondary cities	Same as above	US$ 450,000

	• Managing contractors and monitoring civil works in upgrading sites in CoK • Ensuring appropriate use of safeguard instruments and payment of compensation in secondary cities and CoK. • Continued capacity building support to CMOs and CoK • Managing contractors and monitoring the civil works for flood risk reduction investments • Manage contractors and monitoring works for wetland rehabilitation, support the rollout of the GHG monitoring and reporting framework • Support the implementation of the solid waste management strategy and feasibility studies • Carry out end-project evaluation		

Skills Mix Required

Skills Needed	***Number of Staff Weeks per annum***	***Number of Trips per annum***	***Comments***
Task Team Leader	*45*	*N/A*	*TTL based in Kigali*
Co-Task Team Leader	*40*	*4*	*Co-TTL based in Washington, DC*
Project Management/Monitoring & Evaluation/ Gender/ Community engagement/ Master plan and urbanization policy support	*30*	*6*	*Based in Washington, DC*
Engineer	*100 STC days*	*6*	*Consultant; Based in Nairobi*
Institutional Strengthening Specialist	*30 STC days*	*3*	*Consultant; Based in Bangkok*
Upgrading Specialist	*6*	*4*	*Based in Nairobi*
Flood risk management expert	*12 STC days*	*2*	*Based in the Netherlands*
Resilience Specialist	*15*	*3*	*Based in Washington, DC*
Urban Specialist	*100 STC days*	*N/A*	*Based in Kigali*
Flood risk management specialist	*30 STC days*	*N/A*	*Based in Kigali*
Environmental Safeguard Specialist	*10*	*N/A*	*Based in Kigali*
Social Safeguard Specialist	*10*	*N/A*	*Based in Kigali*
Procurement Specialist	*7*	*N/A*	*Based in Kigali*
Financial Management Specialist	*6*	*4*	*Based in Kigali*
Climate Change Consultant	*20 STC days*	*N/A*	*Based in Kigali*
Wetland Rehabilitation Consultant	*15 STC days*	*2*	*Based in South Africa*
GIS/LiDAR Expert (tbd)	*10 STC days*	*N/A*	*International Consultant*

ANNEX 3: Gender Mainstreaming

COUNTRY: Rwanda
Rwanda Urban Development Project II

This annex explains how the project intends to address some of the gender gaps identified at the country and sector level, in view of the PDO and through activities planned under the project. Its implementation will be monitored by project monitoring and evaluation.

Analysis

1. Drawing from the existing research and analytical work conducted within and outside the Bank, this section provides a rapid assessment of gender gaps in human endowments, access to jobs, ownership and control of assets, and voice and agency. Gender gaps known at the country level are elaborated further with sector- and project-specific data. Gender gaps in urban areas will be more relevant to RUDP II and help identify gaps that are directly related to the PDO and project design.

	Country level gaps	Sector level gaps	Project level gaps
Human endowments	• Women's participation in tertiary and technical-vocational education (Rwanda Systematic Country Diagnostics 2018) • Gender-based violence (SCD 2018)	• Percentage of women in university is lower than that of men (1.7% versus 3.1%) nationally and in urban areas (6.1% versus 9.7%) according to EICV4	• Not available (N/A)
More and better jobs	• Entrepreneurship and access to finance for women (SCD 2018) • Women's quality of work lower than men (SCD 2018)[43]	• Income from employment by sex in urban/rural area (Annex 1a) • Percentage of individuals (18+) with bank account by sex and area of residence (Annex 1b)	• Un- and underemployment in unplanned areas in Kigali determined by gender and other factors[44] • Gender gap in wages, with female-headed households particularly disadvantaged
Ownership and control of assets	• Women's land rights, particularly female-headed household[45]	• Right to sell or use land as collateral by urban/rural (Annex 2)	• N/A
Voice and agency	• Women's participation in leadership at the sub-national level (SCD 2018) • Participation in the government planning and implementation process[46]	• N/A	• When prioritizing investments for the upgrading pilot in Agatare under RUDP, preferences and women and men differed

[43] Only 2.5 percent of women in Rwanda work as managers (0.1%), professionals (2.2%) and technical and associate professionals (0.2%) according to the Fifth Integrated Household Living Survey (EICV5) for 2016/17.
[44] Hitayezu et al. (2018) The dynamics of unplanned settlements in the City of Kigali. International Growth Centre.
[45] Ann-Sofie Isaksson (2015) Unequal Property Rights: A Study of Land Right Inequalities in Rwanda, Oxford Development Studies, 43:1, 60-83, DOI: 10.1080/13600818.2014.955466
[46] Never Again Rwanda (2018) Local Government Imihigo Process: Understanding the factors contributing to low participation.

2. **Although Rwanda's commitment to gender equality is widely recognized, serious gaps remain and progress on these areas can be instrumental in helping Rwanda meet its development objectives**. Areas where further attention is needed include: stalled progress reducing fertility after prior impressive reductions; translating gains in human capital into greater quality of women's economic participation, including occupational sex segregation and a large gender earnings gap; a continuing gender gap in secondary completion and in tertiary education and Technical and Vocational Education and Training (TVET); lower representation of women in decision-making positions below the national government level; gender-based violence (GBV); women's greater share of domestic tasks; and smaller but continuing gaps in access to productive assets for agriculture and entrepreneurship. There are still challenges in eliminating GBV and violence against children in spite of the firm government commitment to promote gender equality. These are low reporting, limited evidence especially in cases of sexual violence/child defilement, teenage pregnancy and limited control over resources. These are linked to limited women's economic empowerment, negative social norms and the culture of silence on GBV issues which hinders reporting of cases and curtails prevention and effective legal assistance efforts to victims of GBV.

3. In urban areas, gender gaps stand out in terms of *income disparity between men and women*. In fact, the gap is prominent country-wide and pervasive across all age-groups, level of education and type of occupation[47] . This gender gap should be given more attention in the World Bank's country engagement in Rwanda. Its manifestation in the project context, namely in unplanned settlements, is that female-headed households are worse off in terms of employment status and income level. Other country-wide gender gaps also persist in urban areas. Access to finance as measured by *ownership of a bank account* is 38.1% for men and 22.4% for women in Rwanda; and 48.3% for men and 30.3% for women in urban areas[48]. Likewise, *the right to sell or use land as collateral* is higher for men (80.2%) than for women (77.4%) nationally as well as in urban areas: 62.3% for men and 58.6% for women.[49]

Actions

4. Based on the analysis above, RUDP II embraces the recommendation by Hitayezu et al. (2018:87), underlining "the importance of adopting a gender-sensitive approach to city planning, focused in particular on single – and female – headed households, which on almost all the indicators we present appear to be the most vulnerable sub-group."

5. Under RUDP II, a major opportunity for introducing a participatory, gender-sensitive approach to address some of the identified gender gaps lies in the upgrading of unplanned settlements in the City of Kigali (Component 1a of US$55.05 million) and in Secondary Cities (Component 2a of US$76 million). Gender gaps that project activities can meaningfully address pertain to voice and agency. Proposed actions under RUDP II are summarized below.

	Gender gaps	Proposed actions
More and better jobs/access to finance	Women's ownership of a bank account is lower than men (both nationally and in urban areas)	• Create a joint-bank account for wife and husband in case of compensation for land acquisition. This is the continuation of the current practice under RUDP whereby the City of Kigali compensated people affected by the upgrading pilot in Agatare through cash transfer to a joint account.

[47] This refers to the average monthly cash income from employment at main job by sex, age group, level of education, occupation group and urban/rural area, RLFS 2018

[48] This refers to the percentage of individuals (18+) with bank account by sex, and Area of residence and consumption quintile (EICV5, EICV4)

[49] This refers to the percentage of households' head with the right to sell or use land as collateral by urban/rural, province and consumption quintile (EICV5). In comparison, percentage of households with the loan from formal sources of credit using houses as collateral is similar between male and female headed households (17.6% and 16.7%) nationally and even higher for female-headed households in urban areas (31.6% versus 40.6%).

Ownership and control of assets	Women's right to sell or use land as a collateral is lower than men	• If land title is re-issued (due to the change in the land size), ensure that a joint title is issued
Voice and agency	Low participation in the planning process	• Include a gender-focal person in the Kigali Urban Upgrading Team (KUUT) • Form an upgrading committee in each unplanned settlement consisting of village/cell leaders and representatives for women, youth, people with disability, etc. • Have the committee participate in review and decision making of the upgrading process, including women representative in leadership positions • Conduct separate focus group discussions with women during the upgrading process

6. For women's stronger voice and agency, the overall planning process for upgrading needs to be made more participatory first, which will then open opportunities to enlarge space for women to participate in and influence the process. The team proposes a stepwise approach to strengthen the upgrading planning process and enhance women's voice and agency:

7. **Establish an upgrading committee** in each settlement consisting of local leaders (cell and sector leaders), women representatives and other relevant members (e.g. from Joint Action Development Forum). The committee will work with the City officials at important review and decision-making points along the planning and implementation process, namely: (a) Inception, intermediate and final report for an area planning; (b) Feasibility study for infrastructure investments in the settlement and prioritization; (c) Preliminary and/or detailed design for infrastructure investments; and (d) Monthly site meetings with the construction supervision consultants and contractors.

8. **Promote women as leaders of the upgrading committee**. When constituting the committee, either women or representative(s) of women in the settlement will be given leadership roles (i.e., Chairperson, Deputy or Secretary) so that women become part of the decision-making process in the abovementioned review. In addition, the project will adhere to the Government's policy requiring membership of these committees to be at least 30% female.

9. **Conduct separate focus group discussion with women**. The KUUT will have a gender focal person/specialist who will work with women in unplanned settlements to ensure they voice themselves out and/or their voices are heard. One effective way is to conduct a separate focus group discussion with women on important issues (e.g. prioritization of investments).

10. RUDP II proposes several ways to elaborate and implement the abovementioned approach:

i. The Guidance Note for Upgrading of Unplanned Settlements in Urban Areas of Rwandan Cities (2015) was prepared for RUDP. The Note can be revised to include a section detailing the participatory planning process and can be used as a practical manual for the City of Kigali officials to plan and implement upgrading. It can also elaborate the roles and responsibilities of the abovementioned upgrading committee.

ii. The section detailing the participatory planning process in the Guidance Note, including gender mainstreaming, will also be included in the PIM. The project team will be required to report on this, including women's participation in the process and their role. Project progress report templates in the PIM will include a specific section to report on this.

ANNEX 4: GEF-7 Child Project Description

COUNTRY: Rwanda
Rwanda Urban Development Project II

1. **The Sustainable Cities Impact Program (SCIP) is a Global Environmental Facility program that will support 24 cities in 9 countries, including Kigali.** The Global Environmental Facility (GEF) has a mission to safeguard the environment and create global environmental benefits. Led by the United Nations Environment Program, the SCIP will receive $160 million of financing through a GEF grant and has over $1.6 billion in confirmed co-financing. Rwanda will receive $8.07 million to support investment in sustainable urban development. At the global level, the SCIP will create multiple global environmental benefits from decarbonization, improving biodiversity and reducing land degradation.

2. **RUDP II is a child project under the SCIP, which integrates GEF principles in its design.** RUDP II will contribute to the SCIP, by building momentum, raising ambition, and implementing integrated solutions that result in new behavior. A reinforcing circle emerges, where capacity development informs the implementation of more innovative, inclusive, gender sensitive, sustainable and integrated projects, which in turn set an example for replication in Kigali, Rwanda and beyond.

3. **In Rwanda, GEF financing has catalyzed $150 million for sustainable urban development.** The GEF financing has fundamentally transformed the nature of RUDP II. While Phase I was a $95 million investment which focused primarily on traditional slum upgrading, Phase II is a $ 158 million investment that focuses on integrated urban planning. New investments are in: (i) solid waste management; (ii) flood risk management; (iii) nature-based solutions; (iv) wetland rehabilitation and protection; (v) GHG accounting and mitigation; and (vi) innovative financing to promote private sector investment in sustainable urban development.

4. **Rwanda is taking a lead on sustainable growth in Africa.** Africa is the most rapidly urbanizing region in the world. This urban growth comes with an increase in unplanned settlements with limited services, resulting in widespread environmental degradation and leaving its inhabitants vulnerable to climate change. Rwanda's urban population has doubled since 2002, currently standing at 18.4%. The Government has set a target to reach 35% by 2024. The GoR is taking a lead among African nations in green growth and sustainable urbanization. For example, in 2018, Kigali hosted the first Africa Green Growth Forum to showcase innovation and its desire to set the trend in sustainable urbanization. RUDP II and GEF investments will serve as a beacon for and exemplar of sustainable urbanization for Africa.

5. **The SCIP consists of four components**: (i) Sustainable and integrated urban planning and policy reform; (ii) Sustainable integrated low carbon, resilient, conservation or land restoration investments in cities; (iii) Innovative financing and scaling-up; and (iv) Advocacy, knowledge exchange, capacity building, and partnerships. These components are directly tied to the RUDP II Components. GEF financing is provided to complement RUDP II in supporting a series of technical assistance and investments to achieve sustainable urbanization. Details are summarized in the table below.

Table 1: SCIP components and link to RUDP II activities

SCIP Components	Component Type	Expected Outcomes	RUDP II Activities
(i) Sustainable and integrated urban planning and policy reform	Technical Assistance	Improved capacities and enabling conditions to identify, design and implement integrated low-carbon solutions.	(a) Institutional and capacity development (ICD) plan along with the establishment of an urban upgrading unit. (b) City Management Office (CMO) Roadmap and implementation of urbanization policy

		Strengthened urban management institutions and capacity in the CoK. Enhanced technical capacity at the national level. Long-term strategic planning on a national plan for municipal solid waste management	(c) Support to urban institutional capacity development at the local level to implement national housing policy (d) TA to support planning, design and supervision. (e) TA to support development of City Management Offices and implementation of master plans. (f) Creation of a high-resolution LiDAR dataset for CoK. (g) Development of a stormwater masterplan, including hydrological and economic modelling. (h) TA for National Integrated Waste Management Strategy (i) GHG accounting and reporting framework
(ii) Sustainable integrated low carbon, resilient, conservation or land restoration investments in cities	Investment	Enhanced livable and resilient settlements, and access to services. Reduced flood risk and damages in flood hotspots. Wetland restoration, and enhanced knowledge and monitoring.	(a) Urban upgrading in priority unplanned settlements, with a focus on access streets, footpaths, side drains and street lighting, and improved sanitation, incorporating low-carbon and low-impact approaches. (b) Flood risk management infrastructure investments incorporating green and grey infrastructure to protect flood hotspots. (c) Kigali wetland management and restoration for a priority wetland safeguarding carbon stocks and increased sequestration. (d) Wetland health monitoring: Wetland Monitoring Strategy and Periodic Wetland Monitoring Reports, including environmental quality, hydrology, and biodiversity.
(iii) Innovative financing and scaling-up	Technical Assistance	Support financial innovation to accelerate the implementation of integrated urban planning	(a) Technical Assistance will support the CoK to develop impact-driven financing and investment instrument for urban regeneration.
(iv) Advocacy, knowledge exchange, capacity building, and partnerships	Technical Assistance	Strengthened national and international networks of practitioners	(a) Knowledge products on best practice to be shared nationally and internationally (b) Participation in GEF-7 Sustainable Cities events

6. **RUDP II is aligned with GEF focal areas of climate change mitigation, biodiversity and land degradation.**

i. **Greenhouse gas emission reductions.** GHG emissions are expected to derive from three areas. First, investments will protect existing carbon stocks in the wetlands, and increase sequestration. Second, reductions will arise from the implementation of a national solid waste management strategy, by reducing organic waste going to landfill and instead promoting a waste to energy program. Third, reductions are built into upgrading investments, which

will use low-energy solutions such as LED and solar lighting. The creation of dense, mixed-use neighborhoods with pedestrian walkways will boost NMT. Last, the project will use low-impact materials and approaches, such as NBS for urban stormwater management.

ii. **Reduced land degradation.** RUDP II will directly upgrade settlements to introduce improved drainage and nature-based solutions to reduce erosion and land-slide risk. These investments directly contribute to Kigali's strategy of tackling desertification.

iii. **Improved biodiversity.** Biodiversity in the wetlands has reduced, and continues to be threatened by agriculture, pollution from industry, the introduction of exotic species, and habitat fragmentation. Despite this, the wetlands retain an important biodiversity, which includes species of birds such as the Madagascar Pond Heron, the Papyrus Gonolek, and the White-winged Scrub-warbler. Other important species include amphibians, lizards, and insects. The project will support biodiversity through stopping human activities that degrade the wetlands, removing structures, reducing inflows of polluted waters, restoring waterflows and bodies of water, and re-establishing plants and planting trees.

7. **RUDP II is aligned with national strategies and policies.** Sustainable urban development is a national priority set out in the Vision 2020 and Vision 2050 strategies. These strategies are implemented through five-year plans, the most recent of which (NST1) includes the acceleration of sustainable urbanization as a priority. The overarching NUP was agreed in 2015 and is centered on the need for sustainable urban development. Finally, the GoR is a committed signatory to all the Multilateral Environment Agreements (MEA) for which GEF has its mandate as the funding mechanism.

8. **Rationale for GEF financing.** Rwanda has found it difficult to access financing, particularly from the private sector, in order to achieve GEBs. GEF financing is needed to stimulate innovative investments that address environmental threats and sustainable urbanization. GEF financing will enable: (i) the integration of the value of natural capital conservation into a multi-sectoral planning process (ii) strengthened integrated planning processes; and (iii) the uptake of innovative approaches in solid waste management.

9. **Theory of change.** The project's theory of change reflects the need for: (i) improved processes to integrate ecosystem values into urban planning, strengthened technical capacity, and an enhanced knowledge base; (ii) physical investments in integrated "gray" and "green" infrastructure; (iii) innovative approaches to financing and scaling investments; and (iv) the national (and international) urban agenda to be shaped by sustainable approaches. The project components reflect catalytic investments that will yield multiple global environmental benefits.

10. **Attracting private sector financing and participation.** In Kigali, there is a great untapped potential for the private sector to contribute to the financing of wetland management and solid waste management. There are many examples of the private sector willing to invest to reap the benefits in areas such as eco-tourism, recreation, hospitality, and to benefit from increased property values. The project will develop innovative mechanisms for the private sector to invest. Mechanisms such as concessions for establishments or use fees will be evaluated for their feasibility to support environmental management improvements. Existing stakeholder forums and knowledge exchange events will be used to promote these mechanisms for scaling up.

11. **Advocacy, knowledge exchange and partnerships.** The Government, spearheaded by MoE, is taking the lead on sustainable development in Africa. Kigali is already a member of several networks such as the 100 Resilient Cities and ICLEI (also known as Local Governments for Sustainability). These platforms will enable Rwanda to scale-up engagement

regionally and internationally. The Government and CoK are committed to using this project to promote its sustainable urbanization agenda across Rwanda. Kigali will both learn from SCIP and create knowledge that will be shared through the platform. In the project design and implementation, Kigali will benefit from GPSC knowledge resources which will be tailored to Rwanda's situation. Project resources will be specifically allocated to allow urban policy experts to participate in global activities and forums. Using its experience in hosting the Africa Green Growth Forum, Kigali will seek to host international meetings to demonstrate best practices and promote knowledge exchange.

12. **Stakeholder engagement.** Stakeholder engagement in Rwanda is directed through the Joint Action Development Forum, which has the mandate to engage citizens, the private sector, development partners and civil society. In urban development, participatory planning is embedded in the NUP. The revised Kigali Master Plan is the result of extensive consultations, which signaled that waste management, wetlands management, flood management and drainage and improved hydro-meteorological forecasting are priorities. Continued engagement is facilitated by the City Advisory Committee, which meets periodically. The NUP states the need to promote female participation in urban planning. The National Women's Council is the established forum for discussions on gender and social matters. Groups such as the Rwanda Women's Network and the Nyamirambo Women's Center were expressly consulted during the revision of Kigali's master plan. A practical example of the integration of gender in planning has been the launch of the Kigali Safe City Program.

13. **Results and monitoring.** The Project has two related results frameworks, first the Results Framework presented in the PAD, and the Results Framework reported to the GEF. GEF's Approved Program Framework Document stipulates six core indicators, of which three are addressed through RUDP II as follows (Indicator 3, 6, and 11). Furthermore, the Global Project has identified 11 indicators on which it will report. The table below provides a summary of four global indicators and three core indicators that RUDP II will contribute to the global project.

14. The project will report two PDO indicators (a, b) to the World Bank as described in Section VI of the PAD, and two intermediate indicators (c, d):

i. People benefitting from wetland rehabilitation interventions in City of Kigali
ii. Cities with detailed area plans, incorporating principles of sustainability, prepared and adopted (number)
iii. Land restored/rehabilitated (Hectares)
iv. Greenhouse gas accounting and reporting framework developed for the City Kigali (Yes/No)

15. While the first three indicators above are directly linked to the Global Project's indicators, GHG emissions mitigated will not be reported to the Bank periodically. This is due to the GEF's GHG mitigation accounting methodology which differs from the Bank's approach. Under GEF-7's updated results architecture, GHG emissions mitigated can be calculated over the lifetime of the investment, which is taken as 20 years after completion[50]. Bank reporting should measure impacts during the project implementation, where GHG emissions are expected to be relatively limited. However, estimates of the potential GHG emissions that will be mitigated will be reported at Mid-Term Review and Project Completion.

Table 2: GEF indicators to which the project will contribute at the Global and Child Project levels (Note: the numbering of indicators differs between the global project and GEF's core indicators).

Project Indicators	Unit of Measurement	Target

[50]GEF (2018). "Updated Results Architecture for GEF-7". Document GEF/C.54/11/Rev.02. 54th GEF Council Meeting, June 24—26, 2018. Da Nang, Viet Nam. Agenda Item 13. Available at https://www.thegef.org/council-meeting-documents/updated-results-architecture-gef-7-0

Global Project indicators			
2	Cities with improved evidence-based, sustainable, inclusive, integrated plans and processes	Number	1 (CoK)
3	Sustainable, integrated, low-carbon, resilient, conservation or land restoration demonstrations and/or investments (including leveraged)	Amount (in US$)	TBD
6	Cities that have initiated innovative financial mechanisms and/or business models for scaling-up sustainable urban solutions	Number	1 (CoK)
9	Urban practitioners that used the knowledge acquired from the training or materials from the SCIP Global Platform (disaggregated by gender)	Number	TBD
Child Project Level – Core Indicators			
3	Land restored	Hectares	163.5
6	Greenhouse gas emissions mitigated	Metric tons of CO2e	91,743 (direct during investment lifetime) and 2,882,805 (indirect)
11	Direct beneficiaries as co-benefit of GEF investment (disaggregated by gender)	Number	251,000 (125,500 women and 125,500 men)

An explanation of the estimate of the values for the three core GEF indicators are as follows:

16. **Area of land restored (Core Indicator 3).** An estimate of the area of land that will be restored was taken from a survey of the priority wetlands in the City of Kigali. This survey was produced by GoR. The total is the area of wetlands that will be rehabilitated in Gikondo.

17. **Greenhouse Gas Emissions (Core indicator 6).** GHG emissions mitigated under this project arise from two sources: (i) Lifetime direct project GHG emissions mitigated are based on the carbon stocks in the wetlands that will be protected over a 20-year period across all target wetlands, and the increase in sequestration that will take place over the life of the project. (ii) Lifetime indirect GHG emissions mitigated are based on the GHG emissions that will be reduced through the implementation of a national SWM strategy.

i. Lifetime direct project GHG emissions mitigated are estimated using maps of all the priority wetlands areas, with information on land cover. Literature values were used to estimate the carbon stock above and below ground as biomass and organic components of the soil. Technical literature was used to estimate the proportion of these carbon stocks that would be saved by measures to protect the wetlands over a period of 20 years. Sequestration potential was then estimated by assessing the total area of wetland that could benefit from the planting of additional biomass in areas covered by infrastructure and residential buildings. Direct GHG emission reductions from the wetlands was calculated on the basis of the target wetlands (Gikondo). Emission reductions from the remaining priority wetland sites will contribute to the indirect GHG emission reductions. Urban upgrading will also contribute to climate mitigation through energy-efficient lighting and materials in construction, although this value has not been incorporated in the total target. The total estimate of direct GHG emissions mitigated was estimated at 91,743 tonnes CO_2e over a period of 20 years from the completion of the project.

ii. The estimates of indirect GHG emissions mitigated was estimated from the protection and rehabilitation of the remaining priority wetland sites (see the previous paragraph), and the impact of the implementation of a SWM strategy, focused on the City of Kigali. The indirect emissions from the wetland sites were estimated as 652,805

tonnes CO_2e. For SWM, analysis was undertaken of the growth in the production of waste. Calculations of emission reductions were based on the generation of energy from waste, with an emphasis on the separation and treatment of recycling materials, and the digestion of organic waste for biogas production. This figure is estimated at 2,230,000 tonnes CO_2e. The combined estimate of indirect GHG emission reductions was estimated as 2,888,805 tonnes CO_2e.

18. **Direct beneficiaries as co-benefit of GEF investment (Core Indicator 11).** While the number of beneficiaries from the project might indirectly be estimated to be at least as large as the population of Kigali and its secondary cities, a conservative estimate has been made to identify direct beneficiaries. To estimate the number of beneficiaries from the upgrading the project sites in CoK, which is estimated at 133,387. To estimate the number of beneficiaries from interventions in the wetlands, the population living within a 500m distance of the wetland intervention site in Gikondo, stretching 4km downstream to the Nyabugugo Wetland. This figure was estimated at 128,286. To avoid any double counting, one community scheduled for upgrading (Gatenga) falls within a 500m distance of the wetland. The estimate of beneficiaries of upgrading in Gatenga (10,192) was subtracted from the total, to provide a number of the direct number of beneficiaries as 251,382, which for simplicity is rounded to 251,000. During the project, more precise monitoring will revise these estimates.

ANNEX 5: Economic and Financial Analysis

COUNTRY: Rwanda
Rwanda Urban Development Project II

Rationale for public sector financing

1. The RUDP II investments in infrastructure and wetland restoration will address public goods (roads, drainage, streetlights) and ecosystem services (flood risk reduction, water quality improvement) – none of which would be provided by the private sector. The project's expected benefits will arise from investments in: (i) infrastructure, particularly comprehensive informal settlement upgrading and improvements in road quality and drainage; and (ii) wetland restoration by re-establishing strategic wetlands in Kigali and flood risk management especially in flood hotspots located around the city.

2. Both these projects justified in the context of Rwanda. Improvements in infrastructure around road improvements and drainage across secondary cities are justified by: (i) GoR's strategic decision to reinforce the economic growth potential of secondary cities; (ii) GoR's strategic vision to create a system of cities, with Kigali serving as the primary hub connected to a larger network of urban agglomerations; and (iii) CoK's goal to ensure that rapid growth of Kigali is well managed, and that the city continues to ensure a high standard of living, while efficiently connecting households with job opportunities.

3. Improvements in wetland management and flood risk reduction in Kigali are justified by: (i) the benefit of correcting urban planning failures and providing additional municipal services, such as stormwater control, flood reduction, water quality improvements, disaster prevention and public health; (ii) the occurrence of frequent high intensity rainfall events and concomitant flooding, similar to what was experienced in 2013, 2014 and 2018, all of which resulted in significant economics costs; and (iii) the high cost of damage incurred by the City of Kigali – and the likelihood of future costs – given the consequences of combining large populations, urbanization, high rainfall events and a compromised ecological capacity to assimilate flooding.[51]

Project benefits

4. **Benefits of investments in urban roads and drains**. The benefits associated with improved roads are (a) savings in travel time cost; (b) savings in vehicle operating costs (VOC); and (c) general improvement in access to public services and amenities such as jobs, markets, health facilities schools, and other services. The benefit of drains includes reduced property damage (buildings, roads, furniture, appliances, household goods). All of these are measured by estimated increased annual rents for households currently living in intervention areas.

5. **Benefits of comprehensive upgrading.** Comprehensive upgrading includes improvements to basic services (water, waste management, streetlights), and access to amenities (markets, parks, all-weather roads). The benefits of comprehensive upgrading were estimated by measuring the increase in annual rents as a result of household access to each of these amenities and services. These are expected to capture (i) time savings from access to indoor plumbing/ waste services collected at the doorstep, (ii) time savings as a result of easier access to goods and services, (iii) potential

[51] Costs such as those incurred in 2018, when events in Kigali (districts of Nyarugenge and Gasabo) accounted for some 42% of national flooding costs (damage to assets and associated economic losses) with costs of approximately USD 108million (PDNA) are likely to continue.

health benefits of access to a higher quantity of water and solid waste management, and (iv) increased perception of safety, reduced accidents, and an increased ability to do business after dark.

6. **Benefits to wetland restoration and flood risk management.** The benefit of the project's actions will be to significantly reduce the magnitude and frequency of recurring damage costs and associated losses. The 2018 high intensity rainfall and associated flooding in Rwanda was not an isolated event. Similar flood events occurred in 2013 and 2014, and also occurred in neighboring Kenya in 2019. The Indian Ocean Dipole, which generates warmer water in the western Indian ocean and associated high rainfall on the adjacent land is becoming an increasingly frequent phenomena with climate change.[52] Consequently, the frequency of high rainfall events is likely to increase in Rwanda, and when combined with increasing urbanization and an increase in hard or impervious surfaces (such as roofs, roads and paving), will lead to an increase in storm water run-off intensity, with less infiltration and elevated storm water velocity and less soil water retention by the landscape.

7. The expected savings will be the avoided costs per flooding event, that could recur between three to six times in the next 20 years. RUDP II investments will contribute to: (i) replacing vulnerable land uses (such as industrial and residential) with resilient land uses (such as recreation fields and wetlands) in flood-prone areas; (ii) reducing the magnitude of floods; and (iii) reducing associated flood disservices (sedimentation, solid waste dispersal and poor water quality). The benefits of wetland restoration and flood risk management were measured using 2018 flooding events in Kigali (districts of Nyarugenge and Gasabo) and combined with current and predicted trends to estimate the damage that could be prevented with appropriate investments given a high-flood and low-flood scenario.[53]

Cost and benefits data and assumptions

8. To establish the development impact of the proposed operation, consultants collected data on expected project costs and benefits on all sub-projects under the proposed operation. These data were used to generate the expected stream of project benefits that link the project outputs and expected outcomes.

9. The main benefits considered are those that accrue to (i) households as a result of infrastructure improvements, namely road improvements, drain improvements and informal settlement upgrading, and wetland restoration, and (ii) government in the form of avoided costs from flood damage. Under the two project activities the main outcomes considered are: (i) time and vehicle cost savings due to improved roads' conditions in secondary cities; (ii) estimated increases in annual rent as a result of the improved infrastructure (roads, drains, streetlights); and (iii) averted damage as a result of wetland restoration. Cost data include the estimated initial capital investment costs and regular and periodic operation and maintenance costs.

10. Hedonic regressions were used to estimate economic benefits from road improvements and comprehensive upgrading using revealed preference methods. These regressions measured the expected welfare benefits accruing to current residents in the form of higher annual rents that are likely to be paid as result of infrastructure interventions, controlling for observable characteristics such as (i) quality of housing (walls, roofs, floors), (ii) access to services and (iii) distance to other amenities (health clinics). Estimated annual rent increases as a result of better access to roads, access to piped water (where pertinent), improved solid waste management (where pertinent) and the damage averted to

[52] The current rising temperature trends are expected to change the frequency of Indian Ocean Dipole events from once every 17.3 years to every 6.3 years.

[53] In a high-flood scenario, a serious flood occurs every 3 years, with 8 such events (of USD97m) in the 20-year period; in a low-flood scenario a serious flood occurs every 6 years, with 4 such events occur in the 22-year time period in Kigali.

households that were at risk of flooding were quantified and summed on an annual basis to estimate the net present value of the project. Data from EICV 5 (Integrated Household Living Conditions Survey – 2016/2017) were used for this analysis. Modules in the household survey which included shocks (Floods/ mudslides) were included to estimate the benefits to households from mitigating flooding in cities as a result of improved drains. Given that the household survey is only representative at the district level, any estimated increase in secondary cities were estimated based on measuring an increase in benefits across all urban areas in the country.

11. In addition, time cost savings and vehicle cost savings were estimated using HDM-4 transport models. These were models quantified improvements in transport that would accrue to users of upgraded roads. While the HDM-4 calculations were captured at the city level for a range of infrastructure upgrades – some of which are not currently a part of RUDP II – the estimated benefits of investments undertaken during RUDP II Phase 3 were measured by proportioning the benefits based on the km of road/ drains that will be constructed during that phase of the project.

12. Additional assumptions which formed the basis of the economic analysis included the following:

- Economic analysis of the project components has been conducted at 2020 prices. Economic costs are calculated from the actual financial costs and include base costs but not any transfer payments such as taxes and custom duties.
- Time savings associated with reduction in travel time - computed for each of the road subprojects associated with the project using i) average ongoing wages for both formal and informal workers in each of the districts and ii) estimated number of project beneficiaries commuting every day.
- Estimated number of houses severely affected by poor drainage (flooding) in each of the six districts and Kigali: City of Kigali (5%); Rubavu (0.5%); Rusizi (2.1%); Nyagatare (0.5%); Musanze (2.9%); Muhanga (1.3%); and Huye (1.1%).
- No corrections were made to account for other market distortions.
- Assumed average population growth rates remain the same as those used in the first RUDP: City of Kigali (4.1%); Rubavu (5.4%); Rusizi (2.4%); Nyagatare (9%); Musanze (3.5%); Muhanga (2.6%); and Huye (1.9%).
- A discount rate of 12 percent is applied in the computation of the expected net present value of return on project investments.
- Assumed exchange rate of 1US$= RWF 948
- Assume that useful life of the subprojects is 20 years before major repairs/fixes are undertaken.
- Districts will incur costs for periodic maintenance every year of approximately 5 percent of total project costs for that city.
- Most of the capital costs for the roads and drainages will be incurred in the fourth year of the project and that benefits will begin from the third year.
- The standard conversion factor of 0.86 was used to convert financial estimates to economic terms.
- Benefits assume a constant employment rate and a 5 percent increase in real daily wages per year.
- Assumed that despite population growth, most infrastructure improvements – road upgrades, drainage – will benefit the same number of households as are currently present over the lifetime of the project.
- Assumed that road upgrades will decrease time travel to the nearest all-weather road by 10 percent. Given that most of the roads exist – but are not in good condition, we estimate that upgrades will result in a decrease in time to access roads by a relatively small amount.
- Assumed that comprehensive upgrades in Kigali will decrease time travel to the nearest shop/ market by 50%

13. The benefits of wetland restoration were calculated by estimating the future stream of avoided costs. This was

undertaken via the following steps.

14. First, the project interventions are anticipated to reduce the flooding impacts for specific sectors (agriculture, livestock, fisheries, trade and industry, water and sanitation, transport, environment, education, housing and disaster risk reduction) all of which are highlighted in Table 1. The changes in flooding are assumed to have a straight-line relationship with flooding costs and were estimated by expert opinion as no adequate data exists.

Table 1: Estimated averted damage as a result of RUDP II Phase 3 interventions in flood-management in Kigali

Sector	Damages averted	Justification
Agriculture	6%	Between 60 and 70ha of agriculture will be removed from targeted rehabilitation sites, most of which are located in high flood risk areas. This is however only a small proportion (c.a. 5%) of wetlands in the target area that are under agriculture. Some reduction in damage to agriculture can also be expected along the drainage line between the Gikondo and Nyabugogo wetlands in response to increased attenuation in the Gikondo wetland. Limited agriculture occurs in this area (c.a. 2% of at risk agricultural areas) and if we assume a 50% decrease in flooding risk in these downstream areas, the net reduction in flooding risk can be estimated at 6%.
Livestock	3%	Livestock use is limited but could potentially increase in the absence of agricultural production. A small increase in livestock impacts could therefore be expected in the Nyabugogo wetland which would still be subject to regular flooding.
Fisheries	20%	Rehabilitation activities are likely to result in little direct impact to fisheries, with a small increase in areas proposed. A slight reduction in damage is expected in ponds downstream of the Gikondo wetland, whilst rehabilitation of the Nyabugogo wetland is likely to have a moderating effect on floods affecting ponds that occur along the lower Nyabugogo, downstream of the rehabilitation site.
Trade and Industry	60%	Flooding damage to trade and industry is associated largely with the following flooding hotspots: Mpazi, Gikondo and Rwandex-Magerwa sites. Removal of trade and industry from the Gikondo wetland will result in a considerable reduction in flooding impacts. Risk associated with the Rwandex-Magerwa site will not be affected by planned interventions whilst a moderate reduction in risks to infrastructure associated with the Mpazi confluence can be expected. Given the size of the Gikondo industrial site relative to other flooding hotspots, a considerable reduction in flooding risk is expected.
Water & Sanitation	5%	Damage to water and sanitation infrastructure is likely to be confined largely to steep areas where erosion during floods causes failure of infrastructure. A minor reduction in damage to infrastructure crossing drainage lines below the Gikondo wetland can be expected.
Transport	30%	Flooding at a range of flooding hotspots causes significant disruption to transport in the city. Two of the most affected sites (Kinamba I (KwaRusta) and Kinamba II roundabouts) are located directly downstream of the Gikondo wetland and will therefore benefit from increased flood attenuation associated with wetland restoration. Planned RUDP II activities also include the planned upgrading of bridges / culverts at a number of flooding hotspots around the city. Initial priorities identified includes 3 of the most significant flooding hotspots in CoK whilst a further 3 additional sites at wetland crossing points have also been identified. When combined with wetland restoration activities, these interventions could contribute as much as 30% to reducing transport-related flooding risks.
Environment	5%	Environmental damage is assumed to be associated largely with erosion, particularly of steep areas. This will not be affected by planned rehabilitation activities. A slight reduction in damage to natural features along drainage lines may however be expected.
Education	5%	Rehabilitation is expected to have little direct impact on education facilities, whilst few educational activities are located along drainage lines downstream of target wetlands.
Housing	5%	Between 5 & 10ha of housing is expected to be removed from high risk areas around wetland rehabilitation sites. This represents a very small (c.a. 1%) of housing that is located within flood-prone

		areas. Limited at-risk areas are located downstream of the Gikondo wetland however more settlements do occur along the lower reaches of the Nyabugogo which would benefit to some extent from reduced flooding risks.
Disaster Risk Reduction	5%	Limited benefits expected

15. Second, estimates on the cost of damage that could incur as a result of flood were drawn from Post-Disaster Needs Assessment (PDNA) estimates of damages that took place as a result of flooding in 2018. These were broken up by sector and by district. This analysis considered only damages in the three districts of Kigali.[54]

Table 2: Damage costs for all sectors in Rwanda in 2018 (PDNA)

Sectors	Total damage costs for all districts USD millions (PDNA)
Agriculture	46.60
Livestock	0.28
Fisheries	0.11
Trade and Industry	17.32
Water & Sanitation	9.69
Transport	103.91
Environment	34.17
Education	2.43
Housing	66.92
Disaster Risk Reduction	1.01
Total	**282.43**

16. Third, the damages were estimated based on the possibility of similar floods occurring every 3 years (high flood scenario) and every 6 years (low-flood scenario). Annual estimated damage was calculated by smoothing out the cost of damages occurring every 3 or 6 years.

17. Finally, the estimated benefits of RUDP II flood mitigation activities were calculated by estimating the total Net Present Value (NPV) of damage in a no-intervention scenario and the averted damage if RUDP II estimates were made. Table 3 highlights the NPV of project benefits based on a 3-year and 6-year flood mitigation.

Table 3: Estimated changes is flood impacts due to RUDP II

Sectors affected	% change in flood damage costs due to project intervention	NPV avoided costs with RUDP II (Scenario 1 - Flood 1 in 6 yrs (over 20 yrs)) US$ m	NPV avoided costs with RUDP II (Scenario 2 - Flood 1 in 3yrs (over 20 yrs)) US$ m
Agriculture	6%	2.05	4.1
Livestock	3%	0.00	0.00
Fisheries	20%	0.00	-
Trade and Industry	60%	11.6	23.23
Water & Sanitation	5%	0.02	0.04
Transport	30%	24.4	48.8
Environment	5%	0.37	0.74

[54] The PDNA included damages to Nyarungenge and Gasabo; damages to Kicukiro were imputed based on damages to Nyarugenge and Gasabo.

Education	5%	0.00	0.00
Housing	5%	1.47	2.93
Disaster risk reduction	5%	0.00	0.00
Total costs (NPV) USD millions		**39.9**	**79.9**

18. It is noted that the wetland ecosystem services' value in Kigali are likely to be conservative as the value should have a negative discount rate, that is, their service value will appreciate in the future as the demand for the flood reduction services increase and the wetland asset is a living system that maintains functionality. In addition to the flood reduction services or benefits, a number of additional benefits would be generated (but not estimated in this analysis), and these include: (i) the adoption of crops with high capacity to slow water and effectively bind the soil will provide food for consumption and resale, and slow water velocity and reduce flood damage, capture mobile sediments thereby reducing deposition on road infrastructure; (ii) the development of recreation fields – with grassed fields with capacity to slow water flows, provide stormwater retention and bind the soil will provide access to recreation opportunities with associated human wellbeing, health and community building benefits; and (iii) the establishment of wetlands will offer refugia for plants, birds and other wildlife in an urban setting, and will support the GoR in meeting its biodiversity conservation objectives, provide outdoor education laboratories for nearby schools, and sequestrate and store carbon in the wetland.

19. A major caveat of this analysis is the inability to quantify some aspects of costs and benefits, such as the health benefits associated with improved storm-water drainage systems. The team was also unable to quantify the expected potential benefits for improved cross-border trade due to improvements in road connectivity across the border districts, especially with DRC and Uganda borders. There was also no effort to establish the likely number of jobs to be established directly or indirectly as a result of the project, although it is noted that road construction will significantly benefit the local communities, especially through demand for cheap labor and raw materials.

Summary of benefits

20. On the basis of all the above assumptions, Table 4 below shows the expected benefits (discounted) over the course of the project life (20 years) due to: (i) time savings resulting from reduced travel time; (ii) savings on routine vehicle O&M costs; (iii) expected increase in rental value of properties following enhanced road conditions; (iv) benefits due to improved drainage system; (v) expected benefits due to comprehensive upgrading activities (improved water access, waste services access, drainage, access to markets) in Kigali; (vi) expected benefits accruing to employed residents as a result of street lighting, and (vii) the flood damage averted as a result of wetland restoration.

Table 4: Summary of benefits for RUDP II

	Kigali (US$ m)	Huye (US$ m)	Muhanga (US$ m)	Musanze (US$ m)	Nyagatare (US$ m)	Rubavu (US$ m)	Rusizi (US$ m)
Time savings	-	2.4	1.5	0.6	5.6	0.3	1.3
VOC savings	-	9.9	5.3	3.9	14.5	1.6	6.5
Benefits from all-weather roads	7.1	9.1	23.5	20	6.2	27.7	6.7
Benefits from drains	0.3	0.05	0.16	0.3	0.02	0.7	0.08
Benefits from access to piped water	3.5						
Benefits from access to improved waste management services	2.0						
Benefits from street lighting	0.5	1.7	1.5		0.7		

Benefits from improved access to markets/ shops	52.1						
Benefits from improved wetland management	*Low:* 39.9 *High:* 79.8						

21. Based on these assumptions and collected data, Table 5 shows the estimated NPVs and Internal Rates of Returns (IRRs) for the proposed investments supported under RUDP II Phase 3. Sensitivity analysis was undertaken to assess how the outcome values changed due to increases in operations and maintenance costs. It is assumed that regular maintenance of the infrastructure will consume about 5% of the initial total capital cost of the sub-project per year. The O& M parameter was changed in the model between 3% and 5% to test the effect it would have on the results. The results do change significantly when one changes the operations and maintenance parameter applied in the estimation.[55]

Table 5: NPV and IRR for proposed investments in a base case and a 20% cost overrun

	Base case		**20% cost overrun**	
	NPV (US$ m)	IRR (%)	NPV (US$ m)	IRR (%)
Huye	5.8	22	3.7	18
Muhanga	14.4	45	12.8	38
Musanze	10.1	36	8.5	29
Nyagatare	12.5	47	11.2	39
Rubavu	13.4	40	11.7	33
Rusizi	3.8	24	2.5	19
Kigali	High: 43.0 Low: 14.6	High: 26 Low: 17	High: 34.6 Low: 6.2	High: 22 Low: 14

22. Additional robustness checks were undertaken to estimate the benefits of investing in flood protection management in Kigali. A global scale flood risk modelling tool developed by the World Resources Institute called the Aqueduct Global Flood Analyzer[56] was used to estimate potential flood extents from fluvial (riverine) floods of different probabilities (return periods) account. Potential damage was estimated based on exposed population and GDP data for 2010 and 2030. The tool calculated Expected Annual Damage (EAD) values which can be used in a cost-benefit analysis. Benefits are calculated from reduced flood damages after increasing the level of protection[57]. The NPV of investing in flood protection was estimated at $24 million. Noting that this estimation does not include the indirect impacts on businesses through disruption, this value could be higher.

[55] We also included another scenario estimating the NPV of the project should there be a cost overrun due to the amount of compensation that will need to be repaid to re-house or relocate households near project areas, even though these costs will not be covered under the project activities. Overall, we estimate that the projects will still have positive EIRRs ranging from 10-43%

[56] Aqueduct Global Flood Analyzer allows for the calculation of flood damage under different scenarios of climate change, population growth, economic growth, and levels of flood protection

[57] Other assumptions included the fact that due to regular flooding in Kigali, the level of protection in the wetlands is negligible, and that new infrastructure will create a level of protection of 100 years. The contribution of RUDP II to reduced flood risk across the City of Kigali was assumed as a fixed proportion. Using constant growth rates in exposed values and the contribution of climate change, EAD values were calculated for 2020 and 2040.