

Ecosystems/Landscape approach to climate proof the Rural Settlement Program of Rwanda

Part I: Project Information

GEF ID
10096

Project Type
FSP

Type of Trust Fund
LDCF

Project Title
Ecosystems/Landscape approach to climate proof the Rural Settlement Program of Rwanda

Countries
Rwanda,

Agency(ies)
UNDP,

Other Executing Partner(s):
REMA (Rwanda Environment Management Authority), Ministry of Finance, Rwanda Housing Authority, District Authorities Gakenke and Kirehe Districts

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Mainstreaming adaptation, Livelihoods, Climate resilience, Least Developed Countries, Community-based adaptation, Influencing models, Transform policy and regulatory environments, Stakeholders, Private Sector, SMEs, Beneficiaries, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Capacity, Knowledge and Research, Capacity Development, Learning, Adaptive management, Climate Finance (Rio Markers), Climate Change Mitigation 0, Climate Change Adaptation 2

Duration

72

In Months

Agency Fee(\$)

793,786

Submission Date

10/29/2018

A. Indicative Focal/Non-Focal Area Elements

Programing Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	LDCF	6,800,000	16,000,000
CCA-2	LDCF	1,555,638	6,360,000
Total Project Cost (\$)		8,355,638	22,360,000

B. Indicative Project description summary

Project Objective

To climate proof the Rural Settlement Program of Rwanda via Ecosystems/Landscape approach piloted in Gakenke and Kirehe Districts

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Capacity and knowledge for Landscape approach and community based adaptation	Technical Assistance	<p>Outcome 1: Institutional and community capacities for planning for landscape approach enhanced to climate-proof imidigudu:</p> <p>INDICATED by i) changes in capacity scores (systemic, institutional, individual), as measured by the UNDP capacity scorecards (baselines and targets confirmed at ppg); ii) availability of climate proofing imidugudu models ready for piloting in four landscapes</p>	<p>1.1: A training programme designed and delivered to provide specialized technical skills and awareness on landscape approaches to climate risk management for technical staff of all relevant Departments and community groups;</p> <p>1.2: Climate-risk assessments methods and information provided to support adaptation planning as an on-going practice with a focus on the local level in the project areas (supported by skills developed under output 1.1 and complimenting activities already supported by NAP);</p> <p>1.3: Climate-proofed imidugudu models</p>	LDCF	1,500,000	15,000,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
		(informed by knowledge and local conditions); iii) availability of 4 comprehensive community based adaptation plans with a Participatory Monitoring, Evaluation, Reflection and Learning (PMERL) plans ready for implementation;	<p>developed and piloted in four landscapes;</p> <p>1.4: Four community-based adaptation plans developed and implementation started;</p> <p>1.5: Climate information and decision-making tools to support planning of imidugudu and community-based adaptation measures piloted in four communities;</p>			
Component 2: Resilient lives and livelihoods in targeted landscapes	Technical Assistance	<p>Outcome 2: Adaptation measures implemented in targeted landscapes following the landscape-approach:</p> <p>INDICATED by; i) 500 ha of ecologically sensitive segments of</p>	<p>2.1: Rehabilitation of degraded/ unproductive land via agro-ecological interventions to reverse the effects of unsustainable agricultural practices covering about 500ha;</p> <p>2.2: Protection and/or rehabilitation of ecologically sensitive segments of the landscape such as hills, river banks</p>	LDCF	5,916,270	5,000,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
		<p>the landscape (hills, river banks and lake shores, wetlands, watersheds) which are either protected, rehabilitated or under agroforestry; ii) 500 households adopting climate risk reduction measures related to water management, energy, and SLM solutions (50% women benefitting); iii) at least 50% change in the perception of vulnerability and resilience of livelihoods by target beneficiaries (baselines and targets confirmed during ppg); iv) At least 25% increase in household incomes (50% beneficiaries are women);</p>	<p>and lake shores, wetlands, watersheds, etc. covering 200ha;</p> <p>2.3: Upgrading of housing and infrastructure around imidugudu to more climate smart versions in four villages benefitting about 500 households or 2500 people assuming 5 people per household actual number of beneficiaries established at ppg);</p> <p>2.4: Provision of rainwater harvesting and alternative energy options piloted under the Green Village and Integrated Development Programme (IDP) models;</p> <p>2.5: Value chain analysis and development of at least 4 selected value chains for implementation;</p> <p>2.6: Adaptive livelihood initiatives such as climate responsive farming and</p>			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
			livestock rearing practices introduced in the four target landscapes benefiting at least 500 households.			
Component 3: Policy and coordination	Technical Assistance	Outcome 3: Policy frameworks and coordination strengthened to support climate-proofing of imidugudu; INDICATED by; i) number of policy, legal and planning instruments revised to mainstream climate risk into rural settlements (at least 4); ii) changes in the extent of cross-sectoral coordination regarding adoption of climate risk into imidugudu in 2	3.1: Revision of Human settlement policy, rules, regulation, planning frameworks and Green Village Toolkit to mainstream climate risks into imidugudu; 3.2: Establishment of cross-sectoral coordination mechanism at the district level	LDCF	400,000	1,000,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
		districts (baseline and target confirmed at ppg)				
Component 4: Knowledge management	Technical Assistance	Outcome 4: Knowledge management and M&E strengthened to support iterative adaptation planning, INDICATED by; i) number of technically superior knowledge products generated and shared (including lessons); ii) evidence of upscaling of initiative in other landscapes within the district and within the country.	4.1: Development of participatory M&E plans and enhancement of communities' capacities to monitor, learn and sustain the climate proofing initiatives; 4.2: Best practices and lessons collated and shared including project monitoring and evaluation reports, 4.3: Codify and disseminate knowledge products (tool kits, land-use plans, training programs, etc.) to support continued adaptation planning and implementation for the imidugudu program	LDCF	150,000	500,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
				Sub Total (\$)	7,966,270	21,500,000
			Project Management Cost (PMC)	LDCF	389,368	860,000
				Total Project Cost (\$)	8,355,638	22,360,000

For multi-trust fund projects, provide the total amount of PMC in Table B and indicate the list of PMC among the different trust funds here:

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Government	Rwanda Housing authority (RHA)	Grant	Investment mobilized	1,515,151
Government	Ministry of Agriculture (MINAGRI) / Rwanda Agriculture Board (RAB)	Grant	Investment mobilized	19,785,221
Government	Ministry of Land and Forestry (MINILAF)	In-kind	Recurrent expenditures	454,545
Government	Rwanda Environment Management Authority (REMA)	In-kind	Recurrent expenditures	105,083
GEF Agency	UNDP	Grant	Investment mobilized	500,000
			Total Project Cost(\$)	22,360,000

Describe how any "Investment Mobilized" was identified

The indicative sources of financing presented above were arrived at through engagements with the various government Ministries directly involved in the project. An analysis of budgetary allocations show indicative sources of co-financing and the type that is likely to materialize during the project. These are the baseline budgets on which the LDCF finances will be built. The co-financing has great chance of being delivered due to Government's commitment to the government to the Rural Resettlement Programme. The specific details will be worked out during the PPG phase.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	LDCF	Rwanda	Climate Change		8,355,638	793,786
Total Project Cost(\$)					8,355,638	793,786

E. Project Preparation Grant (PPG)

PPG Amount (\$)
200,000

PPG Agency Fee (\$)
19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)
UNDP	LDCF	Rwanda	Climate Change		200,000	19,000
Total Project Costs(\$)					200,000	19,000

Part II. Project Justification

1a. Project Description

Briefly Describe

- a. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed;
- b. The baseline scenario or any associated baseline Programs;
- c. The proposed alternative scenario with a brief description of expected outcomes and components of the Program;
- d. alignment with GEF Focal Area and/or Impact Program Strategies
- e. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCE, SCCF, CBIT and co-financing;
- f. global environmental benefits (GEFTF) and/or adaptation benefits (LDCE/SCCF); and
- g. Innovation, sustainability and potential for scaling up.

1.1 Problem, root causes and barriers

The adaptation problem

Rwanda's topography, rainfall patterns, land cover and soil types combined with high population densities of communities highly dependent on subsistence agriculture for livelihoods and economic development make it highly sensitive to climate change. Indeed, Rwanda is the world's 13th most vulnerable country and the 90th least ready country to combat climate change[1], giving it a vulnerability ranking of 131 out of 178 countries (ibid). Covering a relatively small surface area (26,338 km²) of land largely 1,000 meters above sea level, the country is highly mountainous with high rainfall (on average above 1,200 mm per year). With a total population of close to 12 million people and an average density of 497 persons per square kilometre[2], which is the highest in Africa, human settlement has spread to land with over 50% slopes on hills and hilltops. Land holding in the rural areas averages at less than 0.2 hectares (ha) household[3]. It is predicted that the population will more than double, reaching 26 million by 2050, with a population density of 987 people per square kilometre[4].

Like the rest of the country, livelihoods in Gakenke and Kirehe are based on an agricultural production system that is characterized by small family farms of less than 0.2 ha, with farmers practising mixed farming that combines rainfed grain crops, traditional livestock-

rearing and some vegetable production[5]. In these districts, food crops account for 92% of the cultivated area, and two thirds of food crops are earmarked for family consumption (ibid). A small number of farmers grow higher-value cash crops such as coffee and tea, which occupy 3% and 1% of total cultivable land in Rwanda, respectively. Inhabitants of these two districts, especially the poor farmers, are amongst the most vulnerable people in Rwanda (ibid), and are amongst the target group of the government's rural settlement program (imidugudu) which aims to regroup vulnerable households in rural areas on serviced sites equipped with the basic infrastructure and community amenities. However, the risks associated with climate change are not incorporated in the planning and implementation of the program, jeopardizing intended development gains. Specific problems in each district are as following.

In Gakenke, the Gakenke Valley (Busengo, Ruli, Coko, Muhondo, Gashenyi, Muyogwe, Gakenke, Karambo and Rushashi Sectors) provides a good and sufficient agricultural production site when it does not receive excessive rain, however. the valley is often flooded due to the heavy rainfall coming from Kivuruga, Busengo and Cyabingo mountains. The population living near Nyabarongo basin (Ruli and Coko) have problems due proximity to mining sites as waste water from mining sites pollute fresh/drinking water and destroy rural infrastructure and crops. This is more often observed during the rainy season. Intensive erosion is observed in Cyacika and Base watershed (Muhondo, Gashenyi, Muyongwe, Gakenke, Karambo and Minazi) . This is due to agricultural practices on non-protected fields. In addition, unsustainable rural settlements in this area lead to loss of lives and properties from landslides during the rainy season.

Kirehe District faces complex challenges depending on the area. Nasho / Rubirizi Lake (Cyambwe- Rwakigeli buffer zone) is under threat of erosion due to the topography surrounded by mountains combined with unsustainable agricultural practices near the lake. Hypopotamous and other aquatic animals are also threatened by agricultural practices near the lake. Mushongi / Mpanga suffers by severe rainfall deficit. Little or no rainfall was observed up to 3 successive years. On the other hand, the population living in Nasho / Cyambwe zone are affected by flood when it rains, as the valley is surrounded by stony soil with low rate of infiltration. In 2018, 200 houses were destroyed and 5 death were reported. Unsustainable agricultural practices in the Cyambwe and Rwakigeri watersheds are main causes of erosion during rainy season, and also of famine at times of rainfall deficit.

Despite the rapidly growing population, Rwanda has adopted ambitious socio-economic goals expected to transition the country into middle-income status by 2020. This is outlined in the Vision 2020, which identifies the rural settlement sector as a vehicle for improving quality of life via provision of decent and accessible housing, improved and affordable transport system, access to social amenities amongst other necessities. The sector aims to use "planned rural settlements" or *Imidugudu*[6] (described in the baseline programs below) to improve public services, the quality of public infrastructure in rural areas and to contribute to economic development and poverty reduction in the rural[7] areas. The government has introduced a rural settlement program (imidugudu) in selected landscapes to tackle vulnerability. However, the risks associated with climate change are overlooked that might compromise development gains intended by this programme.

Vision 2020 also recognizes agricultural transformation as a key driver to growth, especially in promoting economic growth in support of the imidugudu settlement schemes. The National Agricultural Policy (2004)[8] focuses on the transformation of the agricultural sector from a predominantly small-holder subsistence-based to a commercially-oriented sector that emphasizes high-value, non-traditional crops and technology-intensive land use. This transformation is pursued through crop intensification and diversification, crop consolidation, and optimal utilization of arable land through irrigation and use of improved inputs (seeds and fertilizers). The strategies and targets for both the rural settlement and agriculture transformation policies are further detailed in the newly developed medium-term plan (National Strategy for Transformation, NST), currently in phase I (2017- 2024). There are also sector development plans and district development plans that flow from, and align with, the NST1, e.g. the Strategic Plan for the Transformation of Agriculture, or PSTAIII.

The National Strategy for Transformation NST1 (2018-2024) serves as the implementation instrument for the remainder of Vision 2020 and for the forthcoming Vision 2050, which outlines the strategic direction and execution pathways to guide medium- and long-term strategic planning in future decades. Priorities under NST1 that can guide the implementation of this LDCF project include: promoting sustainable management of the environment and natural resources to transition Rwanda towards a green economy; increased efficiency of management of land and water resources; reduced disaster risk and vulnerability to climate change; increased resilience of the poor against shocks; and smart green cities, towns and rural settlements. NST1 supports the ambitions of Vision 2020 to transform Rwanda into a middle-income country and the overarching aim of Vision 2050 to take Rwanda to high-income status and its citizens to a high quality of life.

These socio-economic goals are being pursued while Rwanda is experiencing increasing adverse impacts of climate change that threaten the viability and sustainability of the rural settlement program. **The Climate Monitoring International Partnership (CMIP3)^[9] projections show that the country will experience increase in average temperatures and higher average annual rainfall (under most models) with the intensity / frequency of heavy rainfall extremes also increasing and higher levels of uncertainty on the occurrence of dry periods/drought. The country has indeed already experienced a temperature increase of 1.4°C since 1970, which is higher than the global average; projected to further increase by up to 2.5°C by the 2050s from 1970s[10]. The already highly variable average annual rainfall is projected to increase by up to 20% by the 2050s from 1970 (ibid) which is likely to cause floods and storms that can increase incidents of landslides, crop losses, health risks and damage to infrastructure, especially in the more mountainous and steep North and West of the country. Many of the projections indicate a change in heavy precipitation events for the country, with a number of models suggesting a 10% increase in intensity for 1 in 10 year and 1 in 100 year rainfall events (though other projections indicate increases of 50% for 1 in 10 year events)[11]. This would also mean a reduction in the return period of larger events, i.e. more significant floods would occur more frequently. Even when annualised, these indicate significant increases in economic costs (ibid).**

Projected increased incidents of droughts and disruption of rainfall within the growing season in many parts of the country will likely reduce the effectiveness of the investments in transforming agriculture, increasing food insecurity. Temperature rise is projected to increase the spread of vector-borne, air-borne and water-borne diseases, impacting on animal and human health, and negatively affect crop yields, impacting food security and export earnings. Higher temperatures could shift the growing zones for coffee and tea to higher altitudes, which may significantly impact the land available and may result in land use conflict[12]. Ecosystem services are integral to the Rwandan economy and underpin over 50% of Rwandan GDP, as well as sustaining a very large proportion of the population. There are many stresses on these systems already and climate change will add to these pressures. Collectively, the current effects of climate change (including inter alia destruction of rural infrastructure and houses, reduced land and agricultural productivity) are estimated to result in annual economic costs of just under 1% GDP by 2030[13].

The country's rural settlement programme, and the livelihood strategies being implemented to support its implementation, have been affected by the impacts of climate change that have compounded the pressures of population growth, associated land fragmentation, and demands for resources for economic growth. Since 1995, 7 major floods caused loss of life, crops and livestock, and property; while the 2007 flood cost Nyabihu and Rubavu Districts some \$22 million[14]. The Stockholm Environment Institute estimated that in the absence of adaptation, a 5-fold increase in costs of similar floods might occur by 2030[15]. A 2015 Risk Assessment[16] revealed that the country is highly prone to drought, landslides, floods, earthquakes and windstorms. In the northern and western Provinces, heavy rain events in combination with steep slopes and highly erodible soils accelerate soil erosion and causes landslides in susceptible areas (Map 1), affecting dwellings and infrastructure. Furthermore, land scarcity has led to placement of imidugudus in vulnerable areas in the landscapes while inappropriate land management practices have resulted in severe and widespread soil erosion[17]. The Rwanda National Vulnerability Assessment[18] reported that nation-wide in 2012 alone, there were 72 deaths, 122 injuries, 2,580 ha of crops damaged, and 3,176 houses damaged or destroyed by landslides, floods, fire, heavy rains, and winds, thunderstorms or lightning. In May 2016, landslides occurred in Gakenke, Muhanga and Ngororero Districts following unusually heavy rains, which caused the death of 50 people, injured 27 people and totally damaged 2,317 houses, rendering approximately 13,500 people homeless, including children[19]. About 3,447 hectares of agricultural lands planted with various crops such as rice, beans and maize were destroyed and 56 animals lost (ibid). Crop damage further led to food insecurity and lack of income in the following three months for about 4,000 families (or approximately 23,200 individuals) (ibid). In the same year, droughts in the Eastern Province caused severe food shortage, necessitating famine relief.

Currently the beneficiaries of the rural settlement program, normally the poorest segment of rural populations, lack the adaptive capacities to safeguard the achievements of the program from additional impacts of climate change. Furthermore, despite the high political willingness to address climate risks in all development programs of Rwanda, the government lacks the capacities to plan and integrate evolving climate change risks practically into development, especially at decentralized level, putting the country at risk of not achieving its stated socio-economics goals.

1.2 Baseline programs[20]

The National Human Settlements Program Imidugudu and the Integrated Development Programme (IDP) Model Village Project (2009 onwards) funded by Government.

The Imidugudu program originates from the National Human Settlement Policy (2009)[21] . One of the objectives of the Rural component of this policy is the rationalization of land use achieved via regrouping of human settlements in rural areas on serviced sites equipped with the basic infrastructure and community amenities[22]. Under the imidugudu program, several vulnerable households (up to 100 per imidugudu/village) are settled in a consolidated piece of land, where they are provided with dwellings (houses) and social amenities (school, health centre, roads, reticulated water and drainage services). The significant advantages derived from this mode of settlement are that maximum arable land is allocated to agriculture, houses and support amenities are built on sites which have been selected and decided by the community, there is easy access to services, distances and costs of support amenities and basic infrastructure is reduced, security is improved, access to information and training is made easier, opportunities for mechanized agriculture and use of agricultural inputs is improved, opportunities in developing secondary and tertiary sector activities are improved and innovative spirit is developed through competitiveness between villages and between imidugudu within the village[23]. Implementation of the imidugudu is done through the preparation of model human settlement plans on the basis of the topographical conditions and the development potential of the regions. These model plans are built in each district, and district authorities are encouraged to upscale them.

Implementation of the imidugudu program is led by the Rwanda Housing Authority (RHA) supported by the Rural Settlements Task Force, the National Land Centre, Rwanda Land Management and Use Authority, Rwanda Environment Management Authority (REMA), the Rwanda Development Board (RDB), and the Rwanda Development Bank. The Ministry of Environment (MOE) is particularly involved in the implementation of the program and is responsible for land use management, assuring the sustainable land use and conservation of the natural environment within the imidugudu. The Rwanda Land Management and Use Authority maintains a country-wide cadastre[24] for the support of the District Land Centres and collaborates on flood planning and integrated water resource management aspects of urbanization planning and regulations. Some Civil Society Institutions are also involved in the imidugudu, where they promote housing for vulnerable groups without adequate shelter. The private sector is an important factor in the urbanization and human settlement sector through import and sale of construction materials, and in the production of local buildings materials. The private sector is also involved in constructing and rehabilitating different categories of public and private buildings.

In a bid to accelerate the upscaling of the Imidugudu program, an **IDP model green village Project** was started in 2009 under the championship of H.E. the President of the Republic of Rwanda. The project targeted vulnerable communities in Nyagatovu and Kitazigurwa villages in Kayonza and Rwamagana districts. The project **objectives** are: i) To **reform rural settlement** so as to save land for agriculture and increase access to socioeconomic infrastructure; ii) To increase agricultural productivity of the villages via crop consolidation; iii) To **raise rural incomes** through introduction of value-added activities and **off-farm** activities; iv) To strengthen social integration, cohesion and solidarity.

Since then 44 IDP model green villages have been constructed[25] where the following activities have been implemented in each:

- Construction of residential houses, multipurpose hall, administration premises, health centres, classrooms and science laboratories and libraries, dining rooms, kitchens & stores; Early Childhood Development Centres and playgrounds;
- Availing land for crops and livestock where applicable, distribution of cows under Girinka program[26] and construction of cowsheds;
- Provision of Integrated Handcraft production centre, ICT room & Installation ICT facilities;
- Construction of access roads, rain water harvesting facilities, and access to clean water and electricity, including alternative energy such as biogas.

The government has recently committed to provide IDP model green villages in all 30 Districts of the country, and this programme is now on-going.

With support from the UNDP-UNEP Poverty and Environment Initiative (PEI) programme, REMA (Rwanda Environment Management Authority) has advanced the concept of the IDP to another level – that of the Green Village[27]. A Green Village has a number of inter-linked components, emphasising efficient, effective, equitable and sustainable use of natural resources using technologies that optimise social, economic and environmental benefits[28]. These include provision of water reservoirs to control run-off and ensure that it is productively utilized, control of soil erosion to reduce soil fertility loss and maintain or improve agricultural productivity and retain much of the water through terracing. A toolkit has been produced and is being used to provide guidelines for Smart Green Village implementation[29]. Two pilot Green villages have been built (Rubaya and Muyebe Green Villages) and they have successfully demonstrated energy and water self-sufficiency through the generation of biogas for cooking and lighting from consolidated domestic human and livestock waste and rainwater harvesting for domestic use and small-scale and household level irrigation for food production respectively (ibid). The government has committed to adopt the Green Village model in rolling out the IDP in the 30 Districts in the country, and to encourage District Authorities to upscale them in the imidugudu settlements.

The long-term gains from the imidugudu program are however threatened by the impacts of climate change. Historically, climate risk has not been factored in the selection of settlement sites, actual construction of the villages and accompanying infrastructure or the selection of consolidated crops and other income generating activities. Although the public works under both imidugudu and VUP have a strong focus on natural hazard vulnerability reduction, such as terracing and small-scale irrigation, there is a possibility that the imidugudus and the short-term social protection might maintain livelihoods in areas that will become unsustainable in the long-term (e.g. locking in development to extremely high risk areas under climate change)[30]. While social protection is a form of adaptation, and builds the resilience of vulnerable groups to future climate change, there is also the potential for climate change to impact on the program itself (ibid). As noted by Atkins (2015) (ibid), increases in variability and extremes from climate change could reduce the effectiveness of the programs or increase the number of people who fall back into poverty due to more frequent shocks. It also raises the question of whether public works (infrastructure) will be resilient to future climate.

District Development Strategy (starting 2018)

In the draft District Development Strategies (DDS) of both Kirehe and Gakenke, the construction of IDP model green villages for population living in high-risk zones are planned, in order to facilitate settlement of households in planned “imidugudu” sites.

The draft DDSs also include several interventions aimed at enhancing environmental quality while enhancing incomes, livelihoods and agricultural productivity. These range include protection of freshwater resources, reforestation, access to clean water, clean energy, sustainable land management practices, adoption of new agricultural technologies and development of local enterprises. Strategies for success and sustainability in these interventions include partnerships with the private sector and creating awareness among communities.

The Comprehensive African Agriculture Development Program – 2007 to 2030

Rwanda has been implementing the Comprehensive African Agriculture Development Program (CAADP) since 2007 and it is expected to continue for the foreseeable future. Initiated by NEPAD, CAADP’s goal is to eliminate hunger and reduce poverty in Africa by agriculture development. In pursuit of this aim, African governments committed to achieve several results including two specific targets: i) to achieve 6% annual growth in agricultural productivity by 2015; ii) to increase the allocation of national budgets directed to the agricultural sector to at least 10%. In Rwanda, the CAADP framework has four pillars: 1) Extending the area under sustainable land and water management; 2) Improving rural infrastructure and trade related capacities for market access; 3) Increasing food supply, and reducing hunger; and 4) Agricultural research, technology dissemination and adoption.

Indeed, the country has made great progress towards the implementation of (CAADP). It was the first country to sign the compact in 2007; it adopted the Investment Plan in 2009; and established the Strategic Analysis and Knowledge Support Systems (SAKSS) node in 2010[31]. By 2014, the share of the country's national budget for the Ministry of Agriculture and Natural Resources (MINAGRI) reached 13% of the overall budget and the estimated agricultural sector growth stood at 6% (ibid). Despite these commendable steps, a number of Rwandese households still experience difficulty with access to food, especially the vulnerable groups. The Comprehensive Food Security and Vulnerability Analysis and Nutrition Survey (CFSVA) of 2014 reported that 43% of Rwandese children between six months and five years face chronic malnutrition. In addition, the on-going impacts of climate change may negate these impressive developments in food security, especially amongst the vulnerable sectors of rural society benefitting from the imidugudu program.

The Green Growth and Climate Resilience Strategy (GGCRS), 2011 - 2050

The Green Growth and Climate Resilience Strategy (GGCRS) provides a pathway to address climate change and low carbon development, with an aim of making a significant impact on adaptation, mitigation and economic development. The strategy was developed in recognition of the fact that if the country is to tackle climate change, it needs to be mainstreamed into Vision 2050 and Sector strategies. The GGCRS aims to guide the process of mainstreaming climate resilience and low carbon development into key sectors of the economy. With a focus on agroforestry, climate knowledge, irrigation and roads infrastructure as its main tenants for adaptation, it provides a strategy focusing on green, low carbon development, but does not explicitly provide mechanisms to deal with vulnerabilities, associated with climate change. However, the full mainstreaming of climate risk into the sectors of the economy, although included in the sector strategies of the main sectors (e.g. Agriculture, Infrastructure, etc.), is being hampered by inadequate awareness, lack of practical tools for mainstreaming in many sectors (e.g. the rural section of the human settlement policy) and capacity inadequacies amongst stakeholders. Another challenge is the lack of specific baselines and targets for ENR mainstreaming in the sectors.

The long term preferred solution is to climate proof the planning and implementation of the rural settlement program in order to improve the resilience of the communities and ensure sustained benefits from improved rural infrastructure such as roads, houses/dwellings, social amenities such as water and alternative energy supplies and the agriculture initiatives in the face of a changing climate. Given the low levels of economic and technological sophistication in the rural areas, high population density, hilly topography with settlements on slopes, land scarcity and high dependence on agriculture, the ideal situation would be to adopt a landscape based approach to mainstreaming climate risk into the imidugudu programs, especially in the districts vulnerable to landslides and droughts. This would be implemented in a Community Based Adaptation (CBA) context, which is more effective in enabling climate vulnerable people to plan for and adapt to the impacts of climate change. A landscape approach would identify priority catchments and other nature systems (e.g. forests, wetlands, floodplains etc). Regulatory functions of these ecosystems will

help mitigate the impact of (and aiding recovery from) many extreme weather events, such as flooding, droughts, extreme temperatures, fires and landslides. However, there are three key barriers hindering adoption of these approaches, described below.

1.3 Barriers to mainstreaming climate risk into the rural component of the Human Settlement Program

Barrier 1: Inadequate technical capacity to access cutting-edge knowledge and climate information to integrate climate risks into the planning, design and implementation of the imidugudu program: In order to manage the interactions between current and future climate hazards and development, adaptation action needs to be informed by knowledge and information of current and projected climate risks, incorporating as far as possible scientific climate information as well as local, traditional knowledge into local adaptation planning. It also requires to be supported by solid continuous knowledge gathering backed by a system for monitoring changes and the effectiveness of responses as risks evolve. Natural resources and ecosystems are degraded in many parts of the country, exacerbating the natural resources vulnerability to climate change. This sets off a vicious cycle where degradation of natural resources further increases poverty, often leading to negative capacity and coping strategies. While it is widely accepted that healthy ecosystems provide a cost effective means of reducing vulnerability of livelihoods to climate risks, the technical staff and targeted communities of the two proposed districts do not have the skills or the capacity to generate this knowledge and utilize it in facilitating a landscape approach or community based adaptation plans, that would guide the climate proofing of the imidugudu program. There is limited capacity amongst the technical departments to access cutting edge knowledge and climate information to adopt this approach to climate proofing imidugudu settlement programs. Meteo Rwanda, responsible for generating and disseminating climate and weather information, has admitted capacity constraints, despite existing technical and funding support from national (FONERWA) and international (e.g. UK Met, CGIAR, USAID, etc.) sources. There is a shortage of skilled and professional staff within the human settlement and environment sectors, especially those with the knowledge and skills for downscaling climate information from Global Models, addressing climate change, and even more so for mainstreaming landscape based adaptation to local resource uses and development. As a result, there are no proven techniques, tools and methods (or examples) of how the communities can practically climate proof the imidugudu program. A recent capacity assessment by Watkins^[32] reported that due to inadequate time and knowledge and capacities, use of climate science in mainstreaming climate risk in many programs is only done very superficially. In many cases, climate information used in the decision process is extremely basic, usually included as central, qualitative narratives of future climate change, with little consideration of alternative scenarios or quantitative model information.

Barrier 2: Limited understanding by the rural population about the risks and opportunities presented by climate change and the importance of adopting best practices in the imidugudu program, exacerbated by poor access to climate risk decision making tools: There is limited understanding by local communities about the causes and implications of current and future climate change, or the risks and opportunities it presents to the imidugudu programs and livelihoods. Specifically, many rural people are largely unaware of the additional risks that climate change poses to their livelihoods, such as the exacerbation of landslides, droughts and soil erosion.

Similarly, there is limited knowledge of the opportunities presented by climate change – and how to take advantage of these opportunities. This is exacerbated by the fact that there are limited training opportunities on climate change adaptation practices. At present, there are few initiatives – either through the GoR or elsewhere – to provide awareness and skills to communities to support the integration of climate risk into the imidugudu program.

Arising from the first barrier, the limited understanding of climate risks has been exacerbated by limited access to decision-making tools that can support mainstreaming of climate risk into settlement programs. Information about climate forecasts is largely inaccessible to rural people. In addition, practical guidance on how to adopt alternative and innovative practices to adapt imidugudu and the livelihood and agriculture development practices based on climate forecasts is not available. Ideally, farmers should get 5 days forecast, monthly and seasonal forecasts to inform cropping cycles and to maximise crop survival rates as well as minimize the losses at harvest and post-harvest. Such information is usually available with the Rwanda Meteorology Agency and disseminated through several channels, but the farmers do not always connect with it or trust it or use it in decision making. This is exacerbated by inadequate capacity of extension officers to guide decision-making processes – based on climate forecasts – in local communities. Combined, these factors have in turn led to inadequate capacity of communities to seek out and adopt best practices for mainstreaming climate risk into the imidugudu settlements and the accompanying agriculture and livelihoods development programs. Although historically, Rwandan farmers have implemented some climate-resilient measures to cope with the country's extremely variable climate (e.g. terracing, using drought-resistant seeds), these measures remain inadequate for increasing and even maintaining agricultural production under the current climatic conditions and will be further undermined under future conditions of climate change. Without access to knowledge and training on international best practices, communities will not have the necessary capacity to develop and implement adaptive measures to climate proof the gains from imidugudu settlement program. For example, biogas systems need water. In order to ensure availability during a prolonged drought, rainwater harvesting is key during the rainy season; agroforestry on terraces may facilitate more infiltration and sustained soil humidity, it may provide fodder for cattle during drought periods through best storage techniques; infrastructure for rainwater harvesting on hillsides may reduce run off, soil erosion and water can be used during drought periods etc. As this knowledge is lacking in villages, best available knowledge and practices will be key.;

Barrier 3: Inadequate policy enabling environment for the integration of climate risks into the imidugudu settlement programs: The president of Rwanda has taken keen interest in promoting strong adoption of adaptation and low carbon, climate resilience development strategies. Indeed, at the high level there is recognition and inclusion of climate change as a key cross-cutting issue in national economic development planning and subsequently in sector plans, providing a strong push from powerful Ministries. There is also an emerging lever for implementation and monitoring and evaluation through the inclusion of environment and climate change mainstreaming indicators in the budget circular, as supported by REMA and the UNDP-UNEP Poverty Environment Initiative (PEI), including checklists for planning and implementation. The government has also put in place a climate finance program (FONERWA) through innovative private sector participation in addressing adaptation, amongst other things. Despite these advances, climate change

is still seen as part of the environmental agenda, rather than as part of the development or planning agenda. This is an important barrier to implementation, as environmental issues are generally siloed, or have less influence, rather than when viewed as a core development issue. Consequently, the many laws and planning frameworks that govern the implementation of the imidugudu do not make provision for integrating climate risks. These are the Human Settlement Policy (2009)[33], the Law governing human habitation in Rwanda (2011), the Law relating to the planning of land use and development in Rwanda (2012), Rwanda Building Control Regulations (2009), the National Land Use and Development Master Plan (2011), the District Development Strategies (DDS's), Local Urban Development Plans (LUDP's), and Detailed Physical Plans /Area Action Plans (AAP's) for local implementation.

This challenge is exacerbated by the difficulty of coordinating the mainstreaming of climate risk across sectors. This requires multiple decisions (for different risks over different time-scales), using multiple sets of climate information, and needing to be made in a context of high opportunity cost of money [34]. Furthermore, mainstreaming involves cross-sectoral responses, involving different actors (e.g. Ministries), and these cross-sectoral responses require complex sets of climate information, and in policy terms, are much harder to implement as they involve trade-offs with other objectives (ibid).

1.4 Proposed alternative scenario

The objective of this project is to mainstream climate risks into the imidugudu program, in order to safeguard the benefits of the rural component of the human settlement program. The project will be piloted in two districts: Gakenke in Northern Province and Kirehe in Eastern Province. The objective will be delivered through three interrelated core components, supported by a fourth on knowledge management. Component one will enhance institutional capacity to access climate information and to generate knowledge to support the planning of a landscape approach complemented by community based adaptation planning to ensure the resilience of the imidugudu program and livelihoods of the beneficiary communities. Component two will facilitate implementation of adaptation practices at imidugudu level, including income generating activities to further boost resilience of livelihoods. Component three will provide the policy enabling environment to ensure that the pilot project creates pathways for replication and scale to ensure that future investments in the imidugudu mainstream climate risk. Component four will codify knowledge and promote its dissemination to further support replication and upscaling. Gender will be mainstreamed throughout project planning, implementation, monitoring and evaluation.

Component 1: Enhanced institutional capacities and knowledge to support planning and implementation of a landscape approach and community based adaptation that integrates climate risks into imidugudu programs

The government has committed to adopt the Green Village model in rolling out the IDP in the 30 Districts in the country, and to encourage District Authorities to upscale them in the imidugudu settlements. A Cost Benefit Analysis of Rubaya Green Village was recently undertaken, which concluded that the project efficiency is high if a sustainable, social and long-term perspective is adopted[35]. Under this component, the project will ensure that the role out of the Green Village model is informed by up-to date climate risk information, skills and plans that allow factoring of climate risk in the imidugudu. It will therefore use four landscapes in two districts to demonstrate the use of these techniques.[36] It will assess the risks associated with settlements in degraded catchments where the nature-based infrastructure (such as forests) have been degraded to the point that they no longer provide ecosystem services, and thus expose livelihoods to climate-related risks (such as landslides, drought). It will in particular identify imidugudus at risk of tipping over (hence heightened possibilities of disasters) and provide a comprehensive cost benefit analysis of continuing living in these imidugudus without taking any corrective measures versus adopting adaptation measures, upon which management options should be based. This will contribute to advancement of the search for “limits of acceptable change” in the country’s ecosystems/natural resources, the space within which change can happen without too much long-term destruction of the fundamentals of the life supporting natural systems, where rehabilitation would be too costly. The project will use this knowledge to design a “climate proofed” imidugudu settlement to be implemented in the four sub-catchments in the two climate-vulnerable districts.

The project will also facilitate formulation of community based adaptation plans, based on a thorough and holistic analysis of resilience, supported by the knowledge generated above (on state of degradation of ecosystems services, their impacts on heightening disaster risks, and measures needed to reduce risks). It will also develop a community based monitoring system to enable stakeholders to understand, monitor and control the changes to the important ecosystems and natural systems that could lead to undesirable shifts that increase the vulnerability of their livelihoods and local economies, and that are difficult and expensive to reverse. The adaptation plans produced from the foregoing process will be comprehensive and their full implementation will be beyond the remit of this project. However, developing them is an important step for the stakeholders: communities will gain skills in assessing vulnerabilities and advance understanding of climate risks. In addition, the plans will provide a conceptual framework that will highlight layers and components of resilience, and define a range of activities, actors and processes that are important parts of a resilience building system. This should also inform plans at a higher level, e.g. at Sector and District level, including the District Development Strategies, that should also be further climate proofed.

The project will also increase access to climate forecasts and decision-making tools at the imidugudu level and provide practical guidance on how to adopt alternative and innovative practices to adapt imidugudu and the livelihood and agriculture development practices based on climate forecasts. The country is currently developing a large project for increasing access to climate information (early warning systems, forecasts, etc.) at the national scale potentially to be submitted to GCF. The now proposed LDCF project will coordinate closely with GCF investment to ensure that the climate information required to safeguard the imidugudu program and livelihoods in the two pilot districts is made available, at a scale that supports practical climate risk mitigation. The LDCF will have a

specific focus on generating and providing climate risk information to inform the Rwanda rural settlement programme, targeting housing, infrastructure and water housing, thereby demonstrating the best practices in the model villages programme. The use of climate information under the LDCF project will provide a best case example of how climate information is used in practical adaptation settings, from which the proposed GCF project will learn and scale up to other interventions. The GCF project will be fully complementary and target other areas not covered by the LDCF project. The PPG period will be used to identify specific initiatives and activities to support provision of this information, which might include better packaging and providing access and ensuring use of this information.

The project will also design and deliver training programs for technical teams and community groups, to support both the planning and implementation of the landscape based climate proofing of imidugudu. The PPG phase will be used to identify specific landscapes for piloting the project initiatives and to conduct the necessary baseline assessments to inform project planning. It will also identify national and lower level training needs and likely training service providers. The training programmes will be developed in collaboration with RHA, REMA, MINALOC and other technical departments in the Districts to ensure its utility to stakeholders in addressing the future impacts of climate change. Lessons learned from relevant projects will be used to inform the landscape concept and development of training material. These include the CCA - Building the resilience of communities living in degraded forests, savannahs and wetlands of Rwanda through ecosystem management approach (LDCF II)” led by UNEP; the GEF - Landscape Approach to Forest Restoration and Conservation (LAFREC) led by the World Bank; and the current IDP model and Green Village projects supported by the UN (UNDP, FAO, UNEP).

Component 2: Adaptive lives and livelihoods (increasing resilience) in selected landscapes

Throughout the three iterations/models of imidugudu, the government has supported livelihood support activities such as: i) income generating activities for local economic diversification; ii) crop consolidation – where all the farmers in an imidugudu and the surrounding lands cultivate a selected cash or subsistence crop on their respective land, forming some kind of farm cooperatives. This allows land consolidation without loss of ownership - individual farmers consolidate their lands but keep individual ownership. Crop consolidation has the potential of improving efficiency of extension services and marketing prospects, especially provision of agro processing facilities; iii) Social Protection (VuP) - Rwanda implements a social protection programme, in line with the Vision 2020 Umurenge Programme (VUP). VUP provides cash transfers as payment for public works and supports other forms of access to finance; and iii) Provision of one dairy cow per household (Girinka programme) - with a plan to pass on the cows to other families once the original recipient gets female calves, accompanied with milk processing and sales support services. It is expected that the roll out of the Green Village model nationwide will continue to be supported by similar income generating activities. The project will ensure that the roll out of the livelihood support programs take climate risks into account, and increase local adaptive capacity.

Local communities in selected landscapes in Gakenke and Kirehe Districts will benefit through a number of on-the-ground initiatives to increase their adaptive capacity, through the implementation of both the “climate proofed” imidugudu model and community based adaptation plans designed under component one. Initiatives will be identified in the plans but are likely to include (eight outputs):

- (i) support to appropriate livelihood initiatives including climate sensitive farming and livestock rearing practices. This may include crop consolidation and adoption of climate smart farming practices such as drought-resistant seeds that produce large yields and mature early to support cultivation of staple and cash crops as well as fodder crops for livestock feed, This also may include support to solar irrigation system combined **with use daily weather information (planning of when to irrigate ;**
- (ii) rehabilitation of degraded/unproductive land via agro-ecological interventions to reverse the effects of unsustainable agricultural practices, such as terracing, agroforestry, afforestation and forest restoration;
- (iii) characterization, protection and/or rehabilitation of ecologically sensitive segments of catchment landscape such as hills, river banks and lake shores, wetlands, ;
- (iv) Upgrading of housing and infrastructure of the imidugudu to more climate smart versions;
- (v) Provision of rainwater harvesting and alternative energy options piloted under the Green Village and IDP models;
- (vi) value chain analysis and development of those selected for implementation (such as crop consolidation of selected crops supported by agro-processing, adoption of NTFPs such as honey production, intensification of dairy, poultry, piggery etc.) as the basis of income generating activities and local economic development;
- (vii) increasing local communities’ access to markets, increase market efficiencies and promote the development of local private sector agents such as farmers, micro-finance institutions and agricultural service providers.
- (viii) support last-mile dissemination of climate information and capacity building for communities, especially on how to use climate information in decision making and implementation of the adaptation measures, e.g. using climate information for agricultural planning and post harvesting.

Lessons learnt from relevant projects will be used to inform the design and implementation of activities. They include the Reducing Vulnerability to Climate Change by Establishing Early Warning and Disaster Preparedness Systems and Support for Integrated Watershed Management in Flood Prone Areas (LDCF I), Increasing the adaptive capacity of vulnerable Rwandan communities to

adapt to the adverse effects of climate change: Livelihood diversification and investment in rural infrastructures, led by AFDB; IDP Model and Green Villages projects; Building climate services capacity in Rwanda, coordinate by the Consultative Group of International Agriculture Research (CGIAR); Rwanda Pilot Program for Climate Resilience under the World Bank; Landscape Approach to Forest Restoration and Conservation (LAFREC); Building the resilience of communities living in degraded forests, savannahs and wetlands of Rwanda through ecosystem management approach (LDCF II), etc.

Component 3: Policy and coordination

Under this component, the project will provide a policy enabling environment for the integration of climate risks into the imidugudu settlement programs, and improve cross sectoral coordination for its integration into planning frameworks relevant to its implementation. It will therefore contribute to the finalization of the draft Human Settlement Policy, ensuring that the policy provides a stronger basis for integrating climate risk in human settlement, and ensure that the rules and regulations developed to implement the policy reinforce the message. It will also revise the Green Smart Village Toolkit by REMA / PEI, by further integrating climate concerns. In addition, the project will provide mechanism to support cross sectoral and district coordination to make it easy for technical departments to coordinate the multiple decisions needed using multiple sets of climate information, and the actions thereof, in a manner that is beneficial for integrating climate risk into imidugudu. The PPG will be used to identify opportunities for improving cross-sectoral collaboration in the integration of climate risks into policies, programs and plans of the productive sectors and Districts that influence or interact with imidugudu and its livelihood improvement programs in the two districts. It will then craft a model Memorandum of Understanding (MOU) for guiding collaboration based on several guiding principles: it will be based on a thorough analysis of the gaps in coordination, identifying barriers and misconceptions that hinder improved cross sectoral coordination; it will respect/balance mandates including levels of governments (local, district, national) as well ministries and departments/agencies, balance the common good with safeguarding of individual liberties; preserving the rule of law; and build on existing coordination mechanisms, especially the Disaster Risk Reduction Coordinating Committees and the Rural Settlement Task Force. Initiatives for actual improvement of the cross-sectoral coordination to be coded in the MoU will be identified during PPG but is likely to include: i) provision of a dashboard – an online portal for comprehensive climate risks, mitigation and adaptation performance indicators, and scorecards; ii) **Decision support services – a framework for engaging practitioners in climate data products and scenario planning, supporting a range of institutions confronting climate challenges;** iii) **Local government policy and planning toolkit – providing a set of best practices, policies, and case studies, and model language for zoning codes, ordinances, design standards, and plans;** iv) **Community capacity building consisting of dissemination of the cross-sectoral coordination model to other communities.**

Component 4: Knowledge management

All the three components will be complemented by **component four, knowledge management**, which will ensure a systematic and thorough documentation and collation of best practices and lessons learnt from the implementation of the project, to promote replication and upscaling. The project will put in place systems to share lessons with other stakeholders beyond the project, including at the national level, with policy-makers, and at the regional and global levels with other similar projects/programs. The project will develop knowledge products and conduct analysis of specific project results and share these at local, regional and global workshops and conferences, and through other fora and platforms.

1.5 Additional cost reasoning

Component 1 –Enhanced institutional capacities and knowledge to support a landscape approach and community based adaptation to integrate climate risks into imidugudu programs: Without the component, the efforts from government, communities and other stakeholders to address vulnerability of households in the target landscapes through imidugudu program is likely to continue without adequate, knowledge based climate risk considerations, threatening the long-term viability and sustenance of its benefits. The skills and awareness provided to advance the implementation of the imidugudu program under the baseline will continue to be impacted on negatively by climate variability and change, because the stakeholders will lack the skills, information and plans to address climate risk. Under this component, the LDCF investment will change the baseline situation by increasing understanding of how vulnerability of livelihoods, local economies and the imidugudu program are intertwined with the state of the natural systems. Using this knowledge to design alternative “climate proofed” imidugudu plans, supported by updated skills which enable technical staff and communities to factor in climate risk into the imidugudu planning will avoid locking in maladaptation into national development.

Component 2: Adaptive lives and livelihoods (increased resilience) in selected landscapes: Without this component, communities will continue to implement the imidugudu livelihood support programme without factoring in climate risks, because they will not have access to the relevant information. They will not easily identify climate risks to their cropping systems, livestock production, income generating activities or even local businesses. They will therefore not be in the position to identify opportunities, or utilize the opportunities presented by climate change. In the absence of reliable forecasts and decision-making tools, beneficiaries will remain vulnerable to the impacts of climate change, thereby decreasing viability of the imidugudu, local economic development and food security. In the absence of the project, the investments, productivity, income generation etc. would be undermined (potentially washed away) by climate impacts. The LDCF alternative will support the switch to resilient technologies and practices, adaptive livelihoods, and climate-proofed infrastructure. It will support the collection, analysis and delivery of reliable and timely climate forecasts for beneficiaries. The development of decision-making tools will allow beneficiaries to make informed choices based on climate forecasts, and increase resilience.

Component 3: Policy and coordination: Without this component, the national policy and its planning frameworks will continue to facilitate business-as-usual imidugudu development projects, ignoring potential risks to the program arising from climate change. In addition, poor inter-sectoral coordination would weaken any effort to integrate risk into imidugudu and its livelihood support programs. These facts are likely to lead to a situation where short-term social protection and settlement policies might maintain livelihoods in areas that will become unsustainable in the long-term by locking in development to extremely high risk areas under climate change. This would fail to address increasing variability and extremes from climate change comprehensively, which could reduce the effectiveness of the programs and increase the number of people who fall back into poverty due to more frequent shocks. The alternative will provide sustainability mechanisms for the project impacts by ensuring that policies, laws and planning frameworks support mainstreaming climate risk considerations into the imidugudu in a coordinated effort across all relevant sectors and vertical planning levels, improving the basis of trade-off decisions needing to be made in a context of high opportunity cost of money.

Component 4: Knowledge management: The imidugudu is a country-wide program. In the absence of effective knowledge management, the opportunity for learning from this project will be lost, resulting in replication of investments that could be jeopardized by climate risks leading to inefficient use of scarce public resources, and widespread damage to economy and livelihoods. The LDCF investment enables the creation of pathways of transformative change, ensuring that lessons from this project inform nation-wide replication of the climate proofed imidugudu.

1.6 Global environmental and/or adaptation benefits

The project will directly benefit approximately 500 households. Overall, the rural resettlement programme will be resilient to climate change, with the durable infrastructure better able to withstand climatic shocks, and households being able to make use of technologies that improve their access to clean and sustainable energy sources. Crop yields, which are likely to be affected by droughts and flooding under climate change, will stabilize and even improve. The cost to government and households of addressing the losses due to climate change will be avoided or reduced. Households and local authorities will have readily available climate risk information and capacity to use that information to make informed decisions on their farming and livelihoods activities. The use of renewable energy sources for domestic use and pumping water will reduce greenhouse gas emissions.

The specific adaptation benefits that the project will provide include: i) increased knowledge on landscape and community based adaptation planning for imidugudu implementation program; ii) increased effectiveness and efficiency of cross-sectoral and vertical coordination of the integration of climate risk into policies, programs and plans relevant to the imidugudu program at the district level iii) at least four model imidugudu settlements demonstrating practical ways of climate proofing imidugudu settlement program; iv) reclamation of unproductive land in several landscapes v) implementation of appropriate agro-ecological measures for climate change

adaptation; vi) improved access to settlement related infrastructure and services for 4 model villages (including rainwater harvesting/management systems, improved and alternative energy; vii) climate-resilient staple/cash crops planted in consolidated crops systems to maintain agricultural productivity under future climate scenarios; ix) climate monitoring technology transferred to imidugudu beneficiaries; x) climate smart agricultural practices adopted and productivity of the land increased; xi) location-specific alternative livelihoods identified and diversified; xii) community-based enterprises established and strengthened to promote business development and strengthen local value chains in a climate sensitive manner; and, xiii) policies and lessons that form the basis of replicating “climate proofed” imidugudu country-wide.

1.7 Innovativeness, sustainability and potential for scaling up

The project activities will be innovative in the context of Rwanda’s specific conditions of high population density of agriculture dependent vulnerable households, where land scarcity has forced both settlements and farming on very steep slopes. The use of the landscape approach, supplemented by a community based approach to adaptation, both underpinned by increased knowledge, climate information, and climate-risk informed planning is highly innovative under these circumstances. In particular, the combination of landscape level ecological measures are considered innovative and more affordable than a program focusing on engineering structures alone. This will promote the recovery of the natural systems, ensuring resilience of both livelihoods and the infrastructure provided through the imidugudu. The Participatory, Monitoring, Evaluation, Reflection and Learning system to be developed to support the implementation of the comprehensive adaptation plans is a cost effective innovative tool for building adaptive capacity. The system will engage communities in developing and monitoring against CBA indicators, and in doing so provide a new platform for local stakeholders to articulate their own needs, which is a fundamental part of building adaptive capacity. The dual learning and downward-accountability functions of the system presents an opportunity for building and measuring changes in local adaptive capacity and facilitating the measurement of ‘effective adaptation’ that can inform the monitoring and reporting needs of stakeholders across scales. In addition, the use of climate information to inform practical decision-making in the livelihoods of imidugudu beneficiaries will be novel to most communities. Innovative approaches to adaptive farming and value chains – based on international best practices – will be introduced to local communities.

Project sustainability will be achieved through the inclusion and/or participation of local community and government representatives in the design of project interventions and monitoring plans. In addition, the provision of policy enabling environment will strengthen sustainability, ensuring that the laws, planning frameworks and effective cross-sectoral coordination promote upscaling of model climate proofed villages to other landscapes and districts (which? creates pathways to replication and scale so future investments can build on the foundations of this project). Development of alternative livelihoods that are promoting the resilience of local communities will be undertaken in parallel with the establishment of CBEs to facilitate improved access to markets for beneficiaries. Profits accruing from diversified livelihoods are likely to be used for purchasing equipment, maintenance and building capital. This will

increase the sustainability of these livelihoods by improving the economic viability of approaches introduced through this project. The outcomes of the project interventions, the experience-sharing workshops and the best practice project reports will be used to build an evidence base for climate-resilient imidugudu implementation in the country. This will inform revision of and developing new climate informed policies, strategies, plans, guidelines and toolkits for increased resilience of vulnerable livelihoods to the effects of climate change, i.e. through revised Human settlement policy, DRM Policy, Land Use Plans, Green Village toolkits, etc. In addition to this knowledge codification, community structures, user groups, village level CBOs etc, will be strengthened to provide mechanisms through which knowledge and best practices will be disseminated, upscaled and sustained. The LDCF funds will therefore be used to create the best conditions for scaling up the activities by making sure best practices and lessons learned are shared among partners, important stakeholders and the Government. LDCF funds will also be used to leverage partners who might be able to invest in additional adaptation. This includes the private sector, civil society and other donors, who will be actively sought as partners and collaborators during project implementation. An effective capacity building strategy that trains sufficient numbers of government staff at the national and sub-national level is expected to support the scaling up effort of the project activities.

[1] Rwanda Environment Management Authority, 2015: Baseline Climate Change Vulnerability Index for Rwanda

[2] National Institute of Statistics (NISR), 2015

[3] RURANGWA, E. 2013: Land Tenure Reform. The Case Study of Rwanda. Paper presented at the Conference on ‘Land Divided: Land and South African Society in 2013, in Comparative Perspective’, University of Cape Town, 24 – 27 March 2013.

[4] Gov of Rwanda, 2011: The Green Growth and Climate Resilience National Strategy for Climate Change and Low Carbon Development; Kigali October 2011

[5] RURANGWA, E. 2013: Land Tenure Reform. The Case Study of Rwanda. Paper presented at the Conference on ‘Land Divided: Land and South African Society in 2013, in Comparative Perspective’, University of Cape Town, 24 – 27 March 2013.

[6] According to the provisions of the Ministerial order No. MINITRAPE/01/97 of 9 January 1997 enforcing the national human settlement policy adopted in 1996, the type of resettlement accepted in rural areas is the regrouped settlements (imidugudu) to

encourage the creation of development centres and break away from the traditional scattered housing (Human Settlement Policy, 2009 – Government of Rwanda).

[7] The Law 20/2011 of 21/06/2011 Governing Human Habitation in Rwanda defines rural as “an area which is mainly characterized by agricultural and livestock activities. It is also characterized by a small number of medium-height buildings within a cluster of dwellings”.

[8] Currently being revised and likely to include an aspect of climate risk integration.

[9] Cited in GCAP, UK Met Office and Atkins, 2015: Future Climate for Africa: Rwanda Pilot Case; Final Report

[10] GCAP, UK Met Office and Atkins, 2015: Future Climate for Africa: Rwanda Pilot Case; Final Report

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[14] USAID, 2016: https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_Rwanda_LAND_IG_Climate_Change.pdf

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[16] Ministry of Disaster Management and Refugee Affairs, 2015. The National Risk Atlas of Rwanda

[17] FAO. 2015. Strengthening capacity for climate change adaptation in the agriculture sector in Rwanda. Environment and Natural Resources Management.

[18] Rwanda Environment Management Authority, 2015: Baseline Climate Change Vulnerability Index for Rwanda

[19] Ministry of Disaster Management and Refugees Affairs (MIDIMAR), 2016: Outstanding Emergency Needs Assessment Report Natural Disaster, Rwanda June 2016

[20] The country is implementing many baseline programs that address climate risk, outlined in section 6

[21] Drafting the updated Policy started in 2013. The document is still in stakeholder consultation and approval process.

[22] The Human Settlement Policy (2009) states that specific objectives include the establishment of new homes, improvement of the quality of homes, the rational management of land, the improvement of the agricultural production, the creation of other income generating activities, the establishment of basic facilities closer to the population, the strengthening of the role of local communities in the management of human settlement and the organization of the human settlement financing system.

[23] RWANDA GOVERNMENT, 2013: Urbanization and Rural Settlement Sector Strategic Plan – 2012/13-17/18

[24] A public register showing the details of ownership and value of land; made for the purpose of taxation

[25] Kitazigurwa/Ntebe IDP model green village in Kayonza and Rwamagana, Rweru IDP model green village in Bugesera, Nduba IDP model green village in Kigali, Kimonyi IDP model green village in musanze, Shingiro IDP model green village in musanze, Bunyankungu IDP model green villages in karongi, Muyebe IDP model green village in muhanga under climate adaptation fund and GoR, Nyamuhebe & Muramba IDP model in Karongi under koica support, Kabyaza IDP model green village in Nyabihu district, climate adaptation fund, Gashaki IDP model green village under climate adaptation fund, Rubaya IDP model green village under climate adaptation fund and GoR, Nasho IDP model green village under Buffet project in kirehe under GoR, Kibeho and Munini IDP model green villages in Nyaruguru under GoR, Musovu IDP model in Bugesera under GoR, Kibangira IDP model green village in rusizi district

[26] One cow per family, on revolving basis

[27]. REMA defines a Green Village as a process for attaining sustainable development where the local residents can live in a pleasant environment

[28] REMA 2015: A Toolkit for The Development of SmartGreen Villages in Rwanda

[29] REMA 2015: A Toolkit for The Development of SmartGreen Villages in Rwanda

[30] GCAP, UK Met Office and Atkins, 2015: Future Climate for Africa: Rwanda Pilot Case; Final Report

[31] Andrew N. Osiany; 2014: POLICY BRIEF - CAADP Success in Rwanda: But More is Needed. OXFAM, Nairobi.

[32] GCAP, UK Met Office and Atkins, 2015: Future Climate for Africa: Rwanda Pilot Case; Final Report

[33] The draft new policy does, but this is not yet finalized.

[34] GCAP, UK Met Office and Atkins, 2015: Future Climate for Africa: Rwanda Pilot Case; Final Report

[35] D. Maradan 2017: Assessment of the economic, social and environment benefits of the Rubaya green village in Gicumbi district, Rwanda, and benefits of project replication.

[36] Districts were chosen based on their vulnerability to climate change (one is a drought-prone district, while the other is flood and landslide prone).

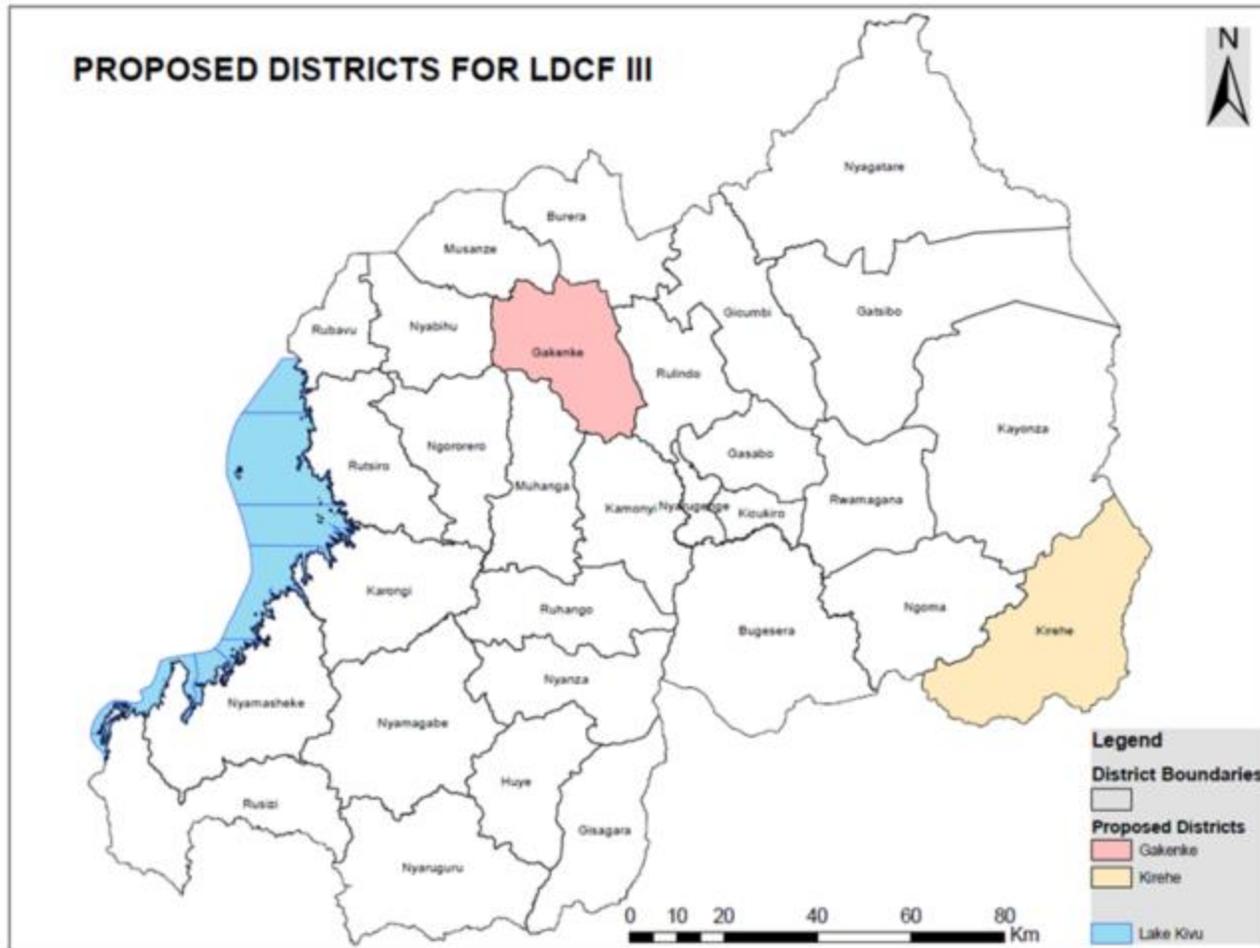
1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The project will be piloted in seven sites located in two districts: Gakenke in Northern Province and Kirehe in Eastern Province.

Region/District		Geo-coordinates of District
District	Site	
Kirehe	Cyambwe- Rwakigeli Buffer zones	30°46'37" E; 02°05'34"S
	Mushongi	
	Nearby Cyambwe Lakes	
	Cyambwe and Rwakigeri watersheds	
Gakenke	GAKENKE VALLEY	29°51'46"E; 01°43'06"S
	Mining site of Ruli and Coko	
	CYACIKA AND BASE watersheds	

Position of Gakenke (left) and Kirehe Districts (Right) on Rwanda map



2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations

Private Sector Entities

If none of the above, please explain why:

The PIF was prepared in close consultation with local administrations who will contribute to the project implementation. The project idea and proposed interventions are based on official programs and strategies whose formulation was based on extensive stakeholder consultations at the national level. However, the detailed project activities will be developed with the participation of a wide range of stakeholders that include civil society organizations, local communities, the private sector and others.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

The project will be designed and implemented using a participatory approach, which will include stakeholder consultation and validation for all major activities. In addition, project design will be based on extensive consultation of stakeholders in the project's targeted landscapes. Regular meetings and training workshops will be included in the project's design. During the PPG phase, representatives of government ministries^[1], Districts, civil society, NGOs, local communities, academia and the private sector will be consulted to inform and refine the development of the project's strategy, outputs and activities. Input from these stakeholders will be incorporated into the design and validated during national consultation workshops to ensure that project responds to the particular needs of its beneficiaries. The Table below outlines the roles and responsibilities of some key stakeholders. This will be developed further during the PPG.

Stakeholder	Role and responsibility
REMA – Rwanda Environment Management Authority	REMA is the Agency responsible for project coordination at the national/central level: the PPG period will be used to identify implementation arrangements between REMA and the agencies on the ground and to establish MoU agreements spelling out roles and responsibilities as well as reporting arrangements between them and REMA. REMA will lead the project formulation and chair the Project Board and Technical Committees and provide substantive technical advice to the project.
Rwanda Housing Authority and the Rural Settlement Task Force	RHA is mandated to implement the policies related to urban/rural management, planning and construction, and is responsible for the monitoring of development progress. It is supported by the Rural Settlements Task Force, also part of MINALOC, and specifically responsible for the implementation of the “imidugudu” program. RHA will lead the project coordination including project design and implementation
Ministry of Environment	The Ministry of Environment has been very active in advancing the agenda for the use of landscapes and ecosystems approach to improved ecosystems services to all sectors in Rwanda. In addition to being actively involved in the project design phase, they will be part of the Project Technical Committee and will provide technical advice, together with REMA.
Ministry of Land and Forestry and its affiliated institutions	The Ministry of Land and Forest and its affiliated institutions have been very active in proper use of land, forest plantation and water management. They will be part of the Project Technical Committee and will provide technical advice.
District Development Committees housed by the Ministry of Local government at the district level	Rwanda has devolved responsibility for local development considerably, along with transfer of funds for development. The key entity driving coordination of development at the local level is the Joint Action Development Forum (JADF). The project will utilize the JADFs as entry points for targeting benefits to project areas and communities. They will therefore be involved in planning the and implementation of the project activities.
Ministry of Agriculture	The Ministry of Agriculture is part of the JADF; however, the Ministry is also responsible for extension services. Most of the value chains and adaptation activities will be implemented through the Ministry’s extension service. It will therefore be involved in mobilizing stakeholder consultation for the project formulation.
Ministry of Disaster Management and Refugee Affairs and its District Disaster Management Committees	The Ministry is responsible for the establishment and strengthening of Disaster Management institutions and partnerships while mainstreaming Gender, Human Rights and Climate Change into Disaster Management activities. Their ultimate goal is to increase the resilience of vulnerable groups to disasters. The Ministry will be involved in the formulation of the landscape based strategies for mainstreaming climate risks into the imidugudus. The District Disaster Management Committees will be involved in both formulation and implementation of project activities, as well as mainstreaming.

Ministry of Local Government	The Ministry of Local Government ensures the coordination of good governance and high quality territorial administration programs that promote economic, social and political development throughout the nation. They will be part of the Project Steering Committee.
NGOs/CSOs	Several local and International NGOs will be involved in both project formulation and implementation, including relevant members of the Rwanda Environment NGOs' Forum (RENGOF) operating in the target landscapes: Wildlife Conservation Society (Rwanda), ICRAF, IUCN and WWF. The roles and specific responsibility of each will be determined during the PPG. PPG will also be used to identify other Community Based Organizations (CBOs and specific Cooperative Societies) that will be necessary for the delivery of the project, especially on component 2. Other relevant components that might be implemented via the CSO will be identified and implementation arrangements negotiated. This is important to link the local communities with the project.
Private sector	The private sector will provide the link to business. The PPG will be used to identify relevant businesses and to involve them in the project planning, in particular in identifying forest based value chains and assessing the barriers to entry in business and entrepreneurship.
FONERWA	FONERWA is the National Environment and Climate Change Fund. It is likely that the business component may be co-implemented with FONERWA, which is disbursing loans and grants to business and government agencies to implement climate change related projects. FONERWA is also implementing climate change related programmes themselves.
Environmental committees	Environmental committees monitor the state of environment at local level, advise local authorities on action to be taken and conduct trainings for local communities.
Community members	Communities will be the most important beneficiaries of the project. They will therefore also be involved in project formulation and implementation. PPG will undertake extensive consultations, through Imidugudu and the existing cooperatives.

[1] Including Rwanda Housing Authority (RHA) and other parts of the Ministry of Local Government (MINALOC), Disaster Reduction and Management (including its District Disaster Reduction and Management Coordination Teams), National Land Centre and Natural Resources Authority (RNRA), Rwanda Environment Management Authority (REMA), the Rwanda Development Board, the Rwanda Development Bank, Ministry of Environment and Natural Resources (MINIRENA) and Ministry for Gender and Family Promotion.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

The government of Rwanda has made a strong political commitment to gender equity and equality and is determined to see this reflected in government policies at all levels. The country is signatory to various international conventions, including, the Convention for the Elimination of all Forms of Discrimination Against Women (CEDAW), the Beijing Declaration and Platform for Action, and, other instruments for promoting gender equality. The commitment was also translated into action by integrating gender dimensions into the Rwanda Vision 2020 and by establishing institutional structures to address challenges of achieving gender equality, including placing it and women's empowerment at central level, creating a Ministry for Gender and Family Promotion, and designing Gender Mainstreaming Strategies for key Ministries such as Agriculture and Disaster Management and Refugee Affairs. Indeed, in 2014, Rwanda was placed seventh on Progress on Equal Rights between the sexes by the Global Gender Gap [Report](#). This was a higher ranking than the U.S., France, the United Kingdom, Germany, and Australia. Despite this progress, a gender gap exists in many productive sectors such as agriculture. Women constitute the majority of the Rwandan population and labour force, particularly in agriculture, but have faced substantial constraints in their participation in the economy and society. Consequently, the majority of women in Rwanda remain poor and vulnerable. For example, it is estimated that women in Rwanda perform up to 75% of farm labour and represent ~70% of household food production, including post-harvest processing of cereals¹⁴. Despite this contribution, women farmers have historically been marginalised from extension services and associated agricultural inputs. Female farmers are therefore less productive than their male counterparts as a result of reduced access to extension services and agricultural inputs, such as seeds and fertiliser (ibid). Indeed, a recent study by PEI and UN Women established on data from the 2013/14 agricultural census by the National Institute for Statistics Rwanda (NISR) that the Gender Gap in Agriculture was 11%¹⁵. Female farmers are furthermore likely to be increasingly negatively affected by the impacts of climate change, particularly droughts and floods.

Adopting lessons¹⁶ generated by the UNDP-GEF Community-Based Adaptation Programme (2008–2012)¹⁷ which piloted gender and community-based adaptation methodologies in 10 countries, the PPG will be used to formulate a gender strategy detailing the measures to be taken to ensure that project initiatives do not interfere negatively with gender issues and that prevailing gender arrangements do not negatively impact project implementation. It will also outline measures necessary to ensure that project benefits are equitable and reach all gender groups, as appropriate. It is however estimated that women make about 60% of the project beneficiaries since most beneficiaries of the imidugudu are highly vulnerable and poor people, with a high percentage of widows, single mothers, orphans and children headed household based on the country's poverty rank ("ubudehe"). Direct beneficiaries also

include children in the area because of increased food production and possible higher household incomes. It is expected that household incomes accruing to women is spent on health, nutrition and education. Indirect project beneficiaries include rural households located in proximity of the imidugudu in the same landscapes whose improved management under the project will provide a more sustainable natural resource base and additional livelihood options. The proposed project will promote the inclusion of women in all the activities of the project, including training, adoption of climate smart agriculture, income generating activities, etc. This is important because even though by law men and women of a household have equal rights to land, cultural / social norms recognize men as the primary land owners. Special care is needed to include women in the decision making of land usage and benefit. In addition, in order to ensure that adaptive capacity can be strengthened in gender-balanced ways, it might be necessary to focus on processes of change and to include variables that are key to women's empowerment, for example reduced workload and time poverty, economic empowerment, access to knowledge, participation and leadership. The Gender mainstreaming strategy will in particular ensure that women have equal access to technical knowledge, skills and financial resources made available through adaptation projects; that they have opportunities and use them to influence the design of innovations and interventions; and that strategies have been designed to maximize women's participation and leadership at all levels. Such strategies might include initiatives to address social inequities to strengthen women participation in adaptation such as promoting women's ability to exercise their political rights, strengthening women's voices in community-level environmental management, prioritizing equal rights at the public works under the Vision 2020 Umurenge Programme (VUP), or reducing gender-based violence, which can collectively enhance adaptation.

[1] A. Haroon Akram-Lodhi, 2017: The Cost of The Gender Gap in Agricultural Productivity in Rwanda. Trent University and UN Women / UNDP-UNEP Poverty Environment Initiative

[2] A. Haroon Akram-Lodhi, 2017: The Cost of The Gender Gap in Agricultural Productivity in Rwanda. Trent University and UN Women / UNDP-UNEP Poverty Environment Initiative.

[3] The lessons are: a) If gender is not given consideration from the very beginning of the project cycle, the choice of adaptation interventions can have unintended gender implications; b) An initial analysis of community dynamics is imperative to determining how to most effectively address gender issues; c) Good facilitation is essential for equitable community participation in discussions and decision-making; d) New techniques and technologies (such as time-saving equipment) can be useful entry points for overcoming traditional gender barriers; e) Gender considerations must be seen in the light of the various power dynamics within a community; f) Gender-balanced participation is critical in all aspects of project planning and implementation; g) Some partner organizations will

need capacity-building in gender mainstreaming; h) Projects can be designed to accommodate women's traditional roles and responsibilities – but can also go beyond by transforming traditional gender roles; and h) Gender training can help, but it needs to be easy and accessible.

[4] UNDP 2016: Filling Buckets, Fuelling Change - Ensuring Gender-Responsive Climate Change Adaptation. <http://www.undp.org/content/undp/en/home/librarypage/climate-and-disaster-resilience-/gender-responsive-climate-change-adaptation.html>

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources;

improving women's participation and decision-making; and/or

generating socio-economic benefits or services for women.

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

For the project interventions to take root and be scaled up, they need to be embedded in business processes where the business players see the benefit of being involved. What the project proposes should offer small scale and large-scale businesses an opportunity to expand or maintain their market share, product range or cushion themselves from climate risks.

Private sector will be engaged during the implementation phase, especially under Component 2 which addresses livelihood improvement. The project will aim to improve the value chain and post-harvest activities as well as market oriented valorization, which will be implemented in partnership with the private sector entities both within and outside the project site. The project will also explore methods to incentivize green technologies in the private sector operating around the housing sector (materials, construction) including the provision of microfinances. The project will also organize sensitization meetings and workshops to facilitated dialogues between project beneficiaries and private entities or individuals.

The project places a lot of emphasis on value chains linked to community small-scale activities. These will benefit small, medium and micro enterprises, who also need to be cushioned from the impacts of climate change. The MSME sector holds the potential for scaling up adaptation technologies in Rwanda. There are over 72,000 MSMEs operating in Rwanda, comprising 97.8% of the private sector and accounting for 36% of private sector employment. In this regard, and in the project area, the relevant MSMEs will be engaged to ensure the skills for the technologies and businesses promoted by the project are embedded locally, including technical, marketing and inputs and spares related to project interventions.

5. Risks

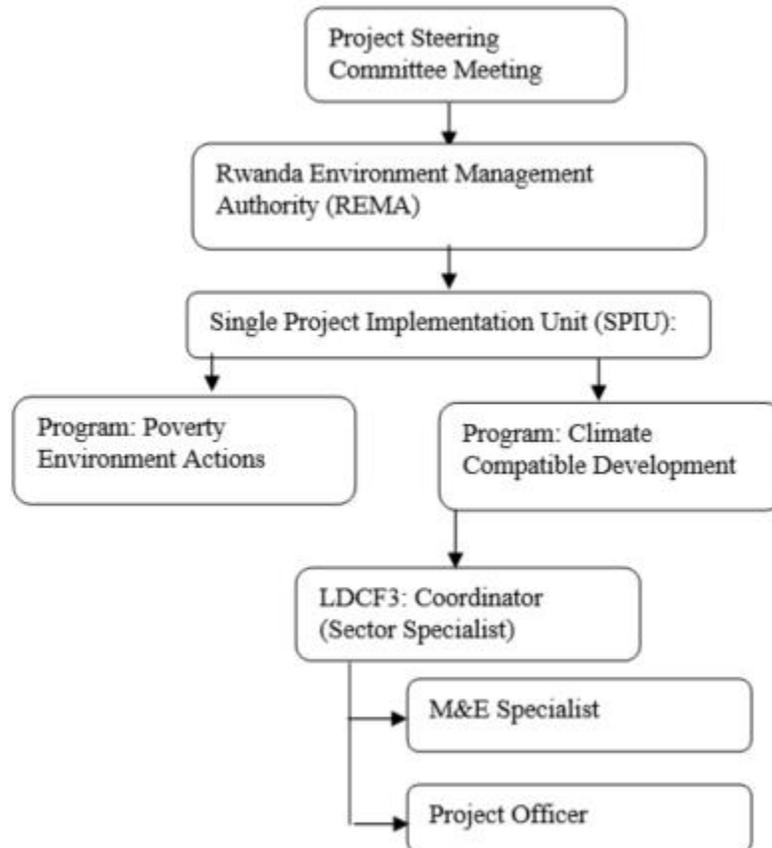
Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Impact & probability	Mitigating Options
Weak capacities of the RHA and other departments at the national and district level may interfere with effective implementation of the project	Impact = 4 Probability = 2 Medium	Component 1 will address the program – increasing technical capacity via training and involvement of a broad range of relevant stakeholders.
political commitment and will to prioritize climate change may weaken and short-term solutions that do not integrate climate risk may be prioritized	Impact = 4 Probability = 1 Low	Rwanda has demonstrated great commitment at the highest to pursue a green growth low carbon and climate resilient development pathway. These commitments are reflected in its ratification of the UNFCCC, signature to the Paris Agreement, its Green Growth Strategy, the NDC, etc. The project will support utilization of this good will via continued advocacy and awareness raising at all levels, to ensure that there is commitment to mainstreaming climate change into the imidugudu program, including sector policies, plans and budgets
Climate shocks [floods, landslide and droughts] occur during the project implementation phase	Impact = 3 Probability = 3 Medium	UNDP and other UN Agencies will provide support to District Governments through relief project so that the attention from climate change program is not diverted. This will also be an opportunity to highlight the importance of climate change
High illiteracy levels in villages may hinder the progress of pilot interventions and/or dissemination of lessons learned as well as long-term	Impact = 4 Probability = 2 Medium	Train management committees and farmers involved in various interventions to ensure that they understand the tasks at hand.

Risk	Impact & probability	Mitigating Options
maintenance of mitigation technologies;		Disseminate project lessons via workshops, television and radio programmes in local languages to ensure that they reach a larger audience.
Beneficiaries of the imidugudu are amongst the poorest segments of society. This group typically has limited options at their disposal, especially when weighing costs and benefits of short-term action versus long-term gains, required in adaptation. There is therefore some risk that behavioural change needed for effective adaptation maybe considered too expensive in the short term.	Impact = 4 Probability =2 Medium	The project combines many livelihood improvement activities (value chains, access to rainwater, improved crops) aimed at delivering shorter term benefits and encourage better decision-making.
Difficulty identifying viable value chains and securing private sector engagement	Impact = 3 Probability = 2 Medium	Component 2 of the project is set up to reduce this risk by identifying a model that introduces a cash economy at the local level to enable private sector players to operate. The project will link communities to financial institutions (through cooperatives and resource user groups), and work with government to provide incentives to the private sector. Despite this, there is still a slight risk that the model is not fully successful. The project will monitor this carefully and use adaptive management to correct course as issues arise.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.



The institutional structure that will coordinate the project will comprise of the governance unit, the Project Steering Committee, the coordinating agency and the project execution or implementation unit. The broad outline of the institutional structure is representative below, while the details will be worked during the PPG phase.

The coordinating entity of the program will be REMA through a project management support team based in its offices, including administrative and logistical support through the Single Project Implementation Unit (SPIU). The dedicated Project Management Unit (PMU) will be responsible for reporting, monitoring and for the effective use of the resources. The Steering Committee will provide programme oversight and is chaired by the Director General of REMA, with the SPIU management unit acting as secretariat of the meeting.

While REMA will lead and house the Project Management Unit, the project Steering Committee and project implementation teams will include other stakeholders identified in the table under “Coordination with other projects.” This is important since the LDCF project will directly benefit the Rwanda Housing Agency, Ministry of Agriculture and Ministry of Land and Forestry. These will be part of the project coordination structure whose details and terms of reference will be detailed at PPG stage.

Coordination with other projects

In addition to the baseline programs described in section B1, the project will coordinate closely with public, private and local community stakeholders that are – or have been – involved in the design and implementation of the ongoing initiatives in the table below. Additional projects will be identified during PPG and linkages sought.

GEF/LDCF Projects in Rwanda	Implementing Agency	GEF LDCF Grant (USD)	National Partner	Status
Pilot Green Villages Project	GoR/UNEP/UNDP PEI	4,000,000		Ended 2017
Building the resilience of communities living in degraded forests, savannahs and wetlands of Rwanda through ecosystem management approach (LDCF II)	UNEP	6,100,000	REMA	Ended 2017
Landscape Approach to Forest Restoration and Conservation (LAFREC)	World Bank	4,050,000 ⁱⁱⁱ	REMA	On-going

Increasing the adaptive capacity of vulnerable Rwandan communities to adapt to the adverse effects of climate change: Livelihood diversification and investment in rural infrastructures	AfDB	9,662,000	FONERWA/ MININFRA	On-going
Building the capacity of Rwanda's government to advance the National Adaptation Planning process (NAP)	UNEP	6,734,250	REMA	On-going
Forest Landscape Restoration in the Mayaga region (GEF-6)	UNDP	6,213,538	REMA	PPG on-going

The project will also be coordinated closely with the establishment and strengthening of One Stop Centres in the Districts, which are expected to assist in rural development and provision of services to rural citizens, while incorporating their needs in local plans through regulated consultations.

[1] This shows only the portion from LDCF. The total project cost US\$12.18M, which includes GEF focal areas funds.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project is consistent with national strategies that outline Rwanda's current policy approach to human settlement, climate change, vulnerability and adaptation. They include: The National Settlement Policy (2009); Vision 2020 and upcoming 2050, National Strategy for Transformation (NST 1. 2017-2024); Green Growth and Climate Resilience - National Strategy for Climate Change and Low Carbon Development (GGCRS), Rwanda's NAPA, Second National Communication and the NDC.

The National Settlement Policy (2009) has its roots in the government response to the October 1990 war with the ensuing big number of displaced people and the 1994 genocide against the Tutsi which resulted in massive destruction of houses and infrastructure¹¹. Consequently, hundreds of thousands of Rwandans found themselves homeless. Following the restoration of peace and stability, refugees who had left the country as far back as the 1960's started returning, exacerbating the challenge of homelessness and land scarcity in the rural areas. To address the challenge, the Ministry of Public Works (currently the Ministry of Infrastructure (MININFRA) started a programme of regrouping of the rural population into imidugudu in December 1996. Like the first draft Policy (1996), the current iteration addresses increased land scarcity and the need to optimize productive land use, by promoting rural settlements in organized clustered settlements referred to as *Imidugudu*¹², with a new expanded approach – that of Integrated Development Programme (IDP) model village.

Vision 2020 aims to transform Rwanda from a subsistence agriculture economy to a knowledge based society earning 900 USD per capita, making Rwanda a middle income country by 2020. It provides a strategic framework, which includes a vision for 2020, guiding principles, strategic objectives, programmes of action, enabling pillars and a roadmap for implementation. Vision 2020 envisages Rwanda as a developed country, with a strong services sector, low unemployment and low levels of poverty. It foresees Rwanda as a country where agriculture and industry have a minimal negative impact on the environment, operating in a sustainable way, and enabling Rwanda to be self-sufficient regarding basic necessities. By 2020, development will be achieved with low carbon

domestic energy resources and practices, reducing Rwanda's contribution to climate change while allowing it to be independent of imported oil for power generation.

The National Strategy for Transformation (NST 1) is the framework for achieving the remaining period of Vision 2020 while the transition to Vision 2050 is undertaken, and the Sustainable Development Goals (SDGs) in the medium term (2017-2024). Environment and climate change are stated as priority areas in the NST under the Economic Transformation pillar. It is also one of the seven cross-cutting areas, aiming to guide the process of mainstreaming climate resilience and low carbon development into key sectors of the economy. The NST1 informed the new Sector and District Development Strategies (DDS) starting from 2018.

The Green Growth and Climate Resilience Strategy (GGCRS) provides a pathway to address climate change and low carbon development, with an aim of making a significant impact on adaptation, mitigation and economic development. With a focus on agroforestry, climate knowledge, irrigation and roads infrastructure as its main tenants for adaptation, it provides a strategy focusing on green, low carbon development, but does not explicitly provide mechanisms to deal with vulnerabilities, associated with climate change.

National Adaptation Plan of Action (NAPA), under objective four, aims at providing assistance to districts of vulnerable regions to plan and implement conservation measures and water storage; while objective five aims to increase adaptive capacity of grouped settlement "Imidugudu" located in vulnerable regions to climate change by the improvement of potable water, sanitation and alternative energy services, and the promotion of non-agricultural jobs. Rwanda's NDC commits to reduce emissions by 2030 significantly from 2017 baseline values based on policies /actions in the Energy, Transport, Industry, Waste and Forestry sectors. Acknowledging that reductions will be conditional on availability of international support for finance, technology and capacity building, the emissions will be reduced via several strategies including promoting environmentally sustainable use of biomass fuels and scaling up resource efficiency to reduce energy demand in agro processing industries.

The National Agricultural Policy (2004)⁶¹ focuses on the transformation of the agricultural sector from a predominantly small-holder subsistence-based to a commercial-oriented sector that emphasizes high-value, non-traditional crops and technology-intensive land use. This transformation is pursued through crop intensification and diversification, land consolidation, and optimal utilization of arable land through irrigation and use of fertilizers. With this strategy, migratory movements to urban areas are expected and a portion of agricultural land will be dedicated to development and urbanization.

The project is also consistent with the National Disaster Management Policy (2012), which seeks to establish the guiding principles and architecture for disaster risk management (DRM) in the country. The Policy and its strategies aims to increase the resilience of vulnerable groups to disasters, cognizant of the fact that the main natural hazards in Rwanda identified by the policy are floods, landslides and mudflows, volcanic activity, drought, food security, earthquakes, fires, and epidemics. The policy provides overarching frameworks for decision-making and coordination across disaster management sectors and actors, including government ministries, civil society organizations, international organizations and the private sector. In particular the policy aims to: (i) strengthen the legal and institutional framework for the management of disasters, including the promotion of a culture of disaster awareness and for building the capacity for DRM Management at all levels; (ii) ensure that institutions and DRM activities are coordinated and are focused to foster participatory partnerships between the government and other stakeholders, at all levels, including international, regional, sub-regional Eastern African, national and sub-national bodies; (iii) promote linkages between DRM and sustainable development for the reduction of vulnerability to hazards and disasters. To support implementation of the Policy, the Government has undertaken as assessment of hazards and developed disaster risk profiles of the Country, contained in the National Disaster Risk Atlas. The Atlas is intended to inform all sectors of the risk profiles, and to be used during planning.

[1] RWANDA GOVERNMENT, 2013: Urbanization and Rural Settlement Sector Strategic Plan – 2012/13-17/18

[2] UMUDUGUDU is defined as a mode of planned settlement made of between 100 and 200 houses by site in rural areas. Measurements of plot reserved for “UMUDUGUDU” range from 10 to 20 hectares with a possibility or capacity of extension and as far as possible a space provided for various non-agricultural activities so as to allow the population to earn their lives. The combination of all these elements constitutes the UMUDUGUDU (plural: Imidugudu).

[3] Currently being revised with likely a component on Climate Change and Resilience

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The proposed project's strategy for knowledge management will support dissemination of lessons learned and best practices from the baseline projects and from the project itself amongst project stakeholders including partner agencies, government ministries, civil society, NGOs and local communities. Training and capacity building conducted under other components will incorporate lessons learned from all the projects cited in the coordination with other projects section and other national initiatives as well as international best practices. A participatory M&E system will be implemented under Component 1 to methodically document success and failures to facilitate an iterative approach to adaptive learning and management. This will contribute not only to improved implementation of interventions during the course of the project, but will also inform replication and upscaling of project activities. The M&E system will also feed into an impact assessment strategy – using a randomised control design – to document best practices and lessons learned.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Coletha U. RUHAMYA.	Director General	REMA	7/27/2018

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

ANNEX B: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table F to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

LDCF/SCCF Core Indicators at PIF Stage

6083 // 26 October 2018

Select the indicator(s) most relevant to the given project. Enter data for the present stage, not for future stages. Note that the values will be manually transferred to the GEF Portal once possible; addition information (e.g. footnotes) will not be transferable to the Portal, therefore please refrain from providing such content here (better placed in the PIF/CEO ER).

LDCF/SCCF Core Indicator 1: Number of direct beneficiaries (gender-segregated, M/F)

	Number (expected at PIF)	Number (expected at CEO ER)	Number (achieved at MTR)	Number (achieved at TE)
Women	1,300			
Men	1,700			
Total	3,000			

Required of all UNDP-GEF projects. Please note that “direct beneficiaries” in this case are those that directly benefit from adaptation technologies, improved livelihoods, climate-resilient facilities/infrastructure, and those with significantly reduced vulnerability to climatic hazards due to new or enhanced early warning systems. It does not include recipients of trainings or awareness-raising efforts (which is captured by Core Indicator 4, below). It also does not include an entire community far downstream of an area where a riverbank protection measure has been installed/improved, or the entire group of people who have downloaded an early warning app on their phones (many of whom may not necessarily be vulnerable).

LDCF/SCCF Core Indicator 2: Number of hectares of land under climate-resilient management (hectares)

Ha (expected at PIF)	Ha (expected at CEO ER)	Ha (achieved at MTR)	Ha (achieved at TE)
100			

This indicator has been selected due to the large volume of LDCF/SCCF projects in the agriculture and food security sectors. If not relevant to the project, please omit.

LDCF/SCCF Core Indicator 3: Number of policies, plans and development frameworks that mainstream climate resilience

Number (expected at PIF)	Number (expected at CEO ER)	Number (achieved at MTR)	Number (achieved at TE)
3			

Please include regional, national, sub-national and sectoral plans that the project will mainstream adaptation in.

Name or Description of Policy/ Plan/ Framework	Scope	Status (actual at PIF)	Status (actual at CEO ER)	Status (achieved at MTR)	Status (achieved at TE)
Community based adaptation plans	Village	Not in place			
Model Human settlement plans	District	Not in place			
National Human Settlement Policy	National	In place but without climate adaptation components			

Add rows as needed.

LDCF/SCCF Core Indicator 4: Number of people with enhanced capacity to identify climate risk and/or engage in adaptation measures (gender-segregated, M/F)

	Number (expected at PIF)	Number (expected at CEO ER)	Number (achieved at MTR)	Number (achieved at TE)
Women	150			
Men	200			
Total	350			

This number may include government staff, communities and households, private sector workers, etc.

ANNEX C: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project