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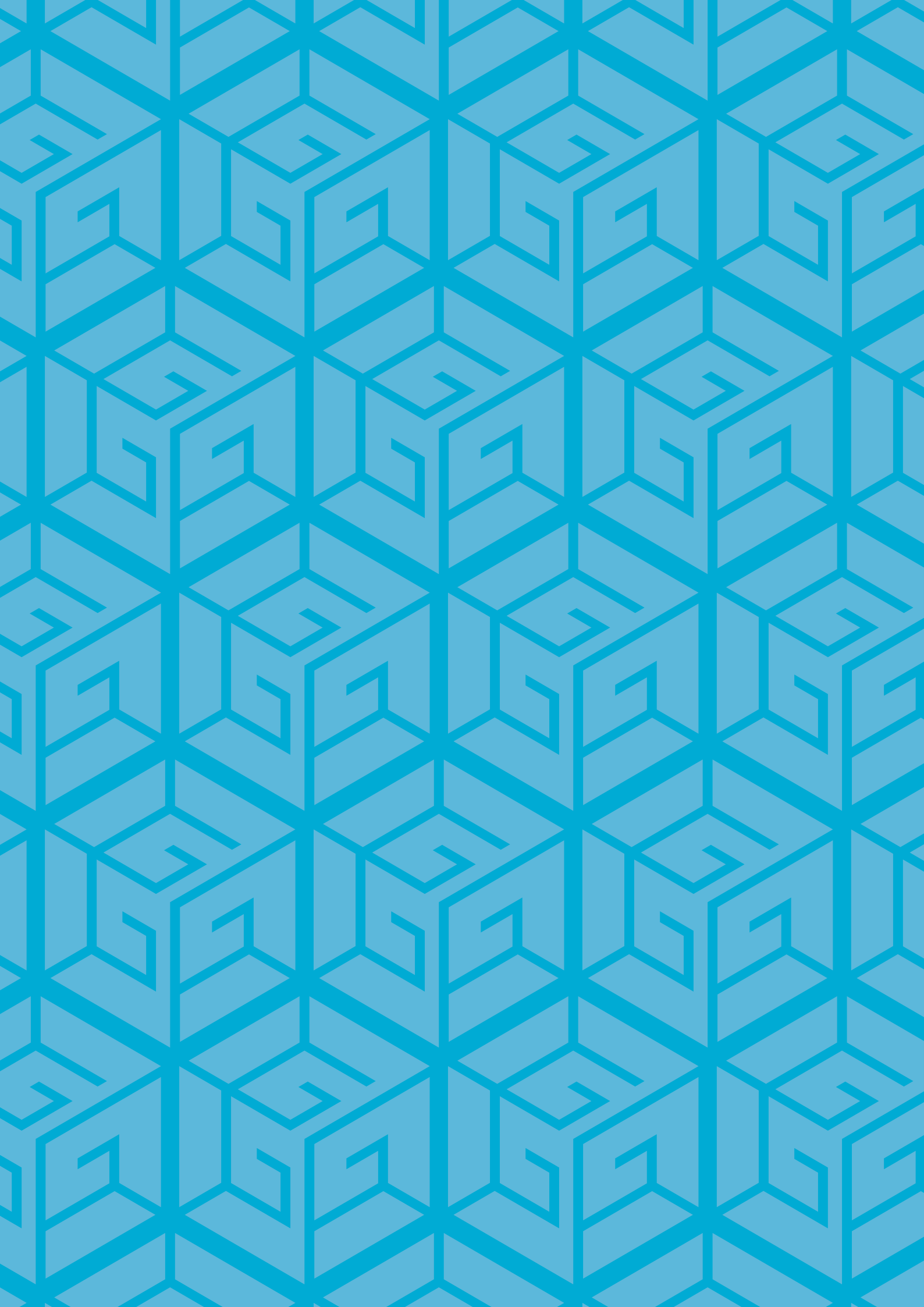
GGGI

Rwanda Country Planning Framework 2016-2020



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Abbreviations and Acronyms

BTC	Belgian Technical Cooperation	KfW	Kreditanstalt für Wiederaufbau
C	Celsius	KOICA	Korea International Cooperation Agency
CDKN	Climate Development Knowledge Network	kWh	Kilowatt Hour
CPF	Country Planning Framework	MW	Megawatt
DfID	Department for International Development (United Kingdom)	NSCCLCD	National Strategy for Climate Change and Low Carbon Development
EDPRS	Economic Development and Poverty Reduction Strategy	PGC	Pilot Green City
FONERWA	Environment and Climate Change Fund for Rwanda	REMA	Rwanda Environment Management Authority
GDP	Gross Domestic Product	SDG	Sustainable Development Goal
GGGI	Global Green Growth Institute	SNV	Netherlands Development Organisation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	UNFCCC	United Nations Framework Convention on Climate Change
GNI	Gross National Income	USAID	United States Agency for International Development
GoR	Government of Rwanda		
INDC	Intended Nationally Determined Contribution		
JICA	Japan International Cooperation Agency		



Executive Summary

The Country Planning Framework (CPF) for Rwanda sets the green growth objectives that the Global Green Growth Institute (GGGI) plans to support over the period 2016-2020 in order to achieve the country's green growth aspirations.

The CPF objectives are derived from priorities that reflect GGGI's comparative advantage and are in alignment with the Government of Rwanda's national development priorities for economic growth, poverty reduction, social inclusion and environmental sustainability. The elaboration and implementation of the CPF is based on the principles of ownership by member country, mutual accountability of both parties, alignment with national priorities, and leadership of the host country.

For the last decade, Rwanda has been one of the fastest growing economies in Sub-Saharan Africa, with an average economic growth of 7.8%.

Much of Rwanda's recent economic growth is attributed to a strong government with the capacity to move quickly and decisively in implementing policies to support business, and to negotiate favorable terms with private sector partners and donors. However, Rwanda continues to experience a deficit trade balance because its imports exceed exports. Moreover, Rwanda's exported goods are greatly influenced by commodity price fluctuations.

The majority of the country's economy is based on agriculture, mining and tourism. Agriculture makes up 33% of the country's gross domestic product, with services making up 46% (including the tourism sector), and industry 15%. Rwanda's largest exports are coffee, tea, hides and tin ore. They are primarily headed to consumption in China, Germany and the United States. Some value-added agricultural processing exists, but most products are exported raw due to the lack of infrastructure to support manufacturing near agricultural areas. Despite the challenges associated with its location and limited exports, Rwanda has demonstrated consistent strong performance in the *Global Competitiveness Report* published by the World Economic Forum, with good progress made across all the key indicators.

The country's government is young and stable, and it is characterized by its commitment to achieving economic growth and poverty alleviation. Following a complete restructure after the 1994 Genocide against the Tutsi, a new constitution was adopted in 2003 and the new governance system provides social and economic stability to the country.

Despite impressive economic growth and progressive national policies, Rwanda continues to face growing challenges from climate change, limited exports and population growth.

Statistics show that since 1970, Rwanda has noticed a 0.35°C increase per decade in annual mean temperature, which is slightly higher than the global average at 0.27°C. It is projected that there will be an increase in temperature of up to 2.5°C by 2050 from 1970, and up to 4°C by 2080. Regionally, in many parts of eastern Africa, extreme warming events are beginning to occur more frequently. Temperature projections are given with high confidence due to historical data, projection confidence levels and global warming trend data supporting regional observations. As a consequence, over the last two decades in Rwanda, the most commonly observed natural disasters were the result of heavy precipitation in single, intense events, with severe floods and landslides observed in 1997, 2002, 2006, 2007, 2008, 2009 and 2016.

In this context, Rwanda has set its priorities through well-articulated policies and strategies.

In 2000, Rwanda adopted the *Vision 2020*, a strategy that outlined development objectives and priorities for the next 20 years by focusing on good governance, human capital, modern infrastructure, productive agriculture, a strong and diverse private sector, and widespread regional and international economic integration. This vision is being implemented through a series of five-year economic development and poverty reduction strategies. The current one, the *Economic Development and Poverty Reduction Strategy II 2013-2018* has a strong orientation toward green growth under which GGGI is providing technical assistance.

The development of a *National Strategy for Climate Change and Low Carbon Development*, the local land-use and development plans, and a new funding program all clearly indicate the Government of Rwanda's commitment to incorporate green growth into national and local development actions. Rwanda has incorporated different Sustainable Development Goal targets into 2016-2017 planning across all its development sectors. Furthermore, in conformity with the Paris Agreement, the Rwandan Intended Nationally Determined Contributions have clearly underlined the main actions to be tackled under climate change adaptation as well as climate change mitigation, with clear targets for 2030.

GGGI, building on its achievements in the country since 2012, has developed the CPF for Rwanda based on two main programs—climate resilience and resources mobilization.

GGGI can develop strategic responses to guide and ensure that Rwanda is on a sustainable development path in achieving green growth through activities that focus on: (1) demand-driven technical advisory services; (2) development of inclusive green growth plans that are gender sensitive; and (3) creation of an enabling environment to engage and foster public and private sector investment in green growth.

The CPF is articulated around the following three outcomes:

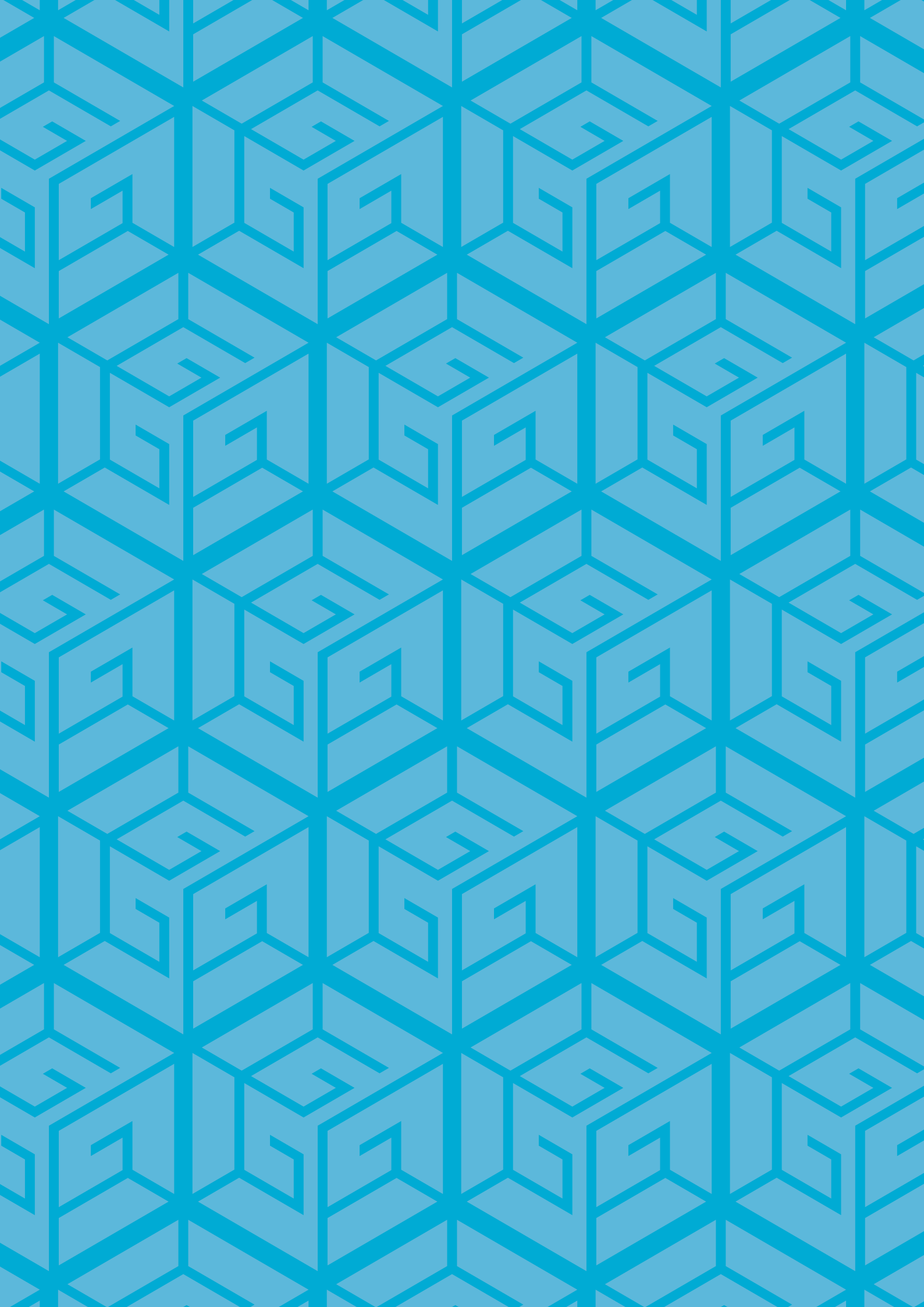
1. Rwanda's urbanization is guided by green growth principles;
2. Resource-efficient, low-carbon technologies and infrastructure solutions are understood and prioritized in urban development projects; and
3. Sustainable financial instruments support green growth projects.

Outcome 1 aims to integrate green growth strategies in national urbanization programs by providing support in green infrastructure investment, green building and construction, capacity enhancement for green city development, and the planning and development of a Pilot Green City to demonstrate the feasibility and relevance of green growth strategies for urban development.

Outcome 2 aims to support the development of green technologies and infrastructure solutions for sustainable economic and urban growth by identifying bankable new technologies and infrastructures to pilot, transferring and sharing knowledge, supporting capacity development, and promoting technologies and solutions that are gender sensitive.

Outcome 3 aims to support the Environment and Climate Change Fund for Rwanda (FONERWA) by providing advisory assistance in mobilizing resources, planning bankable projects, developing new financial tools and engaging with the private sector. GGGI will also help strengthen the capacity of the FONERWA fund management team, and other government officials to ensure that financial instruments for green growth projects are efficient, effective and sustainable.

These outcomes will guide GGGI activities in Rwanda for the next five years.





1. Introduction to the Country Planning Framework

The Country Planning Framework (CPF) of the Global Green Growth Institute (GGGI) lays out the green growth objectives that GGGI's interventions aim to support Rwanda in achieving. The CPF objectives are derived from organizational priorities that reflect GGGI's comparative advantage, and are in alignment with national goals of economic growth, poverty reduction, social inclusion and environmental sustainability. The CPF is thus a contextualized planning document for in-country programming.

The achievement of the CPF objectives requires the support of the national government, the private sector and other partners, and is contingent on the CPF's adherence to the following key principles:

- **Ownership** – It is co-owned by the government and endorsed by the lead government counterpart that GGGI has an agreement with;
- **Mutual Accountability** – It demonstrates commitment by GGGI and the government to collaborate and provide support in implementing the CPF;
- **Alignment** – It is aligned to national objectives and informed by the *GGGI Strategic Plan 2015-2020*;
- **Leadership** – Its formulation is jointly led by the GGGI country team and the Government of Rwanda (GoR).

The CPF presents the in-country strategy for the delivery of measurable results against the GGGI Results Framework. The CPF also aligns with national commitments under the Sustainable Development Goals (SDGs) and Rwanda's Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC).

Box 1. About GGGI

The Global Green Growth Institute (GGGI) was founded to support and promote a model of economic growth known as "green growth", which targets key aspects of economic performance such as poverty reduction, job creation, social inclusion and environmental sustainability.

GGGI envisions a resilient world achieved through strong, inclusive and sustainable green growth, and is dedicated to supporting the transition of GGGI member countries toward a green growth model. In pursuit of these goals, GGGI works with developing and emerging countries to design and deliver programs and services that demonstrate new pathways to pro-poor economic growth.

GGGI supports stakeholders through two complementary and integrated work streams—Green Growth Planning & Implementation and Knowledge Solutions—that deliver comprehensive products and services designed to assist in developing, financing and mainstreaming green growth in national economic development plans.

GGGI's interventions emphasize change in four priority areas considered to be essential to transforming countries' economies including energy, water, land use and green cities.

Headquartered in Seoul, Republic of Korea, GGGI also has representation in a number of partner countries.



2. Country Overview

Rwanda has experienced marked growth over the last two decades, since the 1994 Genocide against the Tutsi. The country has been hard at work, developing policies, programs and a governance structure that can draw investment, attract business and support a sustainable future for the country.

As a result of rapid economic growth, Rwanda is experiencing rapid urbanization, with rates similar to that of many East African countries. Most of the population growth is centered

in the capital city of Kigali. As one of the most densely populated countries in Africa, Rwanda is experiencing increasing competition for its limited land resources. Understanding where the country has come from and where it is going enables planners and policymakers to recognize and prioritize green growth opportunities in future development objectives.

Table 1. Rwanda at a glance

Total population, 2016	11,895,669
Total area (sq. km)	26,338
Forest cover (% of land area), 2015	29.2
Agricultural area (% of land area), 2013	74.7
GNI, Atlas method (current USD), 2015	1,450
GNI per capita, Atlas method (current USD), 2015	700
Poverty headcount ratio at national poverty lines (% of pop.), 2011	44.9
Proportion of land-use certificates held by females (%), 2013	41
Human Development Index, 2014	0.48
Environmental Performance Index, 2015	35.41
CO ₂ emissions intensity (metric tons per capita), 2016	0.06
GHG emissions (thousand metric tons CO ₂ equivalent), 2010	
• Total (land use, land-use change and forestry (LULUCF) excluded) (Kt CO ₂ e)	6,969
• Total (LULUCF included) (Kt CO ₂ e)	5,103
• Energy (Kt CO ₂ e)	1,620
• Agriculture (Kt CO ₂ e)	4,894
• Industry (Kt CO ₂ e)	275
• Waste (Kt CO ₂ e)	59
• Transport (Kt CO ₂ e)	52
Total renewable energy generation, installed capacity (MW), 2010	>160+MW
Percentage of population with access to improved water source (%), 2015	76.13
ND-GAIN Vulnerability Index, 2014	0.595 (162 of 182)

Sources: Jennie E. Burnet and the Rwanda Initiative for Sustainable Development, "Women's Land Rights in Rwanda," undated; National Institute of Statistics of Rwanda, *Statistical Yearbook 2014* (Kigali, 2014); Notre Dame Global Adaptation Index, "Rwanda," <http://index.gain.org/country/rwanda>; Rwanda Environment Management Authority, *Rwanda: State of the Environment and Outlook Report 2015* (Kigali, 2015); Rwanda's Ministry of Natural Resources, <http://www.minirena.gov.rw>; Rwanda Natural Resources Authority (Lands and Mapping Department); National Institute of Statistics of Rwanda, *Rwanda Poverty Profile Report 2013/2014* (Kigali, 2015); United Nations Development Programme, "Human Development Index," 2014; World Bank, "Rwanda," <http://data.worldbank.org/country/rwanda>; and Yale University, "Environmental Performance Index: Country Rankings," <http://epi.yale.edu/country-rankings>

2.1 Rapid Economic Growth Despite Trade Deficit

Much of Rwanda's recent socio-economic growth is attributed to a strong government with the capacity to move quickly and decisively in implementing policies to support business, and negotiate with private sector partners and donors. Between 2000 and 2015, Rwanda achieved a 7.8% average increase in annual gross domestic product (GDP),¹ peaking at 8.8% in 2012 and dropping to 4.7% in 2013.

Despite being one of the fastest growing economies in Sub-Saharan Africa, the country's gross national income (GNI) per capita still marks Rwanda as a low-income country. In 2014, the country's GNI hovered around USD 650, whereas, over the last three years, the average GNI stood at USD 422 per person, indicating significant income growth in recent years. Since 2005, the country's GNI per capita has grown steadily at an average annual rate of increase of 4.9%. These incomes levels, however, are still well below the USD 1,045 threshold of middle-income country status.²

The majority of the country's economy is based on agriculture, mining and tourism. Agriculture makes up 33% of the country's gross domestic product, with services making up 46% (including the tourism sector), and industry 15%.³ Rwanda's largest exports are coffee, tea, hides and tin ore. They are primarily headed for consumption in China, Germany and the United States. Some value-added agricultural processing exists, but most products are exported raw due to lack of infrastructure to support manufacturing near agricultural areas. The country's small industrial sector is dominated by the production of import substitutes for internal consumption, including beer, soft drinks, cigarettes, tools, soap, mattresses, plastic goods, roofing materials, bottled water, furniture, shoes, cement, plastic goods and textiles. The country's limited exports are reflective of the small size of its industrial and agro-processing sectors.

The success of the tourism industry is largely due to the presence of some of the world's last populations of mountain gorillas, in the northern part of the country in Volcanoes National Park. Other tourism opportunities are mostly confined to the country's two other national parks—Nyungwe National Forest (south-west) and Akagera National Park (east)—that support wildlife viewing. A fourth park, Gishwati-Mukura National Park (west), was recently added to the country's protected national land, but no tourism ventures are currently operational within the park. Wildlife parks in Rwanda face stiff competition with other East African countries that have larger and more renowned tourism opportunities.

In terms of Rwanda's balance of trade, the imports are far higher than the exports. The largest imports include food, machinery, construction materials, petroleum and fertilizers from Belgium, Germany, Kenya and Uganda. The trade deficit in 2014 totaled USD 2 billion, an 8% increase from USD 1.9 billion in 2013. Overall, exports totaled USD 723 million, a 3% increase from USD 703 million in 2013.⁴ The increased rate of imports outpaces the increases in exports, widening the trade deficit.

Factors affecting trade are largely attributable to difficulties in shipping and transportation to Rwanda, a landlocked country. Transit fees, transportation costs and domestic tax drive up costs of importation and exportation, making trade expensive. However, the government is working on some tax incentives and other policies that make it attractive for investors. To address transportation challenges, Rwanda with other East African Community partners, is pursuing new rail links connecting the country to shipping ports in Mombasa, Kenya or Dar es Salaam, Tanzania. Another factor affecting trade is the fact that exported goods are commodity production inputs affected by global price fluctuations for basic commodity goods.⁵

1 Trading Economics, "Rwanda GDP Annual Growth Rate 2000–2015," 2015.

2 World Bank, "Rwanda," 2014, <http://data.worldbank.org/country/rwanda>.

3 National Institute of Statistics of Rwanda, last updated July 18, 2016, <http://www.statistics.gov.rw/>.

4 Ministry of Finance and Economic Planning, GoR, "Budget Speech – Financial Year 2015/2016, Theme: Infrastructure Development for Economic and Social Transformation," 11 June 2015, http://www.minecofin.gov.rw/fileadmin/templates/documents/Budget_Unit/Budget_Speech/2015-16_Final_Budget_Speech_English_16_June.pdf.

5 Ibid.

2.2 Poverty Reduced but Some Inequality Remain

Employment rates have risen by 2% since 2011, with 87% of the population employed in 2014. As a consequence, only 1% of the entire population was unemployed and 43% of the workforce experienced underemployment in 2014.⁶ The National Institute of Statistics of Rwanda reports that the country added 530,000 jobs between 2011 and 2014. Employment figures, however, still reflect inequalities in the labor market with women being disproportionately represented in low-income positions, and higher percentages of youth among the country's unemployed.⁷

The country has high primary school attendance rates (86%), but there are lower rates of secondary school attendance (23% in 2014). Primary school attendance rose by 5% between 2011 and 2014. Within this timeframe, the population working farm jobs also decreased, which may be due to a higher share of the workforce in secondary school or higher education.

Corresponding with increases in incomes, employment and education, Rwanda has shown consistent reductions in poverty in recent years. Between 2011 and 2014, poverty rates decreased from 45% to 39%. Extreme poverty dropped from 24% in 2011 to 16% in 2014. Gender and age parameters of the poorest households indicate some social inequities amongst the country's most vulnerable population, with higher rates of women and elderly-headed households within those experiencing extreme poverty.⁸

Despite the challenges associated with its location and limited exports, Rwanda has demonstrated consistent strong competitiveness relative to its sub-Saharan neighbors. In 2015, Rwanda was listed as the 46th most competitive country at the global level, and ranks third

in sub-Saharan African.⁹ With continued progress and demonstrated economic growth, Rwanda is projected to continue to climb in competitiveness rankings, and to use these rankings to attract new business and investment in the near future.

2.3 The Physical Environment and Agricultural Practices Contribute to Vulnerability

Rwanda is just over 2.4 million hectares in size, and popularly known as the "land of a thousand hills". It is located in the shadow of volcanoes in the northern part of the country, and centrally in Africa's Great Lakes region. Although only just south of the equator by two degrees, the temperature is temperate tropical due to a high altitude. The western and northern areas of the country along Lake Kivu experience higher precipitation than the eastern and southern areas bordering Tanzania and Burundi that are typically drier and less undulating.

Almost half of the country is on steep slopes (46% of the country above a 16% grade, and 7% above a 40% grade). This limits arable land and make small plot agriculture difficult through the necessity of terracing, which can be expensive, or water provision, which often must be carried uphill from valleys.¹⁰ Although agriculture interventions have helped increase productivity, most agricultural exports are limited to coffee and tea, and sold before being processed, limiting its value-added potential.

The countryside is highly fragmented, due to land inheritances over time sub-dividing holdings between generations. Many farmers find new plots too small to be profitable, and many larger companies find it difficult to consolidate many small plots into an area large enough to reach a profitability scale for target crops, through programs for land-use consolidation and crop intensification.¹¹

⁶ Employment is measured as someone who has worked at all within the last 12 months. National Institute of Statistics of Rwanda, *Rwanda: Integrated Household Living Condition Survey (EICV) 2013/2014 - Main Indicators Report* (Kigali, 2015).

⁷ African Development Bank, *Analysis of Gender and Youth Employment in Rwanda* (Tunis, 2014).

⁸ Poverty is measured as those whose consumption is less than RWF 159,375. No timeframe for this consumption is given, nor a definition for extreme poverty. National Institute of Statistics of Rwanda, *Rwanda: Integrated Household Living Condition Survey (EICV) 2013/2014 - Main Indicators Report* (Kigali, 2015).

⁹ World Economic Forum, *The Global Competitiveness Report 2015-2016* (Geneva, 2015), <http://reports.weforum.org/global-competitiveness-report-2015-2016/>.

¹⁰ European Union, "Strategic Environmental Assessment of the Agriculture Sector in Rwanda," January 2012.

¹¹ USAID Land Project, "Literature Review for Land Use Consolidation and Crop Intensification in Rwanda," May 2013.

Some of these pressures within agricultural areas of the country have incentivized rural households to move to urban areas, where job prospects and economic opportunity are attractive pulls.

2.4 Population Pressures and Urbanization Lead to Further Vulnerability

Rwanda claims the highest population density across all African continental countries, due to a high and increasing population within a small area. In 2014, the density was over 460 people per square kilometer, up from 346 people per square kilometer in 2002.¹² A largely rural dense population with limited access to electricity and transport enables Rwanda to claim one of the lowest emission per capita rates in the world at 0.2 CO₂e per person.¹³ The population is fairly evenly spread across the countryside, with 83% of the population living in rural areas.

While the urbanization rate of 17% is among the lowest in the world, the annual rate of increase of 4.5% is well above the world's average of 1.8%.¹⁴ Urbanization is mostly concentrated in the city of Kigali, leading to an urban structure where economic opportunities are overly concentrated in the country's largest city. The most common factors cited by urban migrants are opportunities for employment and for family. Of job-related reasons, urban migrants cited economic opportunity (20%), loss of jobs (10%) and loss of land (5%) as the primary "push" factors from rural areas.¹⁵

It is expected that jobs and economic opportunity will continue to be the primary reasons to "pull" an increasing share of the population to Rwanda's urban centers, through the availability of profitable jobs, business ventures, and improved quality of life with better access to infrastructure services.

The Vision 2020 and the *Economic Development and Poverty Reduction Strategy II 2013-2018* (EDPRS 2)¹⁶ have focused on land administration and land-use management as key areas for the land reform process that will support sustainable development. These efforts have come up against significant challenges such as population pressure in both urban and rural areas, which have led to land degradation. The national land-use master plan will be translated into local plans to guide zoning for activities including agriculture, urbanization, resettlement, public infrastructures and biodiversity conservation.¹⁷

2.5 Evidence of Climate Change Vulnerability

A highly dense rural population reliant on agriculture places a large portion of the country under the risks and impacts of global climate change (see Box 2). In recent decades, Rwanda has observed considerable changes in its climate, including higher temperatures, variations in seasonal rainfall patterns and increased frequency of extreme storms, which have led to more frequent flooding, droughts and landslides. These extreme events have led to famine, property damage and destruction (including agriculture, private property and infrastructure), costly emergency actions, and increases in weather-related morbidity and mortality.

Changes in rainfall and temperature have been noticed through recent decades, manifested in disaster events throughout the country. Since 1970, Rwanda has noticed a 0.35°C increase per decade in annual mean temperature, which is slightly higher than the global average at 0.27°C. It is projected that there will be an increase in temperature of up to 2.5° C by 2050 from 1970, and up to 4° C by 2080.¹⁸ Regionally, in many parts of eastern Africa, extreme warming events are beginning to occur more frequently.¹⁹ These events commonly lead to droughts, which are becoming more frequent in the

12 World Bank, "Population density (people per sq. km of land area)," <http://data.worldbank.org/indicator/EN.POP.DNST>.

13 Tom Boden and Andres Bob, "Ranking of the world's countries by 2011 per capita fossil fuel CO₂ emission rates," Carbon Dioxide Information Analysis Center, United States Department of Energy, 2015.

14 Ministry of Infrastructure, GoR, *Urbanization and Rural Settlement Sector Strategic Plan 2013-2018* (Kigali, 2011).

15 National Institute of Statistics of Rwanda, *Rwanda: Integrated Household Living Condition Survey (EICV) 2013/2014 - Main Indicators Report* (Kigali, 2015).

16 The EDPRS 2 guides medium-term actions that will lead to the achievement of Rwanda's Vision 2020 goals. It has a strong orientation toward green growth under which GGGI is providing technical assistance.

17 REMA, *Rwanda State of the Environment and Outlook: Our Environment for Economic Development* (Kigali, 2009).

18 GoR, *Green Growth and Climate Resilience: National Strategy for Climate Change and Low Carbon Development* (2011).

19 Intergovernmental Panel on Climate Change, *Fifth Assessment Report (AR5)* (New York: Cambridge University Press, 2014), Chapter 22: Africa.

Eastern Province, with the most recent events occurring in 2000, 2006, 2011 and 2013.²⁰ The 2011 drought was a large regional occurrence that caused famine throughout much of East Africa.²¹

Rainfall patterns are also being affected by climate change, although projections carry less certainty as to how variability will be manifested seasonally and by volume, partly due to inaccurate historical data over recent decades. Rainfall patterns in eastern and central Africa are predicted to increase throughout the beginning and middle of the 21st century, resulting in a wetter and more intense wet season. Over the last two decades in Rwanda, the most commonly observed natural disasters were the result of heavy precipitation in single, intense events, with severe floods and landslides observed in 1997, 2002, 2006, 2007, 2008, 2009 and 2011.²² The majority of flood events occur in the Northern and Western Province as the area's steep slopes concentrate rainfall and increase runoff flow rates into narrow valleys and floodplains.²³

Box 2. Climate Change Risk and Impact²⁴

Climate change is having extensive adverse effects on Rwanda's economy, its people and its environment. Already, the country is observing extreme events causing damage and public health concerns. More subtle shifts in the country's regional climate are also changing the landscape. Whether coupled with major events or slower weather pattern transitions, these impacts are projected to intensify without focused intervention.

Flooding and landslides have led to displacement, loss of property and loss of agricultural production. In 2011, floods claimed the lives of 10 people and displaced hundreds of households in the Western Province, destroyed over 350 homes and damaged over 3,000 hectares of farmland. On May 7, 2011, landslides claimed the lives of 14 people in Nyabihu District. Weather-related injury, fatality and property loss are some of the most concerning impacts of climate change.

Since much of Rwanda's rural employment and even its GDP are reliant on rain-fed agriculture, variations in regional precipitation will have significant effects across large portions of the rural population and the national economy. Warmer temperatures and variations in precipitation patterns have led to extensive and costly damage and economic loss. The economic impact of a major flood in 2007 in Nyabihu and Rubavu districts cost between USD 4 million and USD 22 million, or roughly 0.6% of national GDP. By 2030, it is estimated that climate change impacts will cost Rwanda 1% of its GDP each year.

The occurrence of extreme disaster events have motivated the country to plan accordingly to address climate change through national adaptation and resilience plans and measures. Environment and climate change issues are integrated in key planning documents including the *Vision 2020*, the *EDPRS 2*, and the *National Strategy for Climate Change and Low Carbon Development* (NSCCLCD).

2.6 Governance Practices Focus on Accountability, Performance and Inclusion

The country's government is young but stable, following a complete restructure after the 1994 Genocide. A new constitution was adopted in 2003 and the new

20 John Heermans, Madina Ndagiza and Anna Knox, "Climate Change Adaptation within Land Use and Tenure Reforms in Rwanda," Policy Research Brief No. 4, USAID LAND Project, June 2015.

21 Mathew Warnest, Didier G. Sagashya and Emmanuel Nkurunziza, "Emerging in a Changing Climate – Sustainable Land Use Management in Rwanda" (paper presented at the FIG Working Week 2012, Rome, Italy, May 6-10, 2012).

22 John Heermans, Madina Ndagiza and Anna Knox, "Climate Change Adaptation within Land Use and Tenure Reforms in Rwanda," Policy Research Brief No. 4, USAID LAND Project, June 2015.

23 REMA, *Rwanda State of the Environment and Outlook: Our Environment for Economic Development* (Kigali, 2009), Chapter 9.

24 John Heermans, Madina Ndagiza and Anna Knox, "Climate Change Adaptation within Land Use and Tenure Reforms in Rwanda," Policy Research Brief No. 4, USAID LAND Project, June 2015.

governance system has provided security and stability to the country and the region. The signing of the new constitution marked the start of a new era for Rwanda, but the political structure still follows a presidential-parliamentary system, as was previously in effect. The Republic of Rwanda Parliament houses the Senate and legislative system to represent the population and monitor the executive branch. At the national level, Rwanda boasts the highest representation of women in parliament in the world with women comprising 64% of the lower house and 38.5% of the upper house.²⁵

Accountability and performance are ingrained throughout all levels of government, in sector working groups and reporting matrices on achievement toward national development goals in the EDPRS 2. The commitment to accountability and transparency contributes to Rwanda's ranking as one of the least corrupt countries in sub-Saharan Africa.²⁶ The GoR is strongly organized and motivated by performance plans, annual budgets and thorough guidance policies to ensure that budgets are allocated and disseminated responsibly.

Accountability is also embedded within agreements with international donor organizations that participate in Joint Sector Reviews of donor fund uses and objectives. Donors coordinate with the GoR to determine annual priorities, performance, allocation and use of funds, and the next year's funding. Collaboration on determining donor funds helps to ensure that fund dispersals and allocations are efficient, effective and economical year to year. Furthermore, they help ensure that each party is accountable, and that divisions of labor between donor organizations and the GoR are separate but equal, and directly contribute to national economic growth.

At the national level, there are 19 ministries that set national policies, programs and plans, with approval and oversight from the Prime Minister's Office. At the local level, 30 districts implement these policies, with the largest jurisdiction being Kigali, the capital city, comprising three districts. In May 2000, the GoR adopted the National Decentralization Policy, later revised in

2011. The main thrust of the policy is to ensure political, economic, social, managerial, administrative and technical empowerment of local populations to fight poverty by participating in the planning and management of their development process.

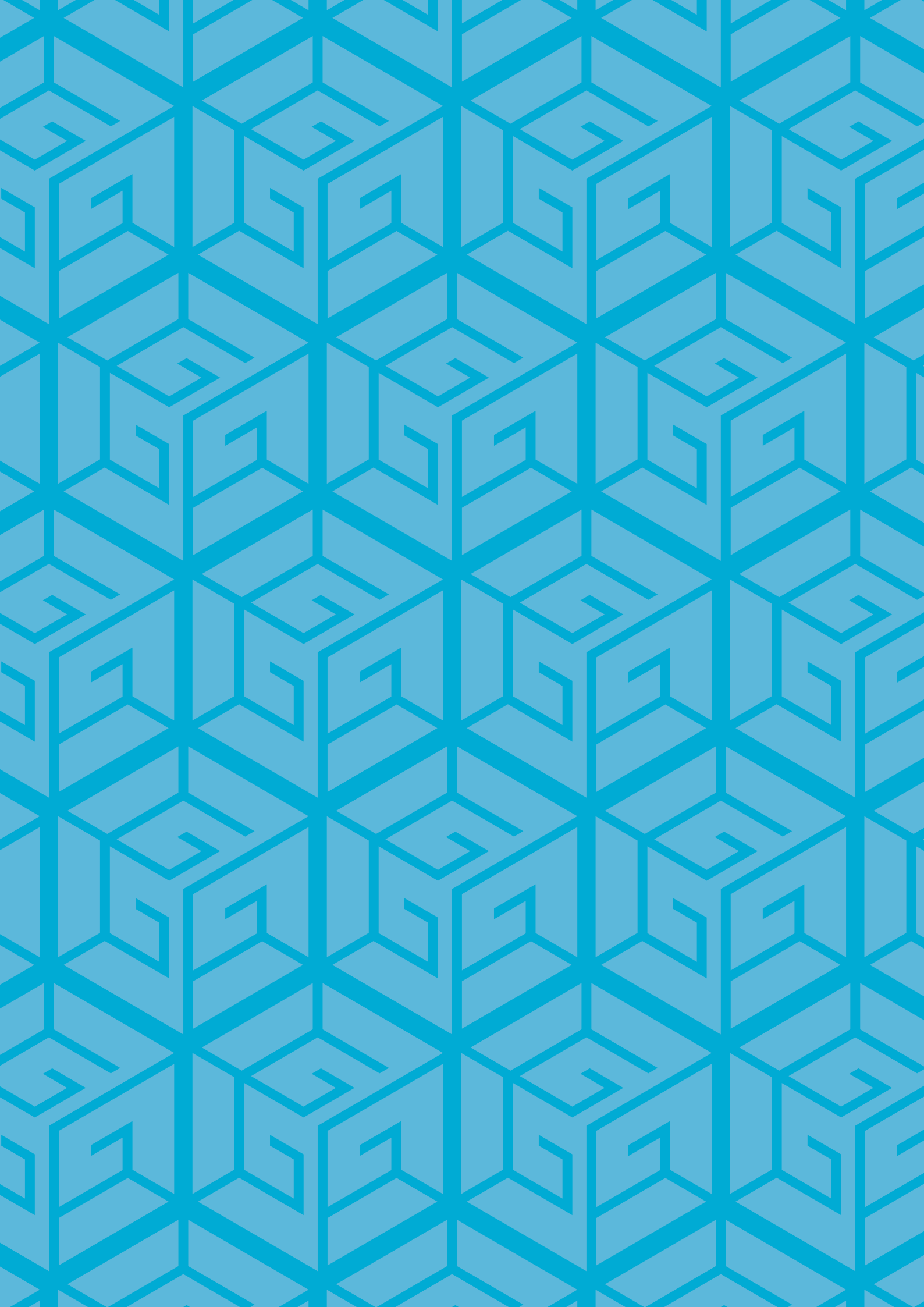
For Rwanda, decentralization will promote and ensure participatory, democratic, inclusive and accountable governance and effective citizen-centered service delivery. In order to support decentralization, local governments are broken down by province, district, sector, cell and village. Each district includes overall land-use planners and administrators who work across the entirety of their jurisdiction. Decentralization to cell and village (or *umudugudu*) levels enable the government to organize citizen action and disseminate information effectively. For example, at the end of each month, the *umudugudu* organizes community action to tackle local projects through public service days. This level of organization shows clear commitment toward civic duty and public engagement throughout the population.

Accessing new resources, strengthening capacity and creating strong working partnerships will help ensure that Rwanda continues to achieve impressive milestones on its way toward a sustainable future and middle-income country status. Recognizing where challenges exist and their cause will enable the country to develop effective corresponding interventions to turn challenges into opportunities.

Since 2000, Rwanda has addressed a number of its development challenges while making considerable progress in tackling the Millennium Development Goals, including: achieving universal primary education; reducing child mortality; improving maternal health; reducing the spread of HIV/AIDS, malaria and other diseases; promoting environmental sustainability; and developing a global partnership for development. In the near future, Rwanda will continue to build on this progress while aligning its development path to the SDGs, with confidence in achieving new goals.

²⁵ Women in National Parliament, "Situation as of September 1, 2015," <http://www.ipu.org/wmn-e/classif.htm>.

²⁶ Transparency International, "Corruption Perceptions Index 2014: Sub-Saharan Africa," <http://www.transparency.org/cpi2014/infographic>.





3. National Priorities

Some of Rwanda's recent development success is owed to its ability to set and adhere to clear development strategies and guiding principles. In the EDPRS 2, the NSCCLCD, the series of local land-use and development plans, and a new funding program, there is a clear national mandate to incorporate green growth into development action, ensuring that Rwanda will be low-carbon resilient and prosperous in the near future.

3.1 Vision 2020

In 2000, Rwanda adopted the *Vision 2020*, a national strategy that outlines development objectives and priorities for the next 20 years. This strategy focuses on good governance, human capital, modern infrastructure, productive agriculture, a strong and diverse private sector, and widespread regional and international economic integration. Since then, the government has developed and adopted policies, strategies and action plans, and dedicated budgets to achieve *Vision 2020* goals. Over time, the country has revisited and updated the strategy, as well as developed complementing plans to clarify specific aspects of the vision, and address newly realized challenges or priorities.

In 2012, the GoR updated *Vision 2020* to incorporate responses to newly realized challenges related to climate change, gender and health, in order to strengthen solutions for poverty reduction.

3.2 National Gender Policy

The *National Gender Policy* was approved in 2010, and comprises ten programs in which women's rights and empowerment are identified and strengthened. The programs target issues related to land use, finance, economic growth and employment, health, and infrastructure. The *National Gender Policy* addresses women's issues related to the natural and built environment, and identifies institutional mechanisms to address equality in employment, in both the public

and private sectors. The recently developed policies on urbanization, energy and housing have incorporated gender-related issues, and the Ministry of Gender and Family Promotion is ensuring that gender issues are being seriously considered.

Rwanda has a robust national system and structure to address gender equality, which provides excellent entry points to ensure that the actions toward achieving the outcomes set in the CPF are gender responsive.

Rwanda's status as the country with the highest number of women in parliament has set it as a best practice globally in gender and governance. This is further supported by the Forum for Rwandan Women Parliamentarians. In addition, the Office of the President of the Republic states the President will make gender and development issues a national priority, and will ensure the effective integration of a gender dimension in the policies and programs of different ministries, the private sector and civil society organizations. Rwanda also has an active Gender Monitoring Office that has been enshrined in the constitution. There is both a National Women's Council as well as a National Gender Cluster, which brings the government together with development partners, civil society and the private sector.

3.3 National Strategy for Climate Change and Low Carbon Development

The NSCCLCD sets an even longer strategy for the country to 2050, and envisions that Rwanda will be fully developed, with low poverty, modern services and a country based and developed under principles of sustainability and low-carbon growth. Even though data driven targets are not set within the NSCCLCD, the strategy outlines mitigation and adaptation measures as means to address Rwanda's climate-related development challenges. It includes programs of action to be embedded and used to guide specific targets within sector strategic plans.

The strategic objectives of the NSCCLCD are:

- Energy security and a low-carbon energy supply that supports the development of green industry and services;
- Sustainable land and water resource management that results in food security, appropriate urban development, and preservation of biodiversity and ecosystem services;
- Social protection, improved health and disaster risk reduction that reduces vulnerability to climate change.

To achieve these objectives, the NSCCLCD sets 14 programs of action. Within these programs of action, there are about 50 specific actions that address low-carbon development and climate resilience in interventions that focus on agriculture, data and projections, mining, sustainable land use, transport, water, energy, industry and disaster prevention.

The programs of action are supported by five distinct pillars: (1) institutional arrangements; (2) finance; (3) capacity building and knowledge management; (4) technology, innovation and infrastructure; and (5) integrated planning and data management.

The NSCCLCD identifies institutional capacity and financing as the largest constraints and most critical to achieving a longer-term vision of green growth and sustainable development.

3.4 Economic Development and Poverty Reduction Strategy II 2013-2018

In 2008, the government adopted the EDPRS, a five-year plan to guide progress toward achieving *Vision 2020*. Due to the success of EDPRS 1, the government adopted a second version in 2013, EDPRS 2, to continue prioritizing action toward *Vision 2020* with more recently identified priorities and up-to-date information. The core principles of EDPRS 2 are: economic transformation, rural development, productivity and youth employment, and accountable governance.

In EDPRS 2, green growth is incorporated as a priority thematic area within the guiding principles of economic transformation, as well as embedded within urbanization and rural development actions. EDPRS 2 also incorporates the findings, priorities and objectives of the NSCCLCD. Table 2 shows the green growth opportunities in the EDPRS 2.

The EDPRS 2 is an impressive demonstration of long-term foresight and national commitment toward sustainability. While specific targets for green growth are not explicitly stated within EDPRS 2, the strategy does insist that climate change measures are integrated in all development policies and plans.

Aligning with the *National Gender Policy*, EDPRS 2 has a strong section on the family and gender, and advocates for the improvement of women's economic status to increase the country's economic productivity.

Table 2. Green growth opportunities in the EDPRS 2

Thematic Areas	Outcomes	Interventions
Economic Transformation Priority 4: Transform the economic geography of Rwanda by facilitating and managing secondary cities as poles of economic growth	Physical development planning and economic development planning combined and coordination of all development sectors strengthened	An in-depth review of the urban planning system
		Clear urban planning and management guidelines
	A network of cities and urban centers created that provide services and attract economic activities countrywide	National investments in infrastructure planning and development
		Develop integrated public transport systems in major urban areas
Economic Transformation Priority 5: Pursue a “green economy” approach to economic transformation	Increased level of “green” investment and environmentally sustainable urban development that exploits “green” economic opportunities	Develop funding mechanisms, especially related to affordable housing, and develop the mortgage finance industry
		Build the case of green urbanization in Rwanda
		Establish an institutional structure—as Center of Excellence—to promote and develop green urban areas and technologies
		Reform policies to support green urban development
	High environmental standards and sustainable green innovations in the industrial and private sectors incentivized	Develop a pilot green city
		Develop an Environment and Climate Change Innovation Center
		Build a regulatory environment that incentivizes green technologies and innovation
		Pilot promising green technologies
		Pilot a “model” mine

3.5 Rwanda's Intended Nationally Determined Contribution

Rwanda has been committed to addressing the challenges of climate change since 1998 when it ratified the UNFCCC and later the Kyoto Protocol in 2003. The country submitted its Initial National Communication to the UNFCCC in 2005, National Adaptation Program of Action in 2006, and the Second National Communication in 2012. The Third National Communication is under preparation.

Rwanda's INDC is built upon the NSCCLCD, and based on national development priorities as laid out in the *Vision 2020* and the EDPRS 2. The full implementation of the INDC rests upon the five enabling pillars of the NSCCLCD:

1. Institutional arrangements;
2. Finance;
3. Capacity building and knowledge management;
4. Technology, innovation and infrastructure;
5. Integrated planning and data management.

GGGI's work in Rwanda is closely aligned with the INDC's institutional arrangements pillar where support has been given through the guidelines provided on good governance in the *National Roadmap for Green Secondary City Development*, and on the establishment of the Urbanization and Human Settlement Secretariat in 2015.

In 2016, GGGI will support the development of other pillars through the green investment plans for the Pilot Green City (PGC) and the Environment and Climate Change Fund for Rwanda (FONERWA). FONERWA intends to address the financial constraints of implementing green growth and climate-related projects. The PGC conceptual master plan, when completed, will have all the elements of its infrastructure built based on green growth principles.

3.6 Sector Strategic Plans and District Plans

When the EDPRS 2 was adopted in 2013, it integrated key objectives and recommendations of the NSCCLCD. Since 2013, Rwanda has been implementing EDPRS 2 through a series of sector strategies that have mainstreamed key cross-cutting issues, including climate change, gender and health in sector strategic actions. These actions contribute to achieving objectives of the five thematic areas of EDPRS 2. Fifteen sectors have developed a strategic plan, including, the education, environment and natural resources, energy, transport, urbanization and rural settlement, and water and sanitation sectors.

As a result, green growth and sustainability have been embedded into sector strategic plans, local land-use plans and district development plans with long-term effect. Rwanda's sector strategic plans, developed in 2013 with effect over 5 years, were all required to integrate climate change measures as a cross-cutting issue.

At the local level, key principles of national strategies, including the *Vision 2020*, the EDPRS 2 and the NSCCLCD, have guided the development and implementation of district development plans and local urban master plans. The Kigali City Master Plan has been held as the best example of Rwanda's city planning ability, and it includes aspects of sustainable development and green growth.

During 2014 and early 2015, the Ministry of Local Governments has been integrating green growth and climate resilience into integrated district development plans that will replace and combine the district land-use plans and district development plans. At each level of municipal planning, substantial work has already been done to ensure that future capital improvement projects and planning activities are conceived and implemented with green growth as a key driver and principle of development objectives.

3.7 The Environment and Climate Change Fund for Rwanda

In support of national objectives to build a green economy, address climate change, and achieve green growth objectives set in sector and local level plans, FONERWA was established in 2012 to serve as a national fund for climate action. The fund provides support to projects that focus on: conservation and natural resource management; research and development; transfer of knowledge; and mainstreaming climate change measures in policy, planning and projects. The fund can be accessed by line ministries, government agencies, districts, civil society organizations, academic institutions and the private sector. Funds are awarded based on the proposed projects' ability to achieve FONERWA logframe targets, and their alignment with national and local policies, plans and programs.

The fund was established with resources primarily from the UK-based Department for International Development (DfID), the United Nations Development Programme and KfW, with technical support from the Climate Development Knowledge Network (CDKN).

With an initial pot of nearly USD 50 million for climate action throughout the country, FONERWA is able to offer direct grants or lines of credit to applicants, approved through a rigorous application process.²⁷ So far, the fund has received over a thousand applications and awarded nearly 30 projects. One of the key success factors in designing and operationalizing the fund is a high standard of fiduciary management, aligned with the GoR best practices and systems, including environmental and social safeguards.²⁸

The fund managers are revising the FONERWA program targets to align with applicants' capacity to deliver, and to acquire access to larger sources of funding. Since the fund started awarding projects in 2013, it has committed nearly 80% of its total funding. To continue the fund, it will need to be able to access larger sources of capital in the near future, as well as continuously over time.

The FONERWA program has revised its targets toward more achievable goals in order to align with the capacity of public and private sector awardees to deliver. Moving forward, the fund's administrators acknowledge a need to work closely with applicants to ensure that their projects correspond directly to achieving the fund's goals. There is also a recognized need to build capacity amongst applicants in drafting compelling, persuasive proposals, and in managing projects. With strong human capacity to plan, design and implement these projects, green growth initiatives and priorities will have a greater chance of success.

27 REMA, "Green Climate Fund Readiness and Preparatory Support Proposal," 2014.

28 Debbie Caldwell, Jillian Dyszynski and Rachel Roland, "Climate Compatible Development in the 'Land of a Thousand Hills': Lessons from Rwanda," CDKN Working Paper, July 2015.



4. GGGI's Engagement in Rwanda

On March 20, 2015, the Cabinet approved the ratification of GGGI's establishment agreement to work with GGGI to ensure that sustainability and green growth are core principles in Rwanda's future growth and development. Further, on May 26, 2016, a Presidential Order ratifying GGGI's establishment agreement was signed by the President, H.E. Kagame, and came into effect on the Official Gazette n° Special of 07/06/2016.

This agreement enables GGGI to provide technical assistance to programs, planning processes and national Rwandan initiatives where shared green growth objectives link GGGI and the GoR.

Within specific sectors, including land use, water, energy and green city development, GGGI will help Rwanda achieve its development goals by:

- Strengthening national, sub-national and local planning, financial and institutional frameworks;
- Increasing green investment flows;
- Improving multi-directional knowledge sharing between South-South and South-North countries.

With a strong partnership and working relationship with Rwandan ministries and agencies, GGGI has already built a network of collaborators, provided research and planning resources, and proven its commitment in supporting Rwanda's sustainable growth and development.

4.1 GGGI's Five-Year Strategic Plan

In the *GGGI Strategic Plan 2015-2020*,²⁹ key outcomes and outputs frame how GGGI interventions, actions and commitments position the institution to help countries mark significant progress toward development and green growth goals. GGGI can develop strategic responses to guide and ensure that Rwanda is on a sustainable development path in achieving green growth through activities that focus on:

- Demand driven technical advisory services;
- The development of inclusive green growth plans that are gender sensitive;
- The creation of an enabling environment to engage and foster public and private sector investment in green growth.

Drawing on GGGI's experience in Rwanda, and other early adopters of partnerships with GGGI, the organization seeks to develop a model for pro-poor, socially inclusive and gender sensitive green growth advisory services and technical assistance that can be applied far and wide, within multiple contexts. The model will address a range of development challenges under a "One GGGI" approach that is widely recognized, respected and demanded by developing countries. Over time, GGGI country programs, like Rwanda, will form the basis of the services and resources that GGGI can offer to promote sustainability and green growth worldwide, in a collaborative of countries, facing multiple challenges and working together to create a low-carbon, resource-efficient future.

29 GGGI, *GGGI Strategic Plan 2015-2020: Accelerating the Transition to a New Model of Growth* (Seoul, 2015).

4.2 Engagement To Date and Key Results

Since 2012, GGGI has been working with Rwanda as one of Africa's premier models of green growth, evident in its ability to embed green growth and sustainability elements into national policies, strategies and action plans. So far, GGGI's work in Rwanda demonstrates where it has a comparative advantage and technical resources to support the government in achieving national objectives in the EDPRS 2 and the NSCCLCD.

GGGI has been supporting Rwanda's green growth and sustainable urbanization goals, including: examining green technologies and green development solutions; and identifying climate financing mechanisms for projects that promote low-carbon and resilient development.

In March 2013, GGGI conducted research on local construction material for energy efficient and affordable housing in Rwanda. The research focused on green building technologies using materials that are low-carbon and locally available, and could create new jobs within the manufacturing industry. In line with the EDPRS 2, exploring new green technologies that can be adopted, imported or locally sourced is a governmental priority where GGGI has demonstrated previous experience and technical expertise.

More recently in early 2015, GGGI released the *Green City Framework and Guidelines* for six secondary cities in Rwanda. This reference document identifies opportunities and challenges related to the development of secondary cities and proposes technologies, governance structures and planning approaches that could be explored to meet green growth objectives. The document includes an evaluation of the economic strengths and weaknesses of the six secondary cities, and an analysis of their readiness to embark on green growth development.

GGGI also developed the *National Roadmap for Green Secondary City Development*, which outlines the fundamentals, pillars, and pull factors of green city development. The National Roadmap provides tangible, simple actions that could be used to kick start green growth in Rwanda's secondary cities.

Currently, the GGGI Rwanda Country Program is building national capacity to implement the National Roadmap, and achieve green growth and sustainable urbanization goals. To build national capacity, GGGI is preparing to disseminate technical information and planning approaches to target staff in ministries and district planning offices.

At the same time, GGGI is supporting the development of an investment strategy for green infrastructure in secondary cities, including financing and investment approaches for a PGC project, to achieve key actions in the EDPRS 2. Working with the Rwanda Environment Management Authority (REMA), GGGI is helping to develop a conceptual master plan for a PGC in Rwanda. The development of a PGC is strategic, as it will not only set an example for sustainable urban development for Rwanda, but also for sub-Saharan Africa.

With considerable actions already completed and showing a number of early successes, GGGI has built a strong foundation for working more deeply and effectively with Rwanda in key areas of development that directly contribute to green growth and gender equality.

The GGGI Rwanda Country Program has trusted and close advisors in its steering committee that includes: FONERWA, Ministry of Economics and Financing, Ministry of Infrastructure, Ministry of Local Governments, Ministry of Natural Resources, Ministry of Trade and Industry, REMA, Rwanda Housing Authority, and the Rwanda Initiative for Sustainable Development.

This steering committee actively oversees and approves the GGGI Rwanda Country Program activities, as well as advises GGGI on proposed interventions and the development of new policies and programs. Their involvement, insight and knowledge are central to the success and effectiveness of the GGGI Rwanda Country Program.

Beyond the steering committee, many other agencies, organizations and businesses addressing cross-cutting issues will be needed as collaborators toward achieving green growth objectives.

Particular attention will be dedicated to engaging Rwanda's private sector, with experts in energy efficiency, renewable energy, water capture and reuse, sanitation, and sustainable building materials. Private sector stakeholders often struggle to connect and engage with national green growth projects. Connecting with and strengthening opportunities for businesses to participate in these projects will help achieve green growth goals.

4.3 GGGI's Comparative Advantage

Within green city development and green technology, GGGI can support Rwanda with its technical expertise, resources and quick access to a considerable wealth of knowledge. In order to mobilize resources to meet the green growth development needs, GGGI has the capacity to organize information, data and resources to make viable proposals to attract and secure international financial resources for climate action. Moreover, GGGI's comparative advantage resides in the ability to be present at every stage of the project cycle, from the appraisal and planning of a green growth strategy to the financing, implementation and impact evaluation of green technologies.

GGGI is already working closely within the Urbanization and Human Settlement Sector Working Group of the GoR, which brings together governmental stakeholders and development partners to coordinate and align efforts toward collective action to achieve the SDGs. Within this Sector Working Group, each development partner brings distinct resources and approaches to Rwanda's urbanization planning and implementation activities; therefore, it enables GGGI to leverage its comparative advantage of green city development.

UN-Habitat ensures that pro-poor and participatory planning processes are incorporated into public work and urban planning projects. GIZ assists the GoR in fiscal decentralization and provides advisory services to policymakers in governance and economic development. The World Bank supports the implementation of Rwanda's urbanization efforts by financing infrastructure projects in each of the secondary cities. For research to inform urbanization plans and policy, the International Growth Center and Rapid Planning provide economic and demographic analysis, data quantification and technical evaluations to strengthen urban planning projects throughout Rwanda at the local and national level.

Across all development partners, GGGI helps to coordinate urbanization planning and implementation activities while advancing, supporting and advising Rwanda's development objectives.

Across the broader elements of green growth, beyond urbanization objectives, GGGI will engage with and collaborate with multilateral and bilateral partners to access resources, expertise and additional capacities for Rwanda's green growth objectives.

Large international development organizations, including the African Development Bank, UN-Habitat, United Nations Development Programme and the World Bank are already working in Rwanda on green growth projects by providing resources for infrastructure or funding specific community development projects and programs. Bilateral organizations, including those from Belgium (BTC), Germany (GIZ and KfW), Japan (JICA), Republic of Korea (KOICA), the Netherlands (SNV), United Kingdom (DfID) and United States (USAID) are supporting infrastructure, agriculture, education and health projects. Their approaches to development include overseeing targeted projects, providing bridge financing, direct capital injection to national budgets, or national level focus on governmental programs and policy implementation.

These partners play a critical role in sharing resources and expertise, and particularly for aligning the various development projects to green growth and sustainable urbanization goals.

Distinct from these development partners, GGGI brings a separate set of resources, skills and advantages to Rwanda's development efforts. With access to a wide range of technical experts in specialized fields across the globe, GGGI has the international reach and organization to work closely with these development partners and coordinate project objectives and activities to support green growth activities and objectives.



5. Country Planning Framework Analysis

In pursuit of a global green economy and with an organizational mandate and commitment to embed green growth as a core development principle for growing and developing countries, GGGI has performed an initial analysis of the opportunities, strengths and weaknesses of Rwanda's green growth activities. With a deeper understanding of the causes behind some structural challenges to achieving green growth goals, and with consideration of GGGI's own comparative advantage, this CPF culminates in a strategic response where GGGI can help Rwanda make great strides in developing a green economy and a prosperous and green future.

The CPF has been developed through comprehensive and inclusive stakeholder consultations. The CPF is born from the *GGGI Strategic Plan 2015-2020* and from close collaboration and consultation with the GoR. The challenges, options, solutions and responses identified for this CPF were gathered in consultation with the Rwandan governmental counterparts, and following an in-depth review of Rwanda's sector strategic plans and key national guiding policies, with particular focus on the EDPRS 2, the NSCCLCD and the FONERWA program.

During a two-day workshop in early September 2015, GGGI worked with key Rwandan government partners to identify where GGGI intervention would have the greatest impact, and where opportunities for intervention and collaboration were strongest. Follow-up interviews with key stakeholders were conducted as needed to ensure that the proposed interventions and programs of action for GGGI's continued involvement and work in Rwanda closely support the country's most pressing needs.

Rwanda has shown tremendous action and ability to plan and prioritize green growth in its national development strategies, but there are challenges that need to be addressed. Some of these challenges include a steadily increasing population, inadequate basic infrastructure, high energy prices, slow uptake of green technologies, and the lack of capacity and funds to implement green growth policies, particularly at the local levels.

GGGI in close partnership with the GoR has analyzed these challenges, and identified key strategic gaps that can be filled and addressed. This CPF aims to build on the work already done, and discusses areas of opportunities where GGGI interventions could contribute to the achievement of Rwanda's development goals.

Four key themes can be identified from a broad review of the challenges to green growth in Rwanda:

- Rapid urbanization is resulting in negative environmental and developmental impacts;
- There is a slow uptake of green technologies and solutions for tackling infrastructure and energy gaps;
- Additional skills and capacities are needed to implement green growth plans;
- Access to finance for green growth projects remains limited.

These challenges are discussed in detail below.

5.1 Rapid Urbanization is Resulting in Negative Environmental and Developmental Impacts

Urbanization is occurring fast throughout Rwanda. The country's population is increasing by 3% annually, with urban areas growing faster than rural areas, due to rural to urban migration.³⁰ Currently, 17% of the country's total population lives in urban areas, a rate that is set to expand to 35% by 2020, under the goals of *Vision 2020*.

30 Trading Economics, "Population growth (annual %) in Rwanda," <http://www.tradingeconomics.com/rwanda/population-growth-annual-percent-wb-data.html>.

Cities grow as concentrations of economic activity nurture individual and collective prosperity through the exchange of goods, services and knowledge. Conversely, cities also consume large amounts of resources, generate pollution, waste and amplify inequalities and wealth disparities among citizens if poorly planned without strategic intervention. Many of Rwanda's urban areas face these challenges, which are projected to worsen as the population grows.

Unevenly distributed urban growth is outpacing infrastructure provision and economic development. Currently, nearly half of the country's urban population is concentrated in the city of Kigali of nearly 1.3 million inhabitants, highlighting economic and social opportunity imbalances between Rwanda's urban areas. Accelerated growth in Kigali aggravates existing urban challenges related to the provision of basic infrastructure (water, sanitation and energy), traffic congestion, and air and water pollution. Moreover, the cost of basic infrastructure is high in Kigali because of its hilly topography.

While much of the urban growth is projected in Kigali, six secondary cities are also targeted for population and economic growth, as per the goals of EDPRS 2.

With the exception of Kigali, the management of sanitation and waste is at its early stage in Rwanda. In all urban areas, urban mobility is worsening in response to increasing car ownership across the country. In secondary cities, unemployment rates are high and new job opportunities are low. Migrants, especially women, with limited skills and education from rural areas find it difficult to secure employment in a competitive urban market. Limited prospects drive many urban dwellers into informal economies, in which women predominate.

As these cities grow, embedding green growth principles in their designs and development will ensure a low-carbon, resilient and prosperous future. Rwanda has the will and the ability to avoid the pitfalls of rapid urbanization, in addition to the advantage of being at the early stages of infrastructure development. Planning for the growth of the secondary cities sustainably will prevent negative urbanization outcomes (pollution, urban sprawl, traffic and congestion, informal settlements and inefficient public services). It will also maximize the benefits that cities can provide to improve quality of life for all residents (economic opportunity, health care access, educational resources and basic infrastructure).

Green growth principles need to be prioritized and articulated in urban plans and projects. Many of Rwanda's urban planning policies and regulations are progressive and already include sustainability elements. However, the integration of sustainable practices into planning exercises is not yet mainstreamed at all levels of government, particularly at the district and sector levels. For example, a ministerial order that outlines urban planning and building regulations was adopted in May 2015.³¹ While there is mention of sustainability in the policy, specific details to define the term and the application, particularly at the local level, are missing. Similar constraints exist with the Land-Use Planning Law, which mentions sustainability as a central outcome, but provides little in the requirements of the law related to sustainability or green growth.³²

During implementation of the urban plans and projects, a separate and focused effort will be needed to ensure that green growth principles are clearly articulated and of sufficient detail to influence the development of urban areas.

5.2 There is a Slow Uptake of Green Technologies and Solutions for Tackling Infrastructure and Energy Gaps

Economic transformation is constrained by gaps in infrastructure. The Rwandan economy is in the process of transforming from an agricultural base and a rural labor force to a more industrial, diversified urban economy (as described above in section 2.1). However, the lack of access to basic infrastructure services such as electricity, transport, and water and sanitation negatively affects the production capacity of industries, the delivery of goods and services, and household quality of life, and pollutes the surrounding environment.³³

31 Ministerial Order No. 04 Cab.M015 of 18052015 on urban planning and building.

32 Law No. 24/2012 to 15/06/2012 relating to the planning of land use and development in Rwanda.

33 Philippe Aghion et al., "Investing for Prosperity: Skills, Infrastructure and Innovation," Report of the LSE Growth Commission, 2013.

Insufficient access to affordable electricity limits economic productivity. Limited access to reliable, accessible and affordable electricity in Rwanda constrains economic growth, especially for smaller and newer firms.³⁴

Rwanda has an ambitious plan to increase electricity access to its growing population. Currently, a national grid capacity of 160 MW serves only 20% of the population. National energy goals seek to increase national installed capacity to 563 MW by 2017 to serve 50% of the population.³⁵ To meet this goal, Rwanda is relying on a few large projects to increase national grid capacity, including Lake Kivu methane gas, Mukungwa River hydropower and a number of additional small hydropower sites. Of the energy generated in Rwanda, 40% is produced from non-renewable sources while 60% is produced from hydropower.³⁶ While some off-grid energy generation exists, the proportion is small and largely concentrated in rural areas. No reliable model exists in country for simultaneous on- and off-grid solutions, such as net metering or smart meters.

Besides limited supply, electricity in Rwanda is extremely expensive compared with other countries in the region—at USD 0.24/kWh compared to Kenya's USD 0.15/kWh, Uganda's USD 0.17/kWh, and Tanzania's USD 0.05/kWh). Late 2015 saw a 35% increase in electricity prices to the consumer. In 2005, Rwanda had the third highest electricity prices on the continent.³⁷

High demand and low supply results in unsteady and unstable distribution, with frequent brownouts and blackouts. Finding more efficient technologies to generate and use energy will enable Rwanda to meet its energy needs while minimizing reliance on fossil fuel-based generation. While a large amount of potential hydropower exists throughout the country, until mechanisms exist to cost effectively develop new sites, Rwanda's energy supply will continue to be largely imported, expensive and below demand.

No central sewage or sanitation system exists in the country. Water service is inadequate and expensive compared with neighboring countries. While Rwanda aims to provide 100% of the population with access to water by 2017, only about 74% has access to improved sources of water. Water supply varies with the seasons, and dryer months can lead to shortages for large parts of the country. The current demand for water in Kigali, for example, exceeds 100,000 m³ per day, while WASAC, the national water utility, can only supply a maximum of 65,000 m³ per day during dryer months.³⁸ Prices for water in Rwanda are high and rising, with a recent 19% increase in cost to the consumer in late 2015.³⁹ The most vulnerable portions of the population often have to pay the highest price for water.⁴⁰

It will be important to explore green technologies to minimize losses in water delivery systems and encourage efficient consumption so that the infrastructure can service a larger portion of the total population.

Finding new solutions of delivering basic infrastructure services to support economic activity will be a major step toward the country's development. In new infrastructure projects throughout the country, the design and implementation of systems should ensure that environmental impacts are minimized, and risks to climate change are mitigated. This will safeguard long-term, sustainable energy and water supplies for economic growth activities in all regions of the country.

One reason why there is a slow uptake of green technologies and solutions is the lack of a model to demonstrate their benefits and costs over time. The benefit to cost ratio is often poorly understood, and higher upfront costs for lower life cycle costs over time are often omitted from funding decisions or budget allocations. For example, many construction companies express hesitancy to make large purchases of locally-made building materials, citing uncertainty about material durability, maintenance and long-term performance. Without a clear

34 Sachin Gathani and Dimitri Stoelinga, *Understanding Rwanda's Agribusiness and Manufacturing Sectors* (London: International Growth Centre, 2013).

35 Ministry of Infrastructure, GoR, *Energy Sector Strategic Plan 2013-2018* (Kigali, 2013).

36 National Institute of Statistics of Rwanda, *Rwanda: Integrated Household Living Condition Survey (EICV) 2013/2014 – Main Indicators Report* (Kigali, 2015).

37 Encyclopedia of the Nations, "Electricity-Cost per unit, total, historical (US cents/kwh) – The Africa Infrastructure Diagnostic, 2005," <http://www.nationsencyclopedia.com/WorldStats/AICD-electricity-cost-unit-historical3.html>.

38 The Rwanda Focus "Water and electricity shortages worsen," August 4, 2015.

39 Theogene Nsengimana, "Water, electricity tariffs to increase," *The New Times*, August 7, 2015.

40 Sarah Keener, Manuel Luengo and Sudeshna Banerjee, *Provision of Water to the Poor in Africa: Experience with Water Standposts and the Informal Water Sector* (Washington D.C., World Bank, 2009), http://www.infrastructureafrica.org/system/files/WP13_Standpost.pdf.

understanding or quantification of the material's ability to uphold in heavy rains, prolonged sun exposure, or under load, industry professionals are hesitant to integrate new technologies that have only recently become available.

A detailed framework to prioritize and adopt green technologies and solutions is still evolving. Over the past decade, Rwanda has tested and piloted a number of technologies to improve infrastructure and increase productivity. Now, a range of products, systems and technologies are available, but only with a limited understanding of how to prioritize investment in those that would be the most appropriate or effective for Rwanda.

Achieving national green growth objectives will require that new green technologies are:

- Prioritized for local appropriateness;
- Disseminated widely across the country;
- Accompanied with the capacities to operate and maintain them.

5.3 Additional Skills and Capacities are Needed to Implement Green Growth Plans

The principles of green growth and sustainability already exist in most national policies and plans. Many of these principles, however, lack sufficient detail to be useful for planners, or are very new and they have not yet been disseminated and implemented effectively across the country. At the same time, many officials, particularly at the local levels of government, lack the capacity to interpret and implement these policies and plans.

Additional support is required to equip government offices with the resources, knowledge and technical skills to ensure that public action is guided by principles of green growth, social inclusion, gender sensitivity and sustainability.

Similarly, green technology uptake may be limited by a lack of personnel capacity and technical skills to engage and become proficient in new approaches to development. While training programs do exist, they are commonly restricted to known and basic technologies.

Capacity development on the application of green growth principles, targeted specifically at local government officials and other implementers will be critical to ensuring that new plans, technologies or processes are effectively implemented and maintained to achieve green growth and the SDGs.

5.4 Access to Finance for Green Growth Projects Remains Limited

In 2012, Rwanda developed the FONERWA program to support climate action and build a green economy. The initial success of FONERWA and high demand for financing climate-related projects necessitate that the program continues, through the supplement of additional resources and capacities. With impacts nationally and worldwide, this program is making great strides in proving Rwanda as a climate leader in Africa and inspiring other countries to follow suit.

To continue to support projects that address climate change in Rwanda, there are several shortfalls and resource gaps of FONERWA that need to be addressed to ensure its long-term viability and operation.

Firstly, gaps exist between the needs of the applicants and the needs of the FONERWA to achieve ambitious national development goals. So far, FONERWA has received over a thousand applications and only awarded about 30 projects. This either means that the application process is overly arduous for the applicants, or the proposals submitted by applicants fall short of meeting the criteria for achieving the targets set in the FONERWA program.

Revisiting the FONERWA targets and application processes so that they align with the capacity of public and private sector applicants to deliver realistic results will improve the fund's approval rate for effective projects.

Secondly, FONERWA currently only offers two types of financing, limiting the types of projects that could use its resources. Applicants are only able to apply for a direct grant or a line of credit that offers a more attractive interest rate than what is currently available by national bank loans. Expanding the range of financial products available through the program may attract a wider range of projects that could widen the diversity of FONERWA's portfolio and the reach of its impact.

Thirdly, the FONERWA program currently relies on outside technical knowledge and expertise to evaluate project proposals. External consultants are not always available and often do not understand Rwandan policy, baseline data or cultural frameworks. This reliance also prevents the dissemination of technical knowledge to fund managers and other governmental partners, missing a critical opportunity to build institutional capacity to effectively administer the grant program in-country.

Fourthly, after three years of awarding grants, the FONERWA funds are starting to run dry. The FONERWA program will need to source additional funding to continue supporting climate-related projects, especially since funds from the United Nations Development Programme are experiencing shortfalls.

The Ministry of Natural Resources was accredited to the UNFCCC Green Climate Fund in early 2015, a potential source of funding for sustaining the FONERWA program. Accreditation to the fund enables Rwanda to apply for resources to support climate-related projects; not only for the FONERWA program, but also for developing a green city pilot, and supporting Rwanda's other climate actions over time. The Green Climate Fund's bidding process is highly competitive, and the FONERWA fund management team needs to be well prepared and organized to develop a compelling bid.

In addition to the Green Climate Fund, a range of other large sources of funds are available to support climate-related development objectives, many of which Rwanda is already drawing on or ready to pursue. This includes the Climate Investment Fund, the Adaptation Fund and the Pilot Program on Climate Resilience.

Centralizing a team of experts with the skills and capacity to successfully apply for these international programs will help ensure that Rwanda's green growth activities and projects have the necessary resources to achieve intended objectives. Until this capacity exists internally, Rwanda's climate-related projects will lack the funds for implementation and the security needed for long-term viability.



6. Strategic Response

GGGI's overarching goal in Rwanda is to support its transition to a middle-income country through green growth and sustainable urban growth.

The NSCCLCD, the development of FONERWA, and the incorporation of green growth within EDPRS 2 provide substantial guidance and clear government directive toward bringing the country into a more sustainable future and to addressing climate change.

Based on a review of existing programs and policies and consulting closely with Rwandan government counterparts, GGGI understands the need to provide tangible results to build a strong case for green growth. This strategic response to Rwanda's ambitions builds upon the progress and successes obtained so far with GGGI's in-country activities since 2012.

In consideration of the key challenges and opportunities for green growth in Rwanda, GGGI aims to provide targeted responses to address these challenges with sustainable solutions. With a deep understanding of the Rwandan context and close working relationships with Rwandan governmental counterparts, GGGI is well positioned and knowledgeable on how to strengthen and fortify green growth principles within development goals and projects, and at all levels of government.

Looking forward, the key strategic areas where GGGI can support the GoR in its transition toward a green economy include:

- Mainstreaming green growth principles and green technologies through the implementation of pilot projects;
- Strengthening technical capacities of the national and local governments in terms of urban planning and green infrastructure development;

- Supporting the expansion of FONERWA and its maturation as a sustainable and independent financial instrument for green growth in Rwanda;
- Supporting the GoR to accelerate progress on SDG targets, notably on goals 1 (No Poverty), 5 (Gender Equality), 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation and Infrastructure), 11 (Sustainable Cities and Communities), and 17 (Partnerships for the Goals).

These overarching goals will be attained by focusing on achieving the following three strategic outcomes over the next five years:

- Outcome 1 – Rwanda's urbanization is guided by green growth principles.
- Outcome 2 – Resource-efficient, low-carbon technologies and infrastructure solutions are understood and prioritized in urban development projects.
- Outcome 3 – Sustainable financial instruments support green growth projects.

In the next sub-sections, the strategy and program for each outcome will be detailed, followed by a look at how each outcome align with the GGGI *Strategic Plan 2015-2020*, the SDGs and the INDC.

6.1 Outcome 1: Rwanda's Urbanization is Guided by Green Growth Principles

Outcome 1 aims to integrate green growth strategies in national urbanization programs by providing support in green infrastructure investment, green building and construction, capacity enhancement for green city development, and the planning and development of a PGC to demonstrate the feasibility and relevance of green growth strategies for urban development.

Cities are engines of economic growth and innovation. They are also the source of significant amounts of natural resource consumption, water and air pollution, and waste. Integrating green growth principles in city development plans, designs and projects will ensure efficient use of resources, minimize pollution, and create new economic opportunity and wealth for residents.

In Rwanda, the government aims to increase access to basic urban infrastructure to enhance urbanization economic pull factors, such as new jobs and business opportunities. By focusing on the development of six secondary cities, Rwanda will be able to relieve growth pressure on Kigali, rebalance the urban structure of the country, and leverage the unique nature of each city in diversifying Rwanda's economy.

Considering the size of Rwandan cities and their potential for growth, the country's current urban context is ideal for the integration of green growth principles in urban development. To meet this challenge, GGGI will support the GoR in integrating green growth strategies in national urbanization programs and priorities.

Seizing an opportunity to implement the "One GGGI" vision, GGGI will provide technical support at every step of the value chain, from inception and planning until financing and construction. GGGI will also help prepare viable and bankable projects.

In the effort to meet national urbanization goals, GGGI will consider supporting the following actions as per demand and means:

- Provide technical support to ministries, agencies and districts to mainstream green growth into urban policies, programs and projects;
- Mainstream the guidelines and strategies of the *National Roadmap for Green Secondary City Development* into local planning and infrastructure projects;
- Support the development of green growth in sector specific planning instruments (transportation, sanitation, waste, energy, water, food and buildings);
- Improve criteria for the prioritization of green infrastructure investment to accelerate growth and private sector development;

- Provide advisory services on the establishment of pull factors, with a focus on job creation, to accelerate urban migration;
- Provide recommendations for the formulation and implementation of instruments that promote green building and construction;
- Support the enhancement of capacities and skills in green city development, including the establishment of an urban planning curriculum in the national university system;
- Support the planning and development of a PGC in order to demonstrate the feasibility and relevance of green growth strategies for urban development;
- Address gender issues throughout the processes above in collaboration with national partners.

GGGI can enable the exchange of best practices with other national and local governments through the Green Growth Knowledge Platform or Best Practice platforms.

Rwanda's urbanization context offers an opportunity to avoid challenges faced by other middle-income and low-income countries, notably by proactively managing the urbanization process and mitigating risks of urban sprawl and high urban poverty. As Rwanda is one of GGGI's first programs to address green city development issues, GGGI will disseminate the good urban practices to other sub-Saharan nations, as part of South-South cooperation and engagement commitments.

To ensure that urbanization goals and actions are widely disseminated and understood, GGGI will develop and communicate compelling messages, information, successes and challenges broadly across all stakeholders and to the public. As GGGI embarks on green growth and sustainable development projects, it will ensure that essential information and successes are shared openly, clearly and regularly with collaborators and governmental stakeholders. It will make all information, easily accessible and publicly available by providing materials in multiple languages, at multiple locations and specifically tailored for multiple users with varying levels of background and understanding.

As a complement to sharing information widely and to multiple stakeholders, GGGI will work to foster dialogue and productive discussions on implications of new research and new data about urbanization, gender, financing and technology to stakeholders. By facilitating forums, workshops and web-based discussions, GGGI will leverage an opportunity to ensure that new information is mutually understood and processed.

6.2 Outcome 2: Resource-Efficient, Low-Carbon Technologies and Infrastructure Solutions are Understood and Prioritized in Urban Development Projects

Outcome 2 aims to support the development of green technologies and infrastructure solutions for sustainable economic and urban growth by identifying bankable new technologies and infrastructures to pilot, transferring and sharing knowledge, supporting capacity development, and promoting technologies and solutions that are gender sensitive.

GGGI will support regional infrastructure planners and providers with technical assistance to determine which solutions are best suited to addressing urbanization and development goals in Rwanda. It is essential to ensure that new technologies and infrastructure solutions are most appropriate and effective for the Rwandan context. Ambitious urbanization targets will require that new solutions are piloted, understood and used to inform budget decisions and urban development plans. Successful pilot project implementation will serve as an example to inspire similar projects and attract potential investors. These solutions need to demonstrate resource efficiency and economic opportunity in new transportation, water, energy and waste management systems in Rwanda's urban areas.

Further, to ensure that green technologies and infrastructures are adopted to support economic and urban growth, GGGI will help identify and implement solutions to increase energy access across the country for all residents and businesses. Developing potential energy sources and the mainstreaming of on- and off-grid solutions will help alleviate energy concerns for new businesses and reduce investment risks for investors.

GGGI will support the development of implementation mechanisms and incentives to promote on- and off-grid clean energy solutions that increase economic opportunity and productivity.

With the best-suited and most efficient technologies, GGGI will support skills training to build capacity of regional infrastructure providers and planners at decentralized levels of government.

GGGI will also organize workshops, consultations and other mechanisms to ensure that new technologies and infrastructure solutions are well understood, maintained and used to leverage resources efficiency potentials, ensuring that women get at least equal access to these technologies and infrastructure solutions.

More specifically, to support Rwanda's development with new green technologies and infrastructure solutions, GGGI will consider the following actions:

- Demonstrate appropriateness and effectiveness of new technologies within the Rwandan urban context through pilot projects;
- Identify bankable new technologies and infrastructures to pilot for green city development;
- Share information on new green technologies and infrastructures for green growth development;
- Connect Rwandan infrastructure providers and planners with international technical experts for knowledge transfer on green technologies;
- Identify technologies, infrastructure solutions and on- and off-grid clean energy systems that can support new economic growth opportunities and local businesses;
- Support the development of capacities to operate and maintain new technologies and infrastructure solutions;
- Provide advisory assistance in rolling out new technologies across the country so that all areas can access resource-efficient and cost-effective benefits;

- Develop gender sensitive solutions within all technological and infrastructure priority.

6.3 Outcome 3: Sustainable Financial Instruments Support Green Growth Projects

Outcome 3 aims to support the FONERWA program by providing advisory assistance in mobilizing resources, planning bankable projects, developing new financial tools and engaging with the private sector. GGGI will also help strengthen the capacity of the FONERWA fund management team, and other government officials to ensure that financial instruments for green growth projects are efficient, effective and sustainable.

GGGI will help strengthen the fund's long-term institutionalization and management to advance Rwanda's green growth and resilience agenda, mobilize resources to support climate action, and build national capacity and technical expertise to combat climate change and its impacts.

FONERWA is a critical source of funding for public, private and civil society projects that contribute to national climate resilience and development goals. To ensure that the fund is well managed and equipped with the resources and technical assistance to support climate-related projects in the long term, GGGI will assist the FONERWA program in accessing large sources of international climate change funds. This includes, but will not be limited to, the Green Climate Fund, leveraging the Ministry of Natural Resources' recent accreditation to the fund program.

GGGI will help build capacity of the fund management team by providing technical assistance to climate-related projects, support the mainstreaming of climate action throughout government activities, and ensure that actionable low-carbon and resilient development approaches are embedded in national policies and plans. By ensuring that capacity is effectively transferred from "One GGGI" resources to the fund management team, GGGI will help strengthen the FONERWA program's long-term autonomy and sustainability.

To widen access to FONERWA, GGGI will help improve the program's ability to appeal to and work with the private sector. In collaboration with the GoR, GGGI will assist in the evolution of the FONERWA program to provide improved support to private sector applicants, in order to spur green innovations in Rwanda's business environment. By developing a diverse set of financial tools and resources available through the FONERWA program, and aligning targets to the impact scale of proposals, GGGI will be able to help avail the program's benefits to a wider range of projects that support national climate change and development objectives.

To foster the long-term sustainability and independence of the FONERWA program, GGGI will support the following actions:

- Provide advisory assistance in mobilizing resources from the Green Climate Funds, among other programs, to sustain the FONERWA funding arm and finance Rwanda's climate-related projects;
- Plan bankable climate-related projects and programs to implement the NSCCLCD and the *National Roadmap for Green Secondary City Development*;
- Support the development of new financial tools and targets to avail the FONERWA program to a wider pool of projects;
- Connect the FONERWA fund management team with international green growth technical experts to enhance knowledge and skills throughout the fund management team;
- Build capacity at all levels of government to effectively institutionalize the FONERWA program over the long term and implement projects that address climate change across Rwanda;
- Support the FONERWA fund in developing and funding projects that are well articulated and directly contribute to Rwanda's green growth objectives.

6.3.1 The Role of the Private Sector in Achieving Outcome 3

The private sector has a large role to play in achieving outcome 3 of the CPF. There is an increasing effort by the GoR to put the necessary strategies in place to create an enabling environment for the private sector to invest in the development of the country. For example, FONERWA is streamlining its application process to enable greater access and funding to private sector-led projects. The government, through the Ministry of Infrastructure, is also in the final stages of adopting a Renewable Energy Strategy that will be private sector-led, and targets the provision of off-grid solar home systems and mini on-grid hydroplants in the rural areas. This is in line with the NSCCLCD that emphasizes private sector-led participation in implementing the strategy.

6.4 Alignment with the GGGI Strategic Plan, SDGs and INDC

The CPF outcomes will contribute to GGGI's corporate goal in the "strengthening of national, sub-national, local green growth planning, financing and institutional frameworks," "increase of green investment flows," and "improvement of multi-directional knowledge sharing and learning between South-South and South-North-South countries." The program also directly contributes to the SDGs and Rwanda's INDC.

6.4.1 Alignment with the GGGI Strategic Plan

Table 3 reflects how the GGGI Rwanda CPF will align in-country support to the *GGGI Strategic Plan 2015-2020* and the national green growth priorities set in the NSCCLCD. The NSCCLCD is built around 14 action programs that cut across all economic sectors in the country.

Table 3. Alignment of the PFC strategic outcomes with the GGGI value chain and the NSCCLCD

Strategic Outcomes	NSCCLCD Action Program	GGGI Thematic Priority	GGGI Value Chain
Outcome 1: Rwanda's urbanization is guided by green growth principles	Sustainable land use management and planning (Action Program #4)	<ul style="list-style-type: none"> Green Cities Land Use 	Sector/Sub-sector strategy & planning (Analysis of costs and investment requirement)
Outcome 2: Resource-efficient, low-carbon technologies and infrastructure solutions are understood and prioritized in urban development projects	Low carbon mix of power generation for national grid (Action Program #5) Efficient resilient transport systems (Action Program #9) Low carbon urban settlements (Action Program #10)	<ul style="list-style-type: none"> Green Cities Energy Water Land Use 	Sector/Sub-sector strategy & planning (Policy and institutions analysis, Analysis of costs and investment requirements)
Outcome 3: Sustainable financial instruments support green growth projects	Low carbon mix of power generation for national grid (Action Program #5) Efficient resilient transport systems (Action Program 9) Low carbon urban settlements (Action Program #10)	<ul style="list-style-type: none"> Green Cities Energy Land use Water 	Design, financing and implementation (Identification of possible financial structures, Project and policy preparation, Implementation)

6.4.2 Alignment with the SDGs

The three outcomes of this Rwanda CPF, implemented through 23 actions, all have an ultimate objective of contributing to SDG1 (No Poverty). They also directly or indirectly contribute to all the 17 SDG targets.

Outcome 1: Rwanda's urbanization is guided by green growth principles is cross-cutting and it addresses many of the SDGs. Of high relevance are: SDG5 (Gender Equality), SDG8 (Decent Work and Economic Growth), SDG11 (Sustainable Cities and Communities), SDG13 (Climate Action), and SDG17 (Partnerships for the Goals).

Outcome 2: Resource-efficient, low-carbon technologies and infrastructure solutions are understood and prioritized in urban development projects is cross-cutting and it addresses many of the SDGs. Of high relevance are: SDG7 (Affordable and Clean Energy), SDG8 (Decent Work and Economic Growth), SDG9 (Industry, Innovation and Infrastructure), and SDG11 (Sustainable Cities and Communities). In particular, this outcome will address the following targets:

- Goal 9 (Industry, Innovation and Infrastructure), Target 9.4 – Upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
- Goal 9 (Industry, Innovation and Infrastructure), Target 9.a – Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.
- Goal 9 (Industry, Innovation and Infrastructure), Target 9.b – Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

Outcome 3: Sustainable financial instruments support green growth projects is cross-cutting and it addresses many of the SDGs. Of high relevance are: SDG1 (No Poverty), SDG7 (Affordable and Clean Energy), SDG9 (Industry, Innovation and Infrastructure), and SDG17 (Partnerships for the Goals). In particular, this outcome will address the following targets:

- Goal 1 (No Poverty), Target 1.a – Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programs and policies to end poverty in all its dimensions.
- Goal 7 (Affordable and Clean Energy), Target 7.a – Enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
- Goal 7 (Affordable and Clean Energy), Target 7.b – Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programs of support.

6.4.3 Alignment with Rwanda's INDCs

For mitigation, the INDC identifies five priority areas.
Table 4 links these to the outcomes in this CPF.

Table 4. CPF outcome alignment with relevant INDC mitigation priority areas

INDC Mitigation Priority Areas	Relevant CPF Outcomes
Low-carbon energy mix powering the national grid	Outcome 3
Efficient resilient transport systems	Outcomes 1 and 2
Green industry and private sector development	Outcome 3
Climate compatible mining	Outcome 3
Low-carbon urban systems	Outcomes 1, 2 and 3

For adaptation, the INDC identifies five priority areas.
Table 5 links these to the outcomes in this CPF.

Table 5. CPF outcome alignment with relevant INDC adaptation priority areas

INDC Adaptation Priority Areas	Relevant CPF Outcomes
Sustainable intensification of agriculture	Outcome 3
Sustainable forestry, agroforestry and biomass energy	Outcomes 2 and 3
Ecotourism, conservation and payment for ecosystem services Promotion in protected areas	Outcome 3
Integrated approach to sustainable land-use planning and management	Outcomes 1, 2 and 3
Disaster management and disease prevention	Outcomes 1, 2 and 3



Annex A: Stakeholders Engagement Process

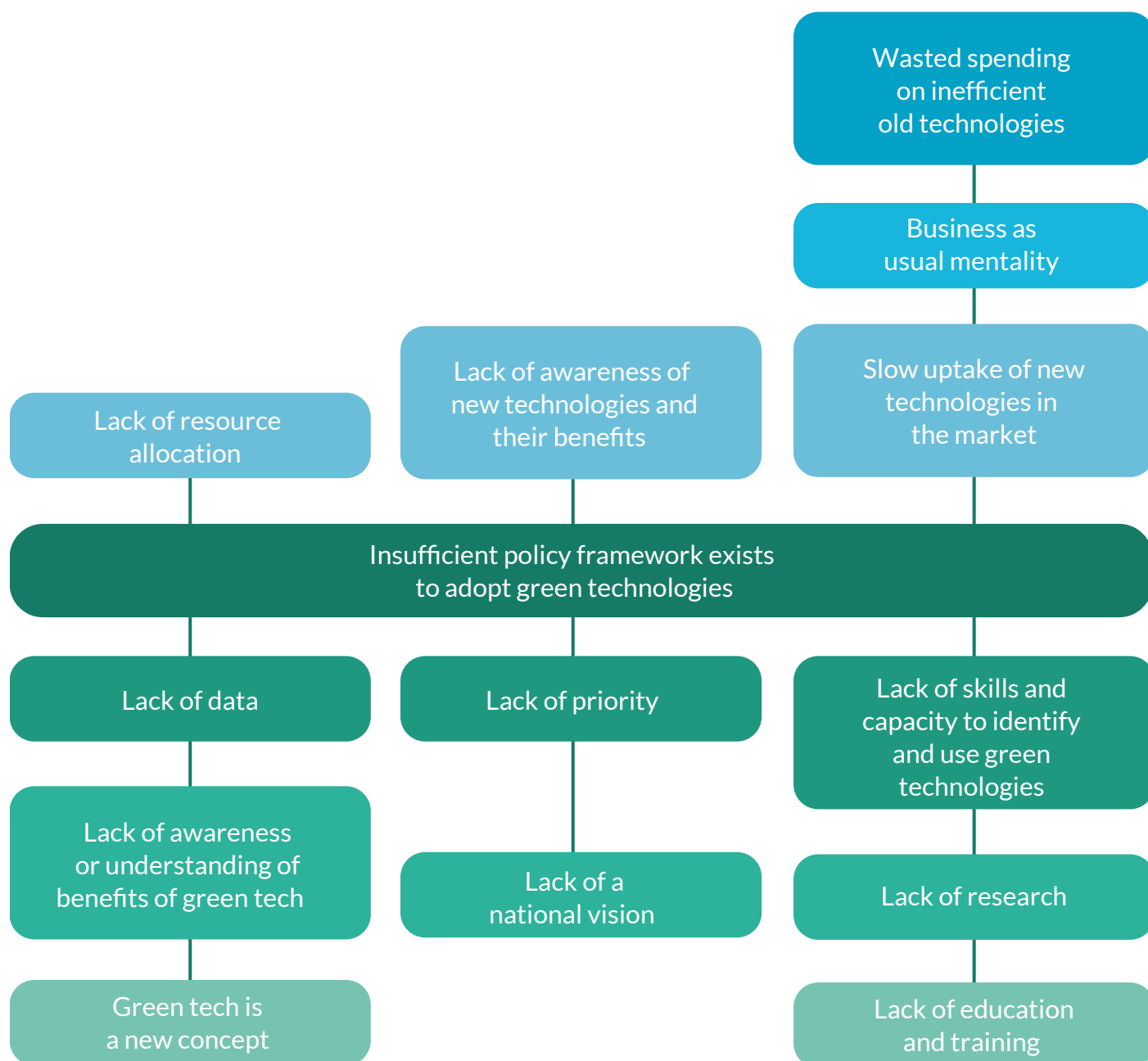
The CPF is a result of intensive stakeholders' engagement. The challenges, options, solutions and responses identified for this CPF were gathered in consultation with the Rwandan governmental counterparts, and following an in-depth review of Rwanda's sector strategic plans and key national guiding policies, with particular focus on EDPRS 2, the NSCCLCD and the FONERWA program.

During a two-day workshop in early September 2015, GGGI worked with key Rwandan government partners to identify where GGGI intervention would have the greatest impact and where opportunities for intervention and collaboration were strongest. Follow-up interviews with key stakeholders were conducted as needed to ensure that the proposed interventions and programs of action for GGGI's continued involvement and work in Rwanda closely support the country's most pressing needs.

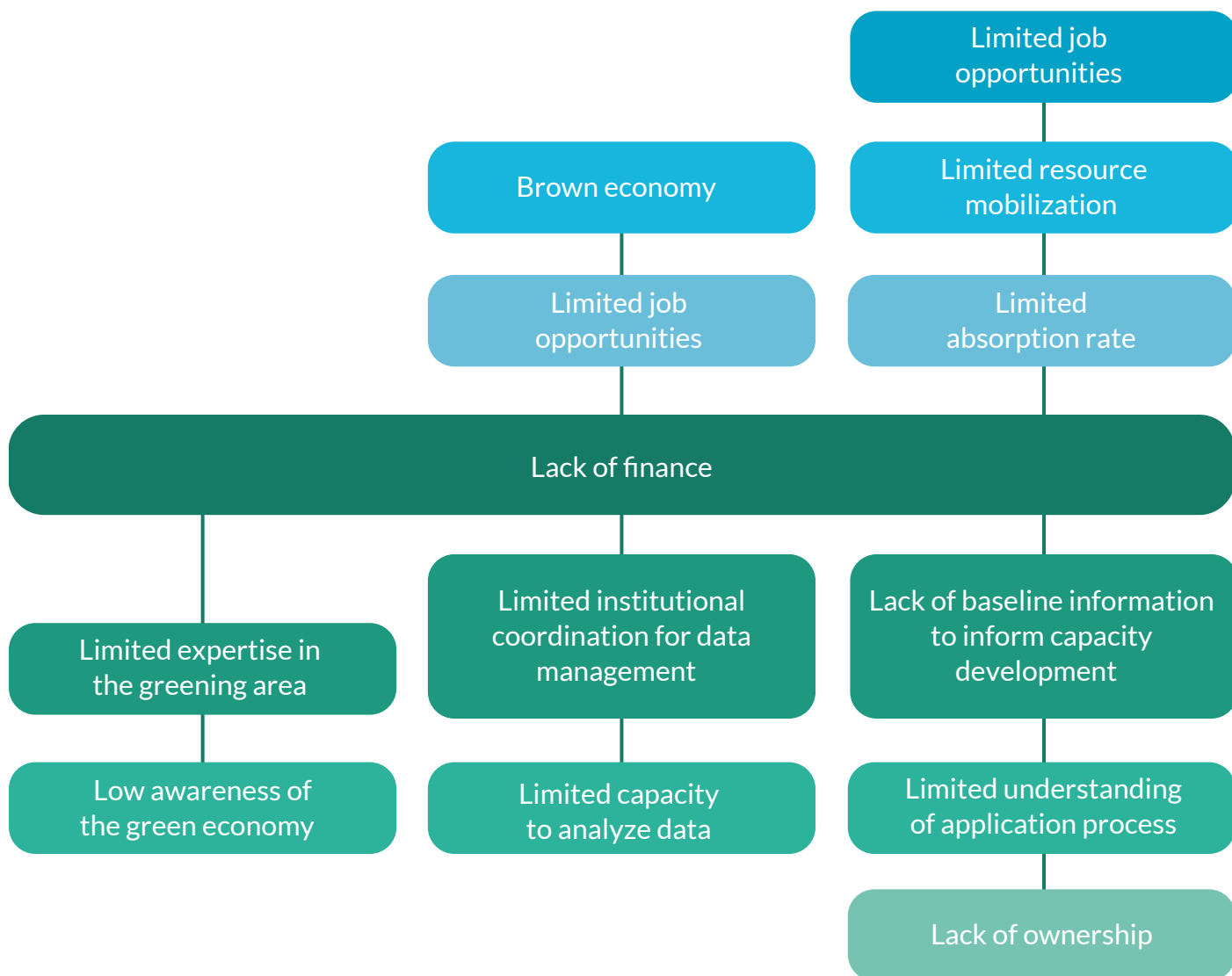
During the workshop, the focus was on: (1) Green Technology; (2) Green Finance; and (3) Green Cities. The issues discussed with the stakeholders covered a range of key elements that helped in formulating the CPF outcomes and outputs.

The diagrams below show the problem trees that guided the result-based strategic planning for the next five years in Rwanda.

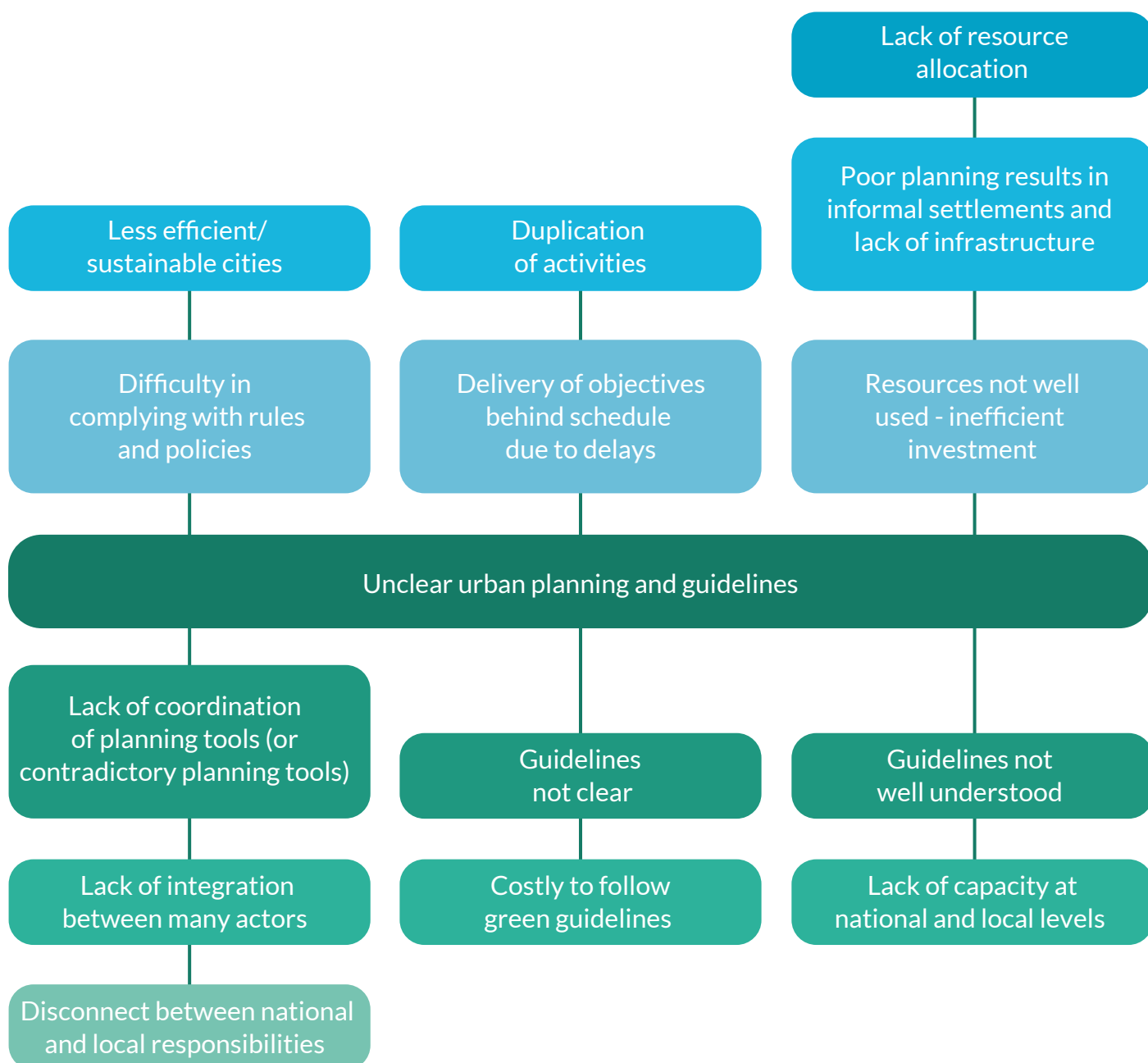
Green Technology



Green Finance



Green Cities I



Green Cities II









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